

ROLE OF INTERNET IN HEALTH DECISIONS AND HEALTH CHOICES

**A DISSERTATION SUBMITTED TO THE UNIVERSITY OF HYDERABAD IN
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DOCTOR OF PHILOSOPHY IN ANTHROPOLOGY**



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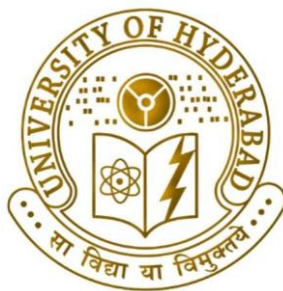


DECLARATION

I, **Vikhepu. V**, hereby declare that this thesis entitled '**Role of Internet in Health Decisions and Health Choices**', under submission, is a bonafide research work which is also free from plagiarism and is supervised by **Prof. Ajailiu Niumai**. I also declare that it has not been submitted previously in part or in full to this University or any other University or Institution for the award of a degree or diploma. I hereby agree that my thesis can be deposited in Shodhganga/ INFLIBNET.

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Parts of the thesis have been

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Role of Internet in Health Decisions and Health Choices

Chapter 1

Introduction

Background

The technological revolution has drastically changed the way we live in the twenty-first century. In particular, internet use is increasingly growing in scope, and people from across the globe depend on it. It is seen that considerably greater than half (69.0%) of the world's population have access the internet across the countries in 2022 (internetworldstats, 30th June 2022). It is mainly because of the internet's various utilities, including news, entertainment, financial transactions, businesses, conferences and webinars, and so on. When it comes to health and healthcare, the internet is gradually becoming a necessary tool. It is progressively becoming a habit for people to browse the internet and access health-related information before booking an appointment or meeting a doctor, unlike the old days when people used to depend on health professionals and practitioners for all health-related needs. The increasing access to health-related information online made users somewhat independent from health practitioners (where more than 60% out of 150 respondents are dependent on the internet). This phenomenon, in return, influenced people's attitudes towards health management at an individual and institutional level. This study is about the 'Role of internet in health decisions and health choices'; thus, a researcher has to come up with a set of questions about when changes are taking place in society. In this context, some of the utmost significant questions are: (1) What are the patterns of internet usage for healthcare purposes? (2) How the internet utilization has brought about changes in health management both at an individual level as well as at the institutional level? (3) what are the socio-economic impacts of internet usage for health management? The present research is aimed to unpack these realities by providing cases from the field.

In the present context, people regard the rise of digital technology as a form of global speeding up, a rapid and unrelenting storm of the unexpected. Anthropology is, thus, entrusted with incorporating and comprehending this digital world (the digital world refers to the availability

and use of digital tools for digital gadgets, internet communication, smart devices, and other smart technology). It provides us with a discipline that is more evenly matched or well-rounded and equally interested in the full range of human experience (Miller, Daniel 2018 in Digital Anthropology).

This leads us back to traditional holistic ethnography, a key element of anthropology, where we attempt to comprehend how individuals react to everything that has an impact on their life. We continue to focus on the larger context of people's non-digital lives in order to understand how they interact with digital technologies, as nobody lives entirely online. The focus will also be on those aspects of digital culture that have spread throughout society more widely, such as social media and cellphones, since they are general ethnographies of populations. Anthropology has maintained its comprehensive methodology and is no longer just a talking point in discussions about the benefits and drawbacks of digital technology. Since it places new technologies in a much broader cultural and social framework, it is, therefore, the discipline most likely to understand the inherent paradoxes and complexities that come to light when considering their use and effects more broadly (Miller, Daniel 2018 in Digital Anthropology).

Therefore, to characterize the internet primarily as a source of information would be a misrepresentation. The internet is categorized as a learning tool and a networking tool for the purposes of this study. Here learning tool is used in the context of education, skills development, information gathering, and the like. With regard to networking, it is used in terms of connecting both social and professional relationships. The respondents' responses to these two classifications generated many diverse opinions concerning life and health decisions.

Before going any further, it is proper to contextualize the study in terms of subject matter, geographical location, and the period of the study. This will not only reveal the scope of the research but also allow it to be more focused. In this direction, the subsequent sections will discuss the following aspects.

- Why studying the internet is important?
- What makes the present study an anthropological one?

- What does internet popularity do with health and health care management?
- Have the research attempts already been made in this direction?
- Concerns on reliability and quality of information
- Description of the study area.
- Statement of the research problem
- Objectives of the Study
- Research questions
- Significance of the research
- Theoretical framework
- Conclusion

Why Studying the Internet is Important?

The internet has become a necessary tool and progressively becoming a daily habitat in our daily life. The internet is a massive ‘network of computers’ that spans the globe (Millman, Andrew et al. 1995). The term “internet refers to the electronic network of networks that links people and information through computers and other digital devices, allowing person-to-person communication and information retrieval” (DiMaggio, P. et al. 2001; p.307). Theodosiou, Louise and Jonathan Green (2003) describe the internet as a “network of networks that links computers throughout the world and addresses and defines the passage of information from one place to another.” They also explain that “to understand the progress that is being made in rationalizing the information available on the internet, it is necessary to understand the difference between the internet and the World Wide Web” (p.387). Whereas, for Levy, Judith A and Rita Strombeck (Dec. 2002), the internet is a technology that is seen as a technology that will have an impact on all spheres of our life and will bring a new era or new cultural order called ‘informational and knowledge society’.

Schwimmer, Brian said, “the internet is a vast and expanding computer network that has the potential to provide substantial resources for the anthropological scholarship with unprecedented rapidity and economy. It promises or perhaps threatens to transform the character of academic work. However, there has been little use or consideration of this new technology within

anthropology beyond a small computer-literate group partially isolated from colleagues within a separate sphere of communication” (June 1996; p.561).

In the 1990s, the internet became the main thrust for the development of the world economy, and the hypothesis of 'the new economy' was very famous. The inescapable of the internet and the advancement of 'Information and Communication Technology' (ICT) ventures have essentially changed the design of the world economy (Ed. Kagami, Mitsuhiro et al., 2003). As a communication platform, the internet has enabled us to access vast interdisciplinary research fields in all areas, especially related to social and cultural change, the main topic in anthropological theory. It is also a well-known reality that the internet is not a structured system but a place connecting millions of computers across the globe, bringing us closer to one another with a click of a mouse or by using a touch screen.

How this is nonlinear and a hypertext medium. The internet is seen as a significant innovation that came into existence in the late 20th century, and ever since its discovery, the world has become different. The level of internet diffusion, though, is not uniform across the globe, as one can see the rapid pace of its growth in the industrialized nations, while it is slower in developing countries. Keeping aside the differences in the rate of internet diffusion, we can find many studies have been focused on its growth. However, there is also a need to research or study to fill these gaps, to understand and determine the value of the internet for consumers (Morton, F.S, 2006).

Like any other form of 'Mass Media,' the internet is fast-paced, competitive in nature, and has become an important medium for commercialization (Cassell, M.M et al. 2010). In the present world, telecommunications (communication over a distance by cable, telegraph, telephone, or broadcasting) have progressed in such a way that it seems like distances are non-existent, making the world into one global village (Freidman, T.L, 2005). Looking back, a doctor could diagnose and treat a patient via face-to-face meetings. Still, today it can be done from a distance, which comes in the form of telephone, video calls, or video conferences, including (GoogleMeet, Zoom, Twitter, Skype, Cisco, and the like) and also by showing the results of a blood sample, and body screening (Health action, Jan. 2009). One can see how information and communication

technology have been colonized by capitalism. Thus, the internet bridged the social gap and social distancing and solved all our problems in a blink of an eye with a mere pinch of social, economic, or financial assistance, especially during this COVID pandemic. It's a high risk for people (especially those who did not get vaccinated) to visit the hospital due to the ongoing pandemic. Hence, people prefer to consult doctors by using ICT.

Researchers have argued over time about interactivity (interactivity is the correspondence cycle that happens among people and PC programming) as the critical aspect of the internet, which has become an assertive communication for health information¹ in a span of a few years. These interactivity capabilities to disseminate and relay the correct information quickly made the internet even more reliable in processing and promoting health information for consumers. Thus, making the internet even more popular in this present era (Ardevol, Elisenda 2005). This growth can be attributed to the developed and developing countries around the world adapting to the new technology and absorbing it into our everyday life (Bass, S.B et al. 2006). In his research, Zhang, Y (2007) discovered that the number of individuals who utilize various subcategories such as the World Wide Web (WWW), telnet, and use-net, collectively called 'internet', is undoubtedly incredible. The internet has made it possible for us to effectively complete various tasks in a given second/minute and has made its presence ubiquitous, and its growth is never-ending. Currently, scientists are collaborating with corporations or private industries to build robots to replace human beings and serve as front liners in health care. Many ethical questions arise in such a time like this when new scientific ideas and practices emerge in our contemporary society.

Presently, we can find several terminologies regarding the internet serving as a communication tool, some of which are Nursing Informatics, Clinical Informatics, Telehealth, Telemedicine, Information and Communication Technology (ICT), Consumer Health Informatics, Telecare, Cyberculture, and wellbeing.

Eysenbach, Gunther (2001) uses the phrase 'e-health' refers to the application of cutting-edge information and communication technologies to enhance health and healthcare. Trends of people

¹ The term health information refers to information on medicine, healthcare, wellness, and sickness/illness.

flocking towards the internet and its impact on society give rise to a new culture called ‘Cyber Culture’ (the social condition achieved by the boundless utilization of PC networks for correspondence, amusement, and business). Ardevol, Elisenda (2005) say cyberculture has become one of the essential topics for research that tries to study and understand the internet as a correspondence innovation, as another social setting, and as another imaginative and cooperative instrument.

Information is vital for effective health care delivery. Today, with the click of the mouse or touching a screen on a tablet, iWatch, phone, or laptop, we can gather information on anything we need. The internet is revolutionizing our lives. The whole medical world is networking via the internet. In no other field has the internet proved its high performance better than in the medical field, where time is a critical factor and the correct information at the right time can be a subject of life and mortality. The internet is both a media and a distributing channel. It offers the possibility of one solution for information, communication, and transaction (Health Action Jan.2009). In this connection, Fiona Scott Morton says, “consumers take time to learn how to use any new technology, so the way people are consuming the internet changes over time. New consumers are continually discovering the internet, so the mix of skills and demands among users is changing. Also, in order for the internet to become useful to ordinary consumers, complementary innovations had to take place, such as in the area of business models. This innovation has been occurring at a great pace, so there are now many businesses designed to sell products, services, or information that people want to buy or access online” (2006; p.69). The internet has thus established itself as a must in our present condition, where almost everything, including social, political, and economic, is entirely dependent on its availability.

How the Present Study is an Anthropological One? And How is it Different From the Mass Media Studies approach

Medical anthropology has undergone various changes starting from the start; however, its applied center continues as before. Its strategies and objectives have extended since its presentation was pushed by W.H. R Rivers and the Torres Straits Expedition of 1899. After their work, there is a demand for ethnographic studies, emphasizing collaborative research between indigenous and biomedical practitioners (Glazier, S.D et al. 2010).

Due to the industry's dependency on modern technology, its impact can be seen in the profound cultural changes around the world, especially in the developing world, where modern health and medical practices have had the most significant changes (Lieban, R.W 1973). Anthropologists have perceived that all social orders have numerous here and there inconsistent thoughts in regarding to disease, relieving, and well-being, going from predominantly local systems (like core shamanism which is also known as traditional religious beliefs) to scientific methods (like biomedicine) (Glazier, S.D et al., 2010).

In the early time, anthropologists exploring healthcare and disease zeroed in on the connections that social frameworks have with associations, institutional practices, power structures, and the epistemological underpinning of clinical information. Additionally, they have investigated the social degrees of well-being and sickness according to ethnographic viewpoints. Similarly, anthropological ways to deal with medical services shift from those of other social researchers in a few regards. Like how sociologists frequently concentrate on a solitary foundation, medical anthropologists concentrate on different establishments and embrace clinical pluralism (Baer, Singer, and Susser, 2003; see in Glazier, Stephen D., and Mary J. Hallin, 2010, pp. 925). Likewise, anthropologists take a gander at wellbeing and disease according to a more extensive viewpoint, for example, topical and similar articles to address subjects as different as bioethics, clinical pluralism, shamanism, vagrancy, nourishment, social separation, maturing, breastfeeding, inoculation, genital mutilation, liquor use and chronic drug use, cholera, culture-bound conditions, stress, diabetes, loose bowels, HIV/AIDS research, mental impediment, intestinal sickness, tobacco use and misuse, unexpected newborn child demise disorder (SIDS), and tuberculosis.

All social orders share normal misgivings to personal satisfaction, evaluation of human existence, and the accepted adequacy and inadequacy of their own clinical practices. Along these lines, in this specific situation, medical anthropologists have extended their fields of study to consolidate unpredictable social, rational, strict, political, moral, and financial issues like organ transfers (Lock, 2001; see Glazier and Hallin, 2010, pp.926).

The medical anthropology field is described by its viable concentration and utilization of broad ethnography and member perception strategy to see better the intricacies of well-being, sickness, and medical services. Medical anthropologists likewise analyze how individuals make sense of and treat illnesses and how individuals adjust to changing conditions (Glazier, S.D et al. 2010). As Helman, Cecil G. (2001) keenly noticed, it is hard to isolate a general public's medical care framework from parts of their religion, governmental issues, or financial matters. The inconsistent division of medical services areas into well-known, society, and expert is unreasonable and unacceptable. Like other social researchers, Helman (ibid) frames an assortment of help-chasing ways of behaving that, he advocates, will inescapably prompt what he called 'medical care pluralism'. He accurately battles that while one arrangement of medical care might raise over all others inside a predetermined society (and that structure might be kept up with entirely by the general set of laws), it can't be separated from elective recuperating methods or other cultural establishments (2001; see in Glazier and Hallin, 2010, pp. 929).

My field of research falls under basic 'Critical Medical Anthropology'(CMA), which features the designs of force and dissimilarity in medical care frameworks and broadens the extent of medical anthropological studies to incorporate more extensive causes and determinants of human direction and ways of behaving, as they connect with wellbeing and sickness (Singer and Baer, 2007; see Glazier and Hallin, 2010, pp.929). It likewise incorporates a basic comprehension of well-being and disease by concentrating completely on the upward joins, including people to territorial, public and worldwide powers. Critical medical anthropology additionally looks at principal social designs of well-being and sickness according to designs of force and divergence in medical services frameworks. It shows how these prevailing frameworks reinforce social variations and how savagery, poverty, and the apprehension about fierceness connect with illness. The 21st-century medical anthropologists have accordingly become less disparaging of biomedicine and are currently giving significance to the development of overall admittance to medical services.

Studies on the Internet's Growth as a Source of Information

Coulter, Angela (1998) agrees with the internet technology potential, which is proliferating in almost every discipline, including that distance education and online learning as well. Adding on,

she said that “more and more instructors have taken advantage of online learning flexibility, have utilized e-learning as a mechanism, have made their teaching materials available in the internet, and have made a new segment of higher education for those who were unable to attend traditional courses on campus” (1998; p.263). This explosion of internet usage is transforming the access and delivery of health information and plays a major role in the consumer's health decision-making, health-seeking behavior, and health policy (Health Action, Jan.2009).

Schwimmer, Brian (1996) concurs that the web has made additional opportunities for correspondence, distribution, and guidance because of its productivity, adaptability, and accessibility. In any case, all the while, it has imperiled a developing group of electronic writing because of its low expenses and creation and upkeep. Cassel, Michael M. et al. (1998) fitly portray the internet as a new ‘hybrid channel’ for comparative advantages. They describe these advantages in ways where the internet is a medium between individuals and promotes social support groups not bounded by time and space. Likewise, messages or emails can be stored privately and used per the user's need, and it also helps in real-time video conferencing from a distance. Cassel and colleagues (ibid) are convinced that what makes the internet predominantly salient is its ability to merge the broad achievement of mass media channels with the convincing abilities of interpersonal channels.

Eysenbach, Gunther et al. (1998) fall in line with other thinkers and researchers and thus conclude that the internet's speed and intelligence have made it an unrivalled source of health information. Eysenbach and colleagues (ibid) say the internet, as a “source of information at our fingertips with health information, has transformed the approach in seeking health information and has completely changed consumer decision-making process, particularly within the health care industry” (1998; pp. 1496).

Shepperd, Shasha et al. (Sept.1999) also agree that the internet plays a significant role in acquiring health information online. Benigeri, M. and P. Pluye (2000) suggest that the reason for the growth of healthcare information on the internet is due to the continuous development of medical information websites. Still, they supplemented it by saying that it should be noted that most of these websites were meant for health professionals in the early days. However, more and more websites are coming up that directly address consumer needs by providing them with the

necessary information for their healthcare, health problems, and prevention. Further, they add to this, saying consumers can now access scientific evidence and educational materials and get online doctors, chat rooms, online counseling, and support groups. Parker, Michael and J. A. Muir Gray (2001) also agree and say that the internet's popularity is because of its role in healthcare practice, which can be explained in the form of an increasing number of health-related websites as consumers seek health information to supplement the information they get from traditional sources, local doctors, doctors, and friends or family members. Cline, R.J.W and K.M. Haynes 2001; Mittman, Robert and Mary Cain, 2001; Murray, Elizabeth et al., 2003, share a dream that web conveniences which are promptly accessible, assist in interacting with specialists, buying medication, support gatherings, social change programs, get data on medical issues, and convey different undertakings pertinent to the well-being of the health management.

Berland, v et al. (2001) agrees on the ever-increasing popularity of the internet as the dominant source of information for consumers. Penson, Richard T. et al. (2002) also agrees with them, adding that the internet, especially broadband services, has significantly improved and created the perfect platform for consumers to better health care services and management. Levy, J.A and Rita Strombeck (2002) find that the internet has established itself as a primary form of communication linking millions of people worldwide in the last two decades. These sources might incorporate different media like TV, radio, films, papers, and magazines, which continually besiege us with data straightforwardly or by implication about our current society.

Richard T. Penson et al. (2002) believe that before the internet became a major resource for the distribution of medical information, patients or consumers had limited options. Thus, they had to collect health information from library stacks full of medical journals or simply trust the doctor's opinions. Penson and colleagues stress the coming of the internet, which brings along infinite information for any given problems patients can now easily access and retrieve this information at any given point in time. This information can be accessed within seconds and dispersed to a large audience located within different geographical boundaries, which has dramatically altered the health delivery system and the practice of medicine.

According to Craan, F and D.M. Oleske (2002), the internet is a reputable healthcare information source for health promotion and preventive medicine. Theodosiou, L and J. Green (2003) also observe that lay people can quickly obtain up-to-date health information in their own space at any given time. Looking at the present situation around the globe, the usage of computers involving the internet has become a common way of life. In their studies of women's internet usage, Bowen, Deborah et al. (2003) found that the internet is greatly influencing health communications and health-related decisions. They also found that computer and internet usage statistics come from different sources, and reliability is questionable. Yet, there is a significant trend of agreement: the extensive diffusion of the internet into our lives. Bowen and colleagues (ibid), in their research, found the internet transforming different forms of communication, starting with online shopping to the creation of new social groups. Through their research, Eysenbach et al., 2004 and Seckin, 2005, found that one of the reasons for the ever-growing popularity of the internet, particularly in the case of discussion groups, is because of people suffering from chronic diseases becoming hands-on-experts in coping with the illness. Thus, the internet becomes a medium for them to share their experiences and precautions.

In line with other researchers, Cotten, Sheila R and Sipi S. Gupta (2004) explain that the internet, which offers a wealth of medical knowledge, can vastly improve an individual's health management. They also talk about the advantages of the internet, which include the possibility of acquiring precise health information and making better health decisions, choosing specific health professionals, chat groups, and medical care. Likewise, Wager, Karen A. et al. (2005) also explain that internet popularity is because “ready access to timely, complete, accurate, legible, and relevant information is critical to health care organizations, providers, and the patients they serve” (2005; pp. 2). Ritterband, Lee M. et al. (2005), in their study on internet usage among Americans, found that 70% of parents with children under 18 years old use the web to seek health information, which has become an everyday activity. They also found that 75% of people between the ages of 15-24 have utilized the net for health information.

In their research on internet relationships with patients, Bass, Sarah B., et al. (2006) found that the ‘growth in information and communication technology’ has bought a revolution, which has allowed instant and equal access to everyone, something that was not possible before. This

development enables individuals to turn out to be more dynamic members in focusing on their well-being and giving them the expected information to make sound judgments and engage in behavior that will improve their quality of life.

Goldner, Melinda (2006) says more information is needed to specify how people use these technologies to comprehend their impact better. Goldner makes sense of an absence of information on whether sick or sound individuals are bound to access the internet, perform well-being searches, and trade messages with friends, family, and doctors. But he also points out that emerging researchers are beginning to study the impact of the internet on health-related activities.

Fox, Susannah (2006), in her study of internet usage for health information by Americans, found that an estimated 113 million Americans, i.e., 80% of the total population, have accessed the internet for health information purposes. Warner, Dorothy and J. Drew Procaccino (2007) say the internet is the optimum channel for acquiring health information, and people are mostly dependent on it. In India, over 130 million people went online in 2020 and 2021, with approximately 80 million going online in 2020 and 43% (roughly 34 million) going online as a result of the COVID-19 issue (Indiatimes report by Khanna, Monit Nov 2021).

As we all know, the internet has developed into a potent resource for acquiring health information; however, less or little examination has been done on what the internet means for our regular routines. Dependence on the internet is immeasurably increasing on a scale that cannot be measured, including our daily activities, from eating-sleeping habits to everything that revolves around us. We are at a point now where we cannot do anything without help from the internet. Leung, Louis (2008) said this reliance implies our commitment to the internet has become more dynamic than previously. Nonetheless, he said this heavy dependence on the web is frequently underestimated. He focuses on factors such as socioeconomics and expectation worth, or quality ascribes of health information sites influencing internet users, which will aid in reflecting on what well-being information obtained via the internet means for the discernment and closeness with which our lives are implanted. Leung (ibid) believes that the internet's popularity is particularly noteworthy not because of its broad nature but because of its coverage

of chronic illnesses. Looking from this point of view, one can argue that it is due to the fact, containing an enormous amount of information. At the same time, it plays as a crucial role for people suffering from chronic illness in terms of privacy, emotional comfort, advice, and an emergency go-to.

Rains, Stephen A. (2008) agrees that the internet is becoming an essential resource for consumers to acquire healthcare information. Rains (ibid) believe that a considerable portion of attention is given to the internet and World Wide Web (WWW) due to its flexibility in processing health information at any given point in time. Seckin (2010) makes sense that in excess of 6,000,000 patients and their overseers in the United States utilize the internet to get health information on a typical day. On average, the amount of internet consumed by over 500 million people in India stood at 13,462 megabytes per user per month at the end of 2020 (Statista, 2020). However, the number of individuals in India utilizing the internet for health purposes remains to be documented.

Yasin, Bahar and Hilal Ozen (2011) find the internet's increasing usage in recent years is due to the internet becoming a preferred source of information. It is further being supplemented by researchers who came to the same conclusion. Yasin and Ozen (ibid) talk about the four possible factors that add to the growth of the internet; firstly, health-related websites are readily available as per one need. Secondly, consumers become more aware of their sickness and the necessity to avert complications and are made to depend on self-wellbeing management. Thirdly, high-speed access to the internet has become more common. Fourth, consumers are more experienced with internet usage, and thus, navigating through millions of websites becomes easy.

With the expanding nature of the internet, the obvious outcome is the increased demand for health care information. This development in information and communication technology has pushed the consumer's approach to healthcare services and information at an unstoppable level and, in the process, ensures that the internet is integrated into our daily lives. The ever-growing nature of the internet has opened up a vast array of options for consumers in search or seeking advice for their health-related information. These advances in the field of communication technology have enabled consumers to a variety of channels to choose for their particular needs.

For more than 50 years, anthropologists who work in the field of international health have grown in stature as researchers, consultants, and supporters of modernist initiatives in medicine and public health. AIDS and its worldwide awareness altered the institutional, financial, and political architecture of international health in the twentieth century, culminating in a vibrant global health movement led by anthropologists who are also medical activists. Anthropology in global health is now one of the most significant empirical and theoretical topics in anthropology.

Health care technology applications contribute to making it affordable. They can also improve patient safety as well as strengthen the public health care system. Similarly, information available on the computer has contributed significantly to infectious diseases, like HIV/AIDS, and distributing anti-retroviral drugs. It also helps in fast coverage of new diseases, geographical areas of their prevalence, and so on. Endless possibilities and limitless wealth of knowledge provided by the internet have pierced the boundaries and extended beyond local and regional boundaries, providing unique channels to various consumers. Besides, it also provides a higher degree of interactivity, mail exchanges, tailored health messages, ease of use, fast communication, and widespread accessibility, making it ideal for delivering health information more individual and relevant to the consumers (Health Action, Jan.2009). At this point, it is right to acknowledge the internet as a major source of health-related information and include all other things that affect our lives directly or indirectly.

What does Internet Popularity do with Health and Health Care Management?

We notice a wide range of approaches which is also due to the new medium called the internet and its interface with health. In this regard, Mittman, R and M. Cain (1999), in their research on the future of the internet, particularly in health care, medical services have discovered the internet, and the internet has found medical services. They bring up that the patients make online networks that give peer support, data on the most recent investigations, and their accounts and encounters. Besides additionally use the internet for their exploration, latest information, consultations with colleagues, and keeping in touch with their patients.

Benigeri, M. and P. Pluye (2000) explain that there is ever-increasing information on health. It can be attributed to rising medical websites that directly address the population on their specific

health problems, self-care, and prevention. Parker, Michael and J.A. Muir Gray (2001) say healthcare and health management are the main reasons for internet popularity. People tend to seek out health-related information and services to supplement their knowledge of disease and illness apart from the knowledge they gain from doctors, local doctors, family, and friends. Eysenbach, Gunther and Thomas L. Diepgen (2001), in their study on the 'role of e-health and consumer health informatics,' say that access to health is a matter of concern for any developing society. Eysenbach and Diepgen (ibid) explain that the patient's or consumer's desire to have more control of their health and the willingness of doctors or health professionals to meet all the needs of the patients have coincided with the rise and expanding the accessibility of data innovation.

Many of us have updated our health management practices to fit internet use. While the collective knowledge of our physical health is increasing, the presumption is that health maintenance is an individual responsibility. It is not necessarily a favorable outcome of internet-mediated health care because health outcomes² are connected to social support and community standards. World Health Organization (WHO) characterizes health as a community issue. Individual health outcomes are as much a product of unique characteristics and behaviors as the physical, social, and economic environment that predict them.

Health and healthcare have evolved over the past thirty years and emerged as an exciting and vital field of study, made possible by human and communication technology's influential and dominant roles in healthcare delivery and health promotion. Management of health falls under the applied area of study as it analyzes the "pragmatic influences of human communication on the provision of health care and the promotion of public health, and also it enhances the quality of health care delivery and health promotion" (Parker, Michael and J.A. Muir Gray, 2001, pp. i33). It is a networked society and therefore requires the internet.

This surge in health-related material on the internet suggests that things are not slowing down. For instance, typing a solitary word 'health' in the conventional web search tool yields more than

² Health outcomes may be defined as the end results that health information seekers expect as a result of their online health information seeking activity.

13,09,00,00,000 pages (thirteen billion nine million as of the December of 2022-Google) about health. Therefore, importance should be given to managing this technology which is transforming health and healthcare, to ensure patients or consumers become knowledgeable decisions, helps doctors and health professionals to be up-to-date with the best treatment and therapy management for their patients, and help administrators to facilitate the systematic course of patients or consumers through an increasingly complex healthcare system.

The most trusted websites at present, which can be obtained through generic search engines include; Mayo Clinic, WebMD, Drugs.com, Medline Plus, Cleveland Clinic, American Diabetes Association, National Institute of Health, Family Doctor.org, Kids Health, National Health Service, Heart Hub, Fitday, Health.com, Yahoo, Centers for Disease Control and Prevention, Mens Health, Sexeducation.com, and Shape.com. In summary, the studies show that new directions are possible.

Studies on Internet Influences on Healthcare and Management

Klein, Richard (2007) uses the term e-health to refer to the emerging trend in information and communication technology, i.e., the internet, which improves the overall management of health care. Klein (ibid) said the internet as a whole provides easy and open access in regards to health knowledge, disease, medicine, management, and research findings without digging into our pockets. As a result, the consumer's knowledge of health problems has created a rift between the patient and the professionals. Klein (ibid) also points to the growing number of disease groups that act and provide support, advice, and platform to share experiences. He stresses the need for a common ground for health practitioners, local groups, and the government to come together and utilize the internet for the overall benefit of society.

Mittman, Robert and Mary Cain (1999) explain how the internet has made extensive inroads into health care services, delivery, administration, and as a source for consumer health information. They say that it is only possible because it is cost-effective, easy to access, offers an array of health information, and liberates the consumers to a worldwide organization of individuals sharing specific interests. Thomas, Karl W. et al. (1999), in their research on internet evaluation, found that the internet revolution has brought an escalated trend of consumers engaging as active

participants in their health care and management, which has resulted in the shift in health information knowledge available to consumers besides the health professionals who were the only source in the beginning. According to Millman, Andrew et al., “there is no shortage of ideas regarding how one can utilize technology to work on clinical practice, give more information to the patients, and upgrade the nature of the accessible information and direction (1995, pp. 441)”.

In their research on the health benefits and risks of using the internet as consumers, Levy, Judith A and Rita Strombeck (Dec. 2002) considers the internet to be a substitute source of health information. They observed that people who obtain information from the internet tend to avoid health professionals. At the same time, they empower themselves upon stumbling on some health professionals they met online. Looking back, one can find a stark contrast with how consumers seek health information entirely depending on traditional health care services and medical centers or doctors. However, the onset of technology in the form of the internet not only provides but has also reduced the barriers to accessing health information and provides a sense of privacy that is sensitive in nature. In this context, we can also focus on the advantages of the internet in terms of health secrecy, empowering the consumers, and giving them back control of their health-related problems. Keeping in mind, the mentioned benefits of the internet, it is safe to assume that seeking health information is an apparent impact of having the internet, which is now deeply rooted in our daily lives.

The changing scenery of healthcare for the consumers is increasingly growing, creating demand for ease and access to health professionals, which are readily available through e-health initiatives. Lewis, Tania (2006) said, “the emergence of RealAge.com and other personalized health websites can be seen as part of a wider trend across the media. From television to the print media, health issues today are increasingly discussed in terms of individual rather than governmental or social responsibility. Reflecting a shift in the language of public health and health promotion more generally, media coverage tends to focus on the notion of the healthy responsible citizen as an essentially self-managing and self-monitoring subject” (2006, pp.521). Lewis also indicates that in this new era of technology, consumers are encouraged to mold their own health care management. Essentially, one should not accept health as something outer to or outside the individual's control, yet all things being equal, one ought to embrace it as a feature of

a more extensive connecting of thoughts of the body, self, and way of life. In this association, Lewis (ibid) gave a guide to make sense of, like how we pick the furniture in our home; we ought to have an inquiry about the sort of diet to stick to, sort of activity methods to follow, and sorts of 'unsafe' ways of behaving one decide to enjoy, which she explains are progressively turned into a piece of our more extensive form of life.

Porter, Ann and colleagues (2007) express that doctors should and need to look into this trend and support their patients in seeking out the correct health information from the websites and help them in the decision-making process instead of acting as the only doorway for health information. Instead, they should act as advisors and partners in the seeking process. In her studies, Rains, Stephen A. (2008) found that the internet has been widely accepted as a valuable prospect tool for obtaining information on health, care, and services.

According to Seckin, Gul (2009), the usage of the internet to access specific health information has risen over time, particularly in the field of chronic illnesses. Not forgetting its capability in health care management, discussion, support groups, messaging, list serves, and chat rooms have emerged as a 'virtual self-health care network' component. Seckin (ibid) explains how our modern society is characterized by how the internet allows for easy access to medical information for non-professionals. It is possible because of the presence of many websites and chat groups, social help groups, and online discussion groups adhered to one specific health problem. All the studies (literature review) agreed that the internet's rise as a medium for health and well-being is well acknowledged and continues to grow infinitely fast. The internet has become a ubiquitous medium for health and wellbeing. The number of digital health interventions available has exploded in recent years. From the popular fitness trackers on your cellphone to virtual reality training programs for back pain and chronic disease management, the digital space is full of resources that promise to improve your physical and mental well-being.

Concerns on Reliability and Quality of Information

In its initial stage, Levy, Judith A., and Rita Strombeck (2002) unequivocally feel that the amount of healthcare-related data and the number of internet clients will continue to increase exponentially. They are concerned with the ever-increasing dependence on the internet, as the

younger generation is slowly shifting from the traditional concept of a doctor-patient relationship. But at the same time, though the more youthful era may be going to the internet for well-being-related data, they are not blindly following information found via the internet. This is keeping in mind the biased nature of the internet among trusted sources such as doctors, parents, and schools. Despite the apparent security loopholes and ease of the internet, it is developing as a fundamental wellspring of health data, particularly during this pandemic. Individuals (both youth and aged), everything being equal, relies upon the internet for medical services and information. Levy and Strombeck (ibid) find that the internet is clearly a place for young people to express and explore topics that they cannot share with others. They also found that the information influences many young people they found online; with this information, young people discuss it with their friends and family members and act accordingly. Further on, Levy and Strombeck (ibid) found that these 'health surfers' said they had changed their lifestyle and behavior with the help of information found online, and one in seven says they have actually visited the doctors on their find.

Dochartaigh, Niall O (2002) expresses that instead of just accepting the internet as the main subject of research study, we must consider and develop a new design of research expertise that addresses the challenges the internet brings. Keeping these in mind, there is a need to revive and reinforce traditional research values such as flexibility, rigor, and skepticism while also developing new approaches which will permit us to make the most favorable use of these resources since an increasing percentage of information being processed by researchers and scholars around the world is channeled through the internet.

Based on their research, Tian, Yan and James D. Robinson (2009) conclude that many individuals, when accessing a website, he/she have some intention in mind. However, this intention tends to deviate as it stems from specific web pages due to the presence of an uncountable number of hyperlinks and interactivity of the internet. They also found that a number of users utilize the internet and, upon stumbling across heaps of health information, consume such information as concrete/relevant data. Thus, Tian and Robinson (ibid) conclude that such decisions will have an important implication on their knowledge of health, attitudes, and behaviors.

Teufel, Martin et al. (2011) explains that in the context of health information and management found online, many studies have solely focused on the validity and reliability of these internet sources, its impacts on the doctor-patient relationship and telemedicine (alludes to the contribution of broadcast communications and virtual innovation to convey medical services beyond customary medical care offices -WHO) web base treatment. At the same time, they lament the absence of the scientists' validation of those health websites which the consumers frequent.

Analysts and researchers across the globe have noticed and encountered that consumers who frequently utilize the internet looking for healthcare information are more assured about their medical problems, are discerning, and can verify vast amounts of information in a given time. But on the other hand, this dependence on the internet dramatically reduces self-efficacy and reliance on doctors and medical practitioners to interpret their health problems (Health Action, Jan 2009, pp.8).

Black, Ashly D et al. (2011) work on the impact of eHealth on the quality and affluence of medical services, and find that eHealth technologies are constantly in progress worldwide, with a significant impact on the economy of the country/nation. In their work, they found England has put 12.8 million dollars into National Program for Information Technology (NPFIT) for the National Health Service (NHS). The United States of America, under the Obama Administration, has invested 38 billion dollars into eHealth projects in health care. They explain that such huge consumption is legitimate on the premise that EHRs (electronic health records), e-prescribing (e-prescribing), and automated decision support systems (CDSSs), and Picture Archiving and Communication Systems (PACS) will help in addressing the problems of reliability and validity in modern health care. While the internet offers an unprecedented number of tools for improving health and well-being, it is important to acknowledge that the technology itself is not a cure for illness and should not be viewed as a replacement for conventional health care. When used appropriately, however, the internet can be a powerful complement to traditional medicine and can improve access to health information and services. For example, chronic illnesses such as diabetes and high blood pressure can benefit from the use of digital technologies, provide

support for mental health conditions like anxiety and depression, and promote physical activity and healthy eating habits.

Internet as the site of health-seeking behavior can possibly improve the validity, quality, security, and overall efficiency of healthcare. It additionally works with clinical benefits providers to assemble, store, recuperate and move information electronically and might potentially update the quality in three critical regions of any medical services framework, for example, individual wellbeing, medical care conveyance, and general wellbeing of the people. With the proper introduction of technological applications, the internet can significantly bestow consumers with a better quality of health, shrink medical blunders, and lessen administrative expenses in health management.

Description of the Study Area

Hyderabad is known as the ‘City of Nizams’ and the ‘City of Pearls.’ Hyderabad was founded in 1591 by Mohammed Quli Qutub Shah (GHMC.gov.in, 2021). Hyderabad is divided into nine sectors according to cultural and economic zones such as Central, old city, Western, Northwestern, Northern, Northeastern, Eastern, Southeastern, and Southwestern, with several localities. It is quite possibly one of the most evolved cities in the country. In terms of area, Hyderabad is the sixth biggest metropolitan region in India, covering an area of 217 square kilometers and sitting 500 meters above sea level. Hyderabad is also well-known for its rich culture, history, and architecture, demonstrating its obvious position as a crossroads between North and South India. Her multilingual culture and multi-religion are topographically and socially known (ITU Cybersecurity, 2009). The population of Hyderabad stands at 6,731,790, of which 3,442,696 are male and 3,289,094 are female, with a literacy rate of 83.26%, of which male and female literacy is 87.31% and 79.04 respectively (as of 2011-2022 census), with a projected growth of 2.58% increase in population at the end of 2022.

Today, Hyderabad is popularly known for being the center point of Information Technology, Biotechnology, and Information Technology Enabled Services (ITES) and, in the process, has become the most dynamic city in the world. Most of these companies have established their campuses in the area of Madhapur, Gachibowli, and Hitech, which falls under the Western

sector, which consists of Hitech City, Jubilee Hills, and Gachibowli, which comes under Ranga Reddy District of Telangana. Hyderabad is also referred to as the 2nd silicon valley of India and is now home to 500 best Fortune Corporations from all over the world (ITU Cybersecurity, 2009).

Statement of the Research Problem

Studies have shown that informed individuals are being able to access and use useful information online for their medical services, taking care of themselves, and prevent illness. Studies have additionally shown that these informed internet consumers are content with the information they can obtain there and a half or a greater amount of these healthcare information searchers revealed their discoveries impacted treatment choices and their healthcare decisions.

Thus, the purpose of this research is to critically look at those who use the internet to get health information educated and tech-savvy youth (according to the Oxford dictionary, tech-savvy can be defined as ‘having a good knowledge and understanding of modern technology, especially computers) living in Hyderabad City. The question remains as to why there is a need to study the internet’s role in health choices and health decisions among the literate youth? There is very little research on the internet's impact on health-related decisions and choices, especially regarding Hyderabad among the literate and tech-savvy youth in the age group of 20-60 years old, in the context of the internet utilization for acquiring health information. Therefore, I will critically examine the implications of the internet, particularly the internet usage for obtaining health information, significant variables influencing their internet decisions for healthcare information and health decisions, factors affecting their doctor-patient relationships, and the digital gap brought about by this technological development.

Objectives of the Study

1. To understand the pattern of how the educated and techno-savvy youth in Hyderabad uses the internet for seeking health information.
2. To investigate the impact of the digital divide on health care delivery
3. To critically examine the doctor-patient relationship

Research Questions

In light of the accessible literature review, the following are research questions outlined and tried in the field.

1. Is the internet helpful for health-related information?
2. Who uses the internet most frequently, and why?
3. Is health information found on the internet changing our daily lives?
4. How can we bridge the gap in this relationship?
5. What is the main reason for the digital divide between people?
6. Is there a relationship between health care delivery and the digital divide?
7. What were the traditional sources of health information before the internet came into our daily lives?
8. Is the change in the doctor-patient relationship affecting us in any way?

Significance of the Research

The importance of this research has a number of realistic applications. Firstly, the data collected will create awareness among the educated youth and how to utilize the information available on the internet properly. Secondly, it will help the institutions, administrations, social scientists, doctors, and parents to the growing issues and adaptability of the internet and how it can be accessed appropriately, utilized, and built as a bridge created by these technological advancements. Last but not least, the data collected will help researchers in the near future to develop better theories and conduct extensive fieldwork in this area.

The internet provides health information accessible to everyone, and many people are dependent on online sources rather than consult doctors. Therefore, I decided to do empirical research on the impact of the internet by targeting the literate and tech-savvy youth living in Hyderabad City. I have employed a mixed-method in this study, which I will explain threadbare in the following chapter.

Theoretical Framework

Critical medical anthropology (CMA) stance focuses on theoretical conflict and comes up with key questions on the impact of geopolitical and economic structures on the course of health and diseases. Hence, critical medical anthropology studies the way health care is embedded within the dominant and imbalanced social relations that of gender, class, and race. Ultimately, critical medical anthropology aims to contribute to the foundation of the betterment of the health care system as a whole. (Baer, Hans, A. Merrill Singer, and Ida Susser 2003, 2nd edition, Medical Anthropology and the World System, Praeger, Westport, London).

Mittler, Jessica N., Grant R Martsolf, Shannon J Telenko, and Dennis P Scanlon (March 2013) studied extensively the multidimensional and fundamental approach brought by consumer engagement in understanding behavior change. They carried out their studies with the help of previous studies by Gruman and colleagues (2009) as the basis of their research framework.

Mittler et al. (ibid) used consumer engagement to unsystematically depict an individual's close-to-home contribution and obligation to their part in healthcare management. Whereas Gruman et al. (ibid) refer the consumer engagement as behaviors to deal with one's medical care by taking part in different choices during the time spent in therapy and lifestyle choices. Gruman et al. (ibid) utilize four categories to explain the individual's approach towards health care and management, such as (1) commitment as individual limit and inspiration, which portray a singular limit and obligation to play a functioning job at his/her own medical care. (2) Engagement as a set of behaviors, (3) self-management behaviors imply the everyday errands a singular does to control and decrease the wellbeing from any sort of infection, (4) shopping behaviors refer to the activities carried out by an individual to be more effective in purchasing of health care, which includes choosing correct information for seeking out the right hospital, health plans and effective treatment options available.

However, they find that these interpretations of consumer engagement by Grumans (ibid) to be contradicting each other. For example, Grumans and colleagues (ibid) employ 'patient' when an individual interacts directly with doctors or physicians on personal health problems, whereas 'consumer' is utilized at the point when an individual pursues choices in acquiring medical care.

They come up with a model that alone serves all these consumer engagement behaviors known as the “Engaging Consumers in Health and Healthcare in Communities” (EHC) framework to fit the multilevel structure of consumer engagement interpretation.

The engaging consumers in health and health care in communities (EHC) addresses a concentric circle structure that shows that people, gatherings, and networks will impact each other at some random moment, yet not really in a direct design. The engaging consumers in health and health care in communities promote as ‘a particular trademark that impacts an individual's dynamic cycle and moves made to change their way of behaving’. This choice interaction has four categories: (1) remembering one's role in health, and medical care characterizes that an individual should be cognizant, recognize and hold the idea that there is still room to work on one's own well-being and plays a functional role to play and by doing so provides a desire to undertake behaviour modification, which includes the search of information. (2) Gathering information – refers to the individual's effort in pursuing the information related to their health which can vary in the form of browsing the internet, enquiring friends and family, through a newspaper or social media, and through the doctor for their health and wellbeings. (3) Gauging the choices – refers to the understanding, evaluating, also blending of information to check the immediate or aberrant advantages and monetary expenses of commitment replacements. (4) Taking part in healthy, self-administration, medical care experience ways of behaving and shopping ways of behaving - assuming the individual presumes that the advantages of progress abundantly eclipse the expenses, they will be asked to execute and maintain engaged behaviour. As a result, the method demonstrates that an individual's level of preparedness is strongly related to behaviour modification and that their level of behaviour may alter over time.

Mittler et al. (ibid) explain that these four stages of engaging consumers in health and health care in communities will show that an individual may progress or revert since each individual has different constraints and capabilities that affect their motivation and motivation involvement. For instance, an individual diagnosed with diabetes will have to rethink the responsibility as to how to manage their health and gather disease-related information and management. At the same time, these individuals may not see themselves as ‘active shoppers’ and may not look for information. However, this cycle is dynamic. An individual might stop at some random point; for

example, they may collect information on the potential treatments but do nothing since they find it hard to comprehend, and any further research may deem unnecessary or overshadow the expected benefits. They additionally stress that characteristics like age, orientation, education, character, mental capacities, race, and nationality and factors like health status, income, financial status, self-adequacy, level of self-guideline, emotions, encounters, self-conception, abilities, information, attention to decisions, and convictions and values can incredibly impact the result of the consumer commitment. In this manner, I will utilize Mittler et al. "engaging consumers in health and health care in communities" structure to critically examine the internet's role in health choices and health decisions.

Plan of the Thesis and Organization is Outlined

My thesis begins with an introduction of why this specific research has been chosen for the study. The first chapter focuses on a brief discussion of why it is an anthropological study, the internet as a source of health information, the internet's impact on health and health care information, why there is a need for analysis, a description of the study area, statement of the problem, the objective of the study, research questions, the significance of the research, and theoretical framework and ends with conclusion.

Chapter 2 describes the methodology of the study, which includes sources of data collection, pilot study, field sites, research design, sampling procedure, study area, a sample size of the survey, unit of analysis, fieldwork experiences, tools of data collection, limitations of the research and finally concludes with the conclusion.

Chapter 3 provides an extensive review of literature on the relevant aspects and implications of the internet in health management, the causes of the digital divide, the changing relationships between the doctor and the patient, gender, age, and education, and reliability and validity of the information found online, and conclusion.

Chapter 4 provides a detailed explanation of the definition of the digital divide, its history around the world, and in India, what are the reasons for its occurrence, how we can mend the divide

created by information and communication technology, the digital divide in India and Hyderabad, measures, and the chapter ends with the conclusion.

Chapter 5 focuses on the research data and analyzing the perceptions of the educated adults with the help of the SPSS data collected from the total of 150 respondents through a survey questionnaire, scheduled interview, case study and conclude with the conclusion.

Chapter 6 provides a detailed description of changing doctor-patient relationships in the age of internet, causes for the change in the traditional system of acquiring health information, how it affects our society, and some case studies on respondents, including patients and doctors, and their perception of the everchanging relationship due to the internet.

Chapter 7 gives an overview of the study, draws a conclusion, and discusses the implications for further research.

Conclusion

Cassell, Michael M. and his colleagues (2010) explain that to focus solely on the internet's remarkable achievements and its ability to store massive bulk of information and to ignore the internet as just a new and popular mass media is overlooking important features that foreshadow a much greater prospect it brings. As we know, the internet has become a primary source of information for academic articles and books, journals, magazines, and many more, which are free or of little cost. Huge advancements can be seen in health management, improving safety, quality, and costs and growing rapidly, crossing boundaries across the world (Health Action, Jan.2009). Levy and Strombeck (2002) found that the internet does not only offer pioneering ways to guide and disseminate information but is also increasingly becoming an indispensable source for addressing health problems and containment of diseases.

The year 2000 has come and gone; nevertheless, 'Health for All' appears to be miles away. The UN sustainable development goals for health are "ensure healthy lives and promote well-being for all at all ages" (un.org). It has three goals; one to reduce mortality rate, which include maternal mortality, infant mortality, eradicating pandemics (AIDS, tuberculosis, malaria, tropical

disease, fighting hepatitis, water-borne diseases, and other communicable diseases), lowering the premature mortality rate, combating drug abuse, ensuring universal access to services for sexual and reproductive health, achieving universal health coverage, and lowering the mortality rate brought on by chemicals, air, soil, and water contamination; which are all projected to achieve by 2030. And one cannot simply deny the reality of progress in the public healthcare sector. Modern technology has enabled us to perform notable actions which would have seemed absolutely impossible only a few years ago. Healthcare professionals are now also up to date with the internet as they need to be in top of their profession since patients are armed to the teeth with help from the internet.

Anyone can have access to unlimited health information. There is no better or inexpensive way than the multi-media services over the internet for continuing medical education. Consultation between experts, general practitioners, or specialists is no problem. The advice can be given or taken within seconds in real time. The internet is also used as a vast platform for the transaction and exchange of medical equipment. It is also an ideal marketplace for organizing human resources.

The internet has brought forth the web as an essential and enormous source of consumer health information. In this way, the internet helps consumers by providing an alternate source of information regarding sensitive subjects. It also helps improve health outcomes by encouraging us to have a healthier lifestyle as better-informed consumers and helps link people with similar problems. Not forgetting that increased dependence on the internet could also result in terrible decisions and reduce doctor-patient relationships.

Thus, this chapter presents a critical inquiry into internet users' reliance on online health information, examining the implications of the internet in healthcare, choices, decisions, and the need for further research. To further strengthen my research, I will critically examine the research methodology of the given area under study in the next chapter.

Chapter 2

Methodology of the Study

Introduction

The current study aims to comprehend the effects of the internet on a range of aspects, such as health implications, changes in the doctor-patient relationship, and the digital divide brought by the internet. The research questions mentioned in Chapter -1 will be examined to understand (1) the patterns of internet usage for health management purposes. (2) How the usage of the internet has brought about changes in health management both at an individual level as well as at the institutional level? (3) what are the socio-economic impacts of usage of the internet for health management mentioned aspects? The research and methodology for this purpose are mentioned in the following.

Target Group and Geographical Location of the Study

The main aim of the present study is to critically understand the role of the internet by analyzing the collected field-based qualitative data and available secondary data. The study also focuses on how it can influence the decisions and choices concerning health and health management at an individual and institutional level. It is assumed that mainstream internet users are primarily educated and young. For example, the Pew (The Pew Research Center is a nonpartisan American think tank situated in Washington, D.C. It provides research data on social issues, public opinion, and demographic changes in the United States and throughout the world) Internet and American Life Project investigates the web's effect on networks, such as families, communities, work and home, medical care, civic and political life, education, and day-to-day activities. Fox, Susannah (has produced numbers of researches under Pew project in between 2000-2014) has done numerous extensive works on the internet's influence on health decisions and choices among the different age groups of the American population and found its strong influence, particularly on educated and tech-savvy youth. So, the educated and young people were consciously considered a focused group for the present study.

Likewise, the city of Hyderabad has been chosen based on the wide availability of internet users (as most of the information technology, software companies, engineering, health informatics, bioinformatics, and business district are located in Hyderabad city) and reachability to both target-group as well as to the field area.

Sources of Data Collection

In this study, I have employed both primary and secondary sources. The primary sources include data collected from individual interviews, case studies, observations, and survey methods. My respondents comprise educated working professionals in various multi-national companies (MNCs) based in the Hi-tech City area and Gachibowli in Hyderabad, including selected postgraduates and research scholars in the University of Hyderabad. I have used both structured and unstructured interview schedules. In most cases, interviews with my respondents were completed in one sitting within 15-20 minutes. They are usually not available for interviews throughout the day except during their lunch break. Hence, I often interviewed them after their lunch hour (12.30 o'clock noon to 2 pm). It was a tedious process as I would go to meet my respondents in their respective private companies and wait for their convenient time. At the time, they were busy and could not give an appointment to meet even during lunch break, and I would return to my university without getting any responses. The secondary sources include articles from various journals, books (although there is a scarcity of books on this topic), Census reports, websites, YouTube, an online newspaper, magazines, and unpublished documents.

Pilot Study

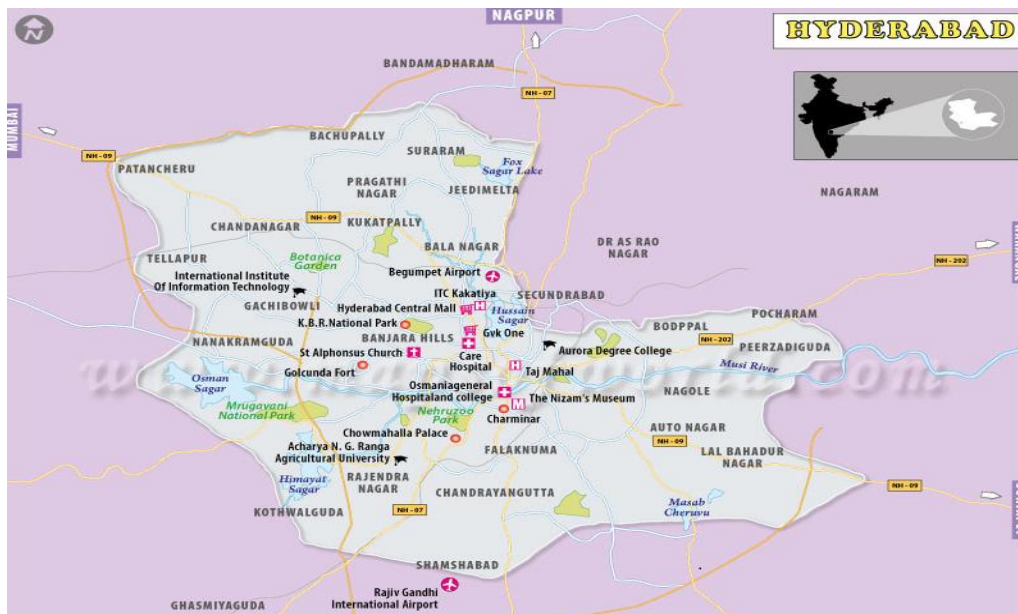
The pilot study was conducted in the month of March 2014 (which lasted for ten days) among the Students at the University of Hyderabad (HCU), where the structured and unstructured questionnaires consisting of 47 questions were distributed to 30 students to check the loopholes, applicability, reliability, and validity of the research questions. After a discussion with my Supervisor and Doctoral Committee Members, revisions were made. A few repetitive questions were removed. A few questions that do not provide flexibility and have less probability/no relevance to produce any change in the data collection were drawn. I want to point out that the 30 respondents who were involved in the pilot study were omitted from the final research

ensuring reliability in the collection of data. Thus, the last 53 questionnaires were prepared based on the outcome of the pilot study, which provides more flexibility to the respondents and is likely to produce a better result for the data collection.

Field Sites

After the pilot study in 2014, a study area or location was identified in Hyderabad City (see Figure -1), which includes the Bank of America Continuum Solutions located in Mind space Madhapur IT Park, Cognizant Technology Solutions Pvt. Ltd. located in DLF Cybercity, Dell International Services India Pvt. Ltd. located in Hi-tech City, Tech Mahindra located in Hi-tech City, Genpact located in DLH Building Gachibowli, and lastly University of Hyderabad located in Gachibowli. The Hi-tech City area in Hyderabad, known as Cyberabad, and the financial district in Gachibowli are considered the hot-spot for multinational companies.

Fig-1: Map of Hyderabad



Source: *Maps of Hyderabad, Govt. of India*

Research Design

This study is exploratory research, and it aims to explore the magnitude of how the internet influences the psyche of youth in the context of their health issues. The study used primary data collection to address the research questions and to understand the importance of internet health implications, uses, and changes it brings about in our daily lives (it is not possible to overlook the transformations between those who grow up in a technologically driven world versus a world without smartphones, tablets, laptops, desktop computers, and social media. Youth of the present age are actively engaged and immersed in modern gadgets or technology. When the need arises to explore something, they type in search engines that give a vast amount of information in a matter of seconds. When they want amusement, imagination is no longer required, as there is an overabundance of entertainment and games at their fingertips). The qualitative method employed here includes that of survey method, case studies, and individual interviews.

The qualitative survey method was employed to collect data and formulate, and answering the research questions. Survey research design offers distinct benefits, it has become one of the most extensively utilized scientific research tools in social science research, notably in policy planning and assessment (Singleton & Straits, 1999). The reason for the utilization of this survey design is that it enables us to examine several factors simultaneously. The survey method has been used for gathering information on internet usage, health-related search information, and demographics.

Based on the outcome of this qualitative survey method, an interview method was extensively utilized to collect in-depth information, which included both open and close-ended questions to obtain qualitative information. The interview method provides us with an option to ask more personal and insecure questions in connection with the respondents' view on health information, search for health information, usage and the reliability of healthcare information accessible on the internet, as well as the influence of the internet on their everyday lives.

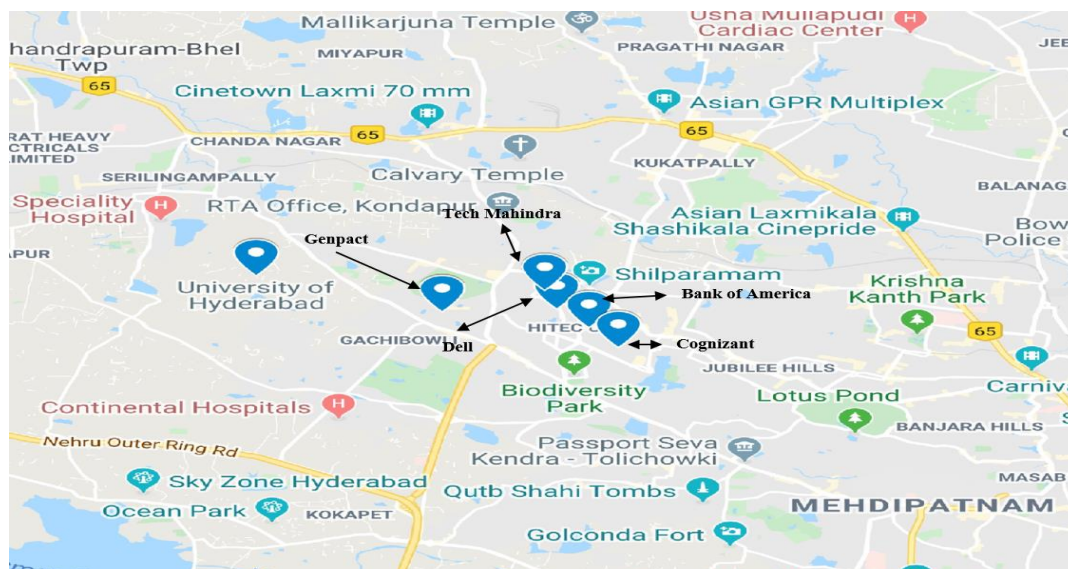
Sampling Plan

The purposive snowballing sampling method was employed in selecting the specific age groups, i.e., between the ages of 20-60 years old. Selection is made on the basis that the person in this age group will be actively engaged with work, study, and engaged with internet in daily life activities for the study. The purposive sampling method, especially non-probability sampling, was applied to save time and money since the subject under study is a vast subject. Besides, a snowballing method was utilized in conditions where I had to choose specific cases to help answer research questions and objectives.

Study Area

Hyderabad has become the capital for techno-savvy IT professionals in India, with an estimated urban population of 6.7 million, boosting a literacy rate (urban areas) of 82.90% (2011, Census report of India) and 83.26% as in 2021 census report. This city attracts people, languages, and religions from all over India. Such diversity makes it an ideal place for research because of its nature for diverse utilization of the web for health-related issues and problems. It is essential to point out that this study aims at the educated working IT (Information Technology) professionals and students pursuing postgraduate and higher studies/research scholars. Further, it is worth mentioning that almost all of the information technology and software companies are clustered together in around Gachibowli (see Fig. 2) and Hi-tech city. They are perceived to use necessary information and communication technology as that of computers, laptops, tablet, iWatch, and smartphones.

Fig-2: Locations of Study Area



Source: *Maps of Hyderabad, Govt. of India*

Sample Size of the Study

Two broad divisions of respondents were interviewed during the fieldwork in Hi-tech City and Gachibowli, Hyderabad. At the beginning of this study, I did not fix any sample size of the respondents since I was not sure how many people would respond positively. I used my personal networks and friends to convince people to be my respondents. Slowly, I managed to collect the data and some case studies from a total of 150 (one hundred and fifty) corporate IT professionals, students, and research scholars from the University of Hyderabad, spanning two years, 2014-2015.

Unit of Analysis

As mentioned above, the unit of analysis of my study is a total of 150 (one hundred and fifty) IT professionals, research scholars, and student respondents, comprising both women and men mainly in the age group of 20-60 years old, who are residing in Hyderabad. I was introduced to my respondents through my friends and personal networks. I shared with them about the objectives of this study, and they were selected as my respondents based on the non-probability purposive sampling method. I often wrote down the answers of my respondents and jotted down field notes, and then transcript them later. After the data was collected, I used the well-known Statistical Package of Social Science (SPSS) software to tabulate the answers and convert them into percentages, tables, correlate, and graphs. Then, I managed to write down the emerging trends of my research findings, and the analysis was made using Anthropological theoretical perspectives.

Fieldwork Experiences

The fieldwork was conducted in Hyderabad, the capital of two states, i.e., Telangana and Andhra Pradesh (Since the proposed new capital of Andhra Pradesh, has not been fully established. The proposed capital AP government has identified 3 capitals i.e. Vizag, Amravati and Vijayawada). The details of the study area will be further discussed in chapter 5. As Srinivas, M.N (1979) said,

"each fieldworker must face his own challenges and experience, his own triumphs and tribulations" (Pp 74). I have also encountered several challenges during my fieldwork.

As a research scholar at the University of Hyderabad and residing in a hostel, transportation was difficult between the Study Area and my hostel. Since I have been studying at the University of Hyderabad for almost twelve years, I can quickly locate my respondents in Hi-tech City and Gachibowli areas.

I started my fieldwork firstly at the Bank of America, a private Company, where 20 respondents between the ages of 20-60 were chosen with the help of my friend Ravi³, who was working there and also included in the respondent list. On the day of the fieldwork, i.e., 4th April 2014, I reached the designated place, which is around 1.9 kilometers away from my present location, by noon by the local bus. In the beginning, I introduced myself and briefly informed my respondents about the objectives of this study. The conversations started with topics on sports and went into a wide array of issues which proved helpful in gaining and understanding a little bit about the respondents and further helped in my rapport building. Some respondents were a bit skeptical initially, but they agreed after I distributed the questionnaires to them and assured them of maintaining confidentiality.

My friend happened to be their group leader; thus, all the respondents were eager to help me. Sadly, the interviews had to be done during their lunch break, and my interview schedule was lengthy. And thus, I can only complete a maximum of two interviews in a day. The whole process of collecting data from 20 respondents in this particular field area took one month in April 2014.

My second field area occurred at Cognizant Company which started on 10th May 2014 and ended on 9th June 2014. Similarly, with the help of my friend Kumar, who introduced me to his colleagues, I collected data from 20 respondents. The same procedures were followed to collect data as applied in the first fieldwork. The third fieldwork was conducted in Dell International Company; likewise, data was collected from 20 respondents with the help of friends working

³ All the names have been changed to protect the privacy of the respondents

there. For the data collection, it took nearly 30 days to complete (employing a purposive snowballing method). Quickly, I moved on to my next fieldwork viz; Genpact Company, where the same procedure and technique was used to obtain information from 20 respondents. The fifth fieldwork was conducted in Tech Mahindra Company, located in a Hi-tech city, and the same procedure was followed here for the data collection. Lastly, I selected 50 (fifty) respondents from the University of Hyderabad who were doing their Master's and higher studies.

The interviews lasted about 15-20 minutes, depending on the respondents' responses to specific questions (such as questions on case-sensitive issues such as genetic disease, and the like). The study sample consisted of 150 respondents, of which 100 respondents were IT professionals, and the remaining 50 respondents were students and research scholars at the University of Hyderabad (HCU) who are accustomed to or familiar with the internet. All these questions have an option ranging from 2-7 choices, where both open and closed-ended questions are included.

It is also important to mention that the case study was conducted especially during the pandemic period, i.e., 1st, 2nd, and 3rd of Covid-19 (fieldwork was conducted between 19th November 2020 to 20th December 2020, spanning a duration of 31 days) to better understand and capture the significance of the internet role, it played in the doctor-patient relationships. The case study was collected from selected 20 respondents (respondents were chosen from the initial survey data conducted in 2014-2015 based on a total of 150 sample respondents), and seven doctors from different hospitals were collected with the help of a recorder and questions prepared beforehand.

The case study with the doctors was carried out by taking a formal appointment like a regular check-up without informing the hospital's staff about the purpose of the visit. This action was done in order to ensure an appointment (since several attempts had failed to meet the doctor for the sole purpose of conducting an interview). In a face-to-face meeting with the doctor, I carefully explained my situation and the purpose of the visit and requested them to help me out. Some doctors were initially reluctant (after explaining that the interview would not take long), but they agreed, which took 15-30 minutes depending on their schedule. On two other occasions, I got appointments with the help of my friend working there (as a health professional at Continental Hospital and AIG Hospital). These case studies will be reflected in chapter 5-

perceptions of the tech-savvy youth in Hyderabad, and chapter 6- the doctor-patient relationship in the age of the internet in India

Tools of Data Collection

To carry out this research, questionnaires were distributed to the respondents, and in-depth interviews were conducted. While developing the questionnaires, several factors are brought into consideration, such as occupation, age, gender, educational achievement, income, and location, which are very likely to influence the dependence and utilization of the internet as a whole.

Keeping in mind these questions and factors, the questionnaires were isolated into five areas. The principal segment comprises inquiries on respondents' details and covers the demographic information, and has four questions with 4-5 options for the respondents to choose from. The second section consists of questions on internet usage, daily activities, doctor-patient relationship, chronic illness, and websites that the respondents mostly use, particularly for information on health information. There are thirteen questions in these groups, and it also includes both open and close-ended questions. The third section consists of questions on internet implications on health and changes brought about by the digital divide. There are twenty-four questions in total, and the respondents were given five options to choose from each question. The fourth section consists of questions on internet information on reliability and validity and has seven sets of questions with five options to choose from. Lastly, the fifth section consists of questions on internet dependability and its impact and changes in our daily lives. There are nine questions in all, with five options that the respondents can choose to answer.

The questionnaire was again subjugated to test for grammatical and spelling errors, and once the adjustments were made, it was then ready to carry out an interview. The research tools include a ten-page questionnaire comprising fifty-three questions, an interview guide, a mobile phone to keep track of time, a pen and notepad, and a voice recorder which helped the reliability and validity of the said research.

Limitations of the Research Data Collection

1. Conclusions are tentative only due to the nature of the study.
2. The study is exploratory in nature. Hence, it provides valuable insights into the growth and implications of the internet in our daily lives, but the research findings cannot be used to represent the voices and opinions of the total population.
3. The study uses the purposive sampling method and snow-balling method, which has its disadvantages.
4. The study failed to include respondents from diverse backgrounds (such as non-educated, old people and kids, caste, religion, race, unemployed, and the like) and different professions.

Conclusion

This chapter started with the study targeted group and identifying the geographical locations based on the study requirements. The chapter then talks about the sources of data collection in carrying out the fieldwork and shifts to the detailed description of the study area, sampling, unit of analysis needed for the study, fieldwork experiences, tools of data collection, and ending it with the limitations of the study. Thus, outlining the detailed methodology of the study. In the next chapter, the focus will be on an extensive review of the literature.

Chapter 3

Review of the Literature

Introduction

Information and understanding of health and health management are increasingly accessed from the internet in articles, journals, magazines, newspapers, related videos, and books. But to better understand the change in the history of acquiring health information, I will review some of the research findings from the existing literature in the field of the internet as an emergent source of healthcare information. Who uses it, why, its implications on health management, and what are its consequences concerning the digital gap created by information and communication technology? At the same time, a rift occurs in the doctor and patient relationships owing to the ICT growth, particularly the internet. This literature review chapter is structured to examine the critical aspects of internet use pertaining to health information.

This chapter has been coordinated to analyze a few parts of online healthcare information. The chapter starts with a discussion on the practice of the internet in order to seek health information, the digital divide it brings, how it affects doctor and patient relationships, and the nature of online healthcare information. Finally, I wrap up the chapter with a conclusion.

The Internet as a Health Information Source

Craan, Fitzgerald and Denise M. Oleske (2002), in their research on North American internet-based medical information, portray the internet as an amazing wellspring of health information, health promotion, and health management. Internet helps patients participate in their own care. Craan and Oleske (ibid) put forth seven different ways by which consumers utilize the internet. Such as (1) to locate precise information on health problems and treatment, (2) to acquire information on selecting the right specialist, (3) to find new ways of treatment, and (4) to be aware of the causes and diagnoses of a given illness, (5) to know the adverse effects of a prescribed drug, (6) to understand the procedure of an ailment and treatment and, (7) to establish a connection with the support groups. Besides, they found that some of these questions can be

answered by a nonmedical professional, and some questions specifically have to be answered by a physician. Craan and Oleske (ibid), in their research on North America, found there are 181 million internet users, regular users, out of which 54% have looked for health information and accessed at least one of the websites which exist more than 15,000 health-related websites. Craan and Oleske (ibid) give reasons why people turn towards the internet, such as desperation, desire for empowerment, social support, and comfort. Patients may feel that they are not receiving optimal care due to a lack of insurance, anonymity, unanswered questions, and information reliability. The person may actually be looking for medical information for a friend or relative.

Craan and Oleske (ibid) listed twenty top websites which are famous for medical information online and concluded that while searching the internet for medical information, the bottom line involves using common sense. The consumer needs to pay attention to the various criteria mentioned above. Another beneficial practice is to compare websites or write an e-mail to a trusted site's authors because so many sites are related to the particular topic. Craan and Oleske (ibid) give an example of a customer when buying a car. First, the consumer must research what car to purchase; in doing so, the consumer checks many dealerships, then purchases after careful consideration. So, the consumer should not take the information found on the internet at face value. Instead, it is vital to do some further research and pay attention to the criteria of a good or ideal website and make sure the website being used fulfills all or the majority of these criteria. And that one must remember that even though a massive quantity of information is readily accessible on the internet, it will take some time to filter through it to make sure that it is valid and specific to the particular situation. Internet information should be a supplement to visiting a physician, not take its place of it.

Craan and Oleske (ibid) also point out the disadvantages of the internet in the form of privacy, validity and reliability, security, and authorization. They felt that these problems could be dealt with or controlled with these variables: criteria for information, peer-reviewed articles, and government regulation of medical information. The focus of their study is on the usefulness of internet and how it can be utilized, controlled, accessed and recommended.

Cotten, Sheila R and Sipi S. Gupta (2004) concentrated on how individual qualities, health status, and computer and internet utilization influence the healthcare information searcher among grown-ups in the United States. They accept that understanding these elements will assist us with separating better between individuals who utilize the web for health information and the people who do not. Cotten and Gupta (ibid) conjecture that specific qualities of people like orientation, age, race, pay, internet utilization, and health status will assist with recognizing individuals who look for the internet for well-being information and the individuals who do not. They likewise conjecture that individuals with advanced age, lower salaries, minorities, and males are less most likely to use the internet to get health information. They also expect that individuals who utilize the internet more frequently are bound to use the web for well-being and information-gathering purposes than individuals who do less time. In like manner, individuals with appalling medical issues are bound to utilize the internet for seeking health information than the supposed healthy individuals.

Cotten and Gupta (ibid) used data sampling, measures, and analytical design methods to better understand the responsibilities of health-related information seekers, socio-demographic factors, internet haves and have-nots, and computer usage, and the well-being of the individuals under study. Cotten and Gupta (ibid) find that women with a higher education degree report higher internet usage for health information, in the ratio of 31% female internet users to 19% male internet users for health information. Their study points out that individuals aged 40-52 years old with advanced education and higher income tend to report a higher degree of internet usage for health information. Further, this individual who utilizes online health information report better well-being, and 86% of the online group reports good or excellent health status compared to 60% of the offline group. These results are very well augmented with their hypothesis that younger, educated, and higher internet usage for health information report better well-being than offline individuals.

Cotten and Gupta's (ibid) study results suggest age as a key component of segregating online and offline health information seeking and the presence of larger societal inequalities, which is creating a gap as to who can use the internet and vice versa. Cotten and Gupta (ibid) express the requirement for the scientist to notice the essential attributes of online and offline health

information seekers to more readily grasp the individual necessities, accentuate the requirement for progress in the space of healthy quality of information and accessibility, and furthermore comprehend the significant variables that make segregation between the people who seek for health information on the internet and those who do not. They further stress the importance of education in having a critical impact on how the internet is utilized or consumed and have proved beneficial to those who knows how to fully utilize and has had positive affect in their health care process.

Madden, Mary and Susannah Fox (2006) look at how users use the internet during sickness, the pattern of internet usage, and how it has affected people in their daily livelihoods and especially in their health care system under ‘Pew Internet Project’, as on March 2005. They found that the number of consumers looking for internet health information playing a significant role in their life has reached seven million. While in December 2005, they found that one out of five, i.e., 20% of Americans, have interconnected with the internet, which has extraordinarily further developed how they get information on their medical care.

Madden and Fox (ibid) found that those people who said the internet had further developed their way of life multiplied from 16% in March 2001 to 32% in December 2005. Similarly, an expansion in leisure activities and interests moved from 20% in March 2001 to 33% in March 2005, and there was additionally an increment from 24% to 35% among the people who said the internet had worked on their capacity to take care of their personal jobs more productively. Madden and Fox (ibid) saw changes not only in the segment of internet vastness and its helpfulness but also in how the internet is particularly helpful in the field of medical information. Their study found that 36% of internet users of health information (or e-caregivers) said the internet had assisted them with tracking down counsel or support from other people and finding specific unambiguous experts. They also found a ratio of 58%-38% among those who said the internet is an important source.

Madden and Fox (ibid) address the vast array of topics and resources, proving the internet's popularity and dominance among individuals seeking health-related information. This array of resources includes in-depth clinical diagnosis and treatment research, well-qualified opinions,

access to local gatherings or social gatherings, and counsel on treatment and change choices. However, Madden and Fox (ibid) feel many individuals or consumers may not require access to that information at some random time. However, there is plainly a developing populace that believes the internet to be a vital source of information. Their study clearly points to the importance of the internet and its positive impact on those who are aware and consume it accordingly.

Fox, Susannah (2008) carried out her research with the help of the data collected from the Pew Internet Project survey in 2003, 2004, 2006, 2007, and 2008. Using these statistics, she tries to determine why people/consumers turn to the internet for health information and how it is being processed. From the 'Pew Internet Project' report, she found an estimated 75% to 80% have accessed the internet regarding specific health topics such as diet, drugs, remedies, and alternative treatment between 2003, 2004, and 2006.

Fox (ibid) confirms that health information seeking has become a daily activity for many Americans, particularly those with internet connections. Fox (ibid) points out factors such as educational qualification, income, and age as the strongest factors affecting internet usage. Fox (ibid) stresses that even among these internet users who seek health information, there are people who are actively engaged with online resources when there is a lot at stake. She cites the example of how 75% of patients with chronic diseases acknowledge more usage of the internet for information on their illness or condition than that 48% who do not have a serious health condition.

Based on the findings of her prior research as well as the current study, Fox (ibid) strongly indicates that it is due to the internet conveniences and positive experiences that have drawn in lots of people to utilize the internet for health purposes. She concludes by saying the population of e-patients {Dr. Tom Ferguson (is a senior researcher at Pew internet and American life project) refers to e-patients as a consumer with healthcare concerns who utilize the web as a healthy asset, looking into their illnesses, finding therapy focuses and demanding better consideration, providing different patients with inestimable clinical help and support, and progressively filling in as significant teammates and counsels for their clinicians} have

stabilized, and it is due to the internet that allows individuals to engage more deeply with information and one another.

Fox, Susannah (2011) research is based on the previous findings on the average American's internet usage under the 'Pew Internet Project'. However, in this research, Fox (ibid) focuses on the data collected from 3,001 adults from phone interviews driven by Princeton Survey Research Associates International conducted between August 9, 2010, and September 13, 2010.

Fox (ibid) explains that apart from this, 59% of the U.S. populace access the web for health information. There are cases where one goes online to look for information for the benefit of their family members, friends, and relatives, which accounts for 36%, and only 11% of individuals use it for themselves. Further on, parents with children are bound to assemble health information more than those who are alone and do not have loved ones. She also points out that 55% of internet users are in their age group of 30-40 years old, compared with 42% in the age range of 18-29, 46% of internet users aged between 50-64 years of age, and 36% of internet users aged between 65 years and older.

Fox (ibid) explains why education is the strongest predictor of internet usage; with the help of the data, she shows the difference among adults with various degrees of education. Fox (ibid) saw as 89% of internet users have advanced education, 70% of web clients have a secondary school degree, and 38% have a secondary school education. Of this 38%, just 62% use the internet to collect health-related information.

Based on her previous research, Fox (ibid) expresses how health-seeking information has become perhaps the main subject that internet users rely upon. She says that out of 59% of health information seekers in the total U.S. adult populace, including ladies, non-Hispanic whites, youth, those with more elevated levels of education, and higher earnings, are more likely than other demographic group to use the internet for health information. Fox (ibid) stresses that there are two forces at play when accessing the internet, citing an example when women and men access the internet; women are more likely to use it to acquire health information than their counterparts. These findings are in line with other researchers around the globe, where education,

cognitive skills, and income are the key factors in determining who uses the internet for health information and who does not.

Seckin, Gul (2010), in his study on cyberpatients surfing the medical web, talked about perceived benefits and medical knowledge and examined a comfort test of disease patients who confronted the errand of adapting to a hazardous sickness. Seckin (ibid) found an overwhelming number of respondents, i.e., 80% who have cancer, reported medical websites as very helpful in making their decisions, management, treatment, clinical preliminaries, and late progressions in ongoing consideration. Seckin (ibid) saw practically 70% of respondents' apparent internet-based information as accommodating before they met doctors or health professionals (e.g., what questions to ask and how to interpret bodily experiences boldly). Out of the total sample, Seckin (ibid) found that 58% of respondents have especially involved internet information in their treatment decisions and dynamics of healthcare management. Similarly, 48% of respondents report online data has helped them pursue choices regarding whether to counsel an oncologist when a new side effect is experienced.

With the help of these findings, Seckin (ibid) found that the phenomenon of cyberpatients sharing their medical knowledge on their illness and involvement in decision-making with their doctors is becoming a typical type of clinical collaboration. Seckin (ibid) reports that the respondents did not affect their perceived benefits based on gender, age, education, status, or income. Seckin (ibid) stresses that focusing on how patients use online clinical information and how long they have spent at these websites will be crucial in understanding health decision-making and choices. Seckin (ibid) concludes that as patients utilize medical information found online all the more every now and again, giving additional opportunities to educate themselves has changed the roles and obligations from health consumers to health producers who are educated and engaged with the information. From this perspective, if we look back, an internet connection is not something that is readily available to all people. Still, few privileges (rich, developed country, urban/city, and educated with technical skills), but the rapid pace of development and government efforts in imparting technical skills and knowledge from primary education has made people more aware of their surroundings and what they can learn and extract information without having to go anywhere and at low or no cost and time-saving. Thus, leveling

or making an almost even ground for consumers to engage in healthy decisions making and choices regardless of their age, gender, caste, occupation, and education.

Studies on Digital Gap Created by Information and Communication Technology

The digital gap has become one of the primary subjects of study when discussing about the diffusion of information technology in both developing and developed countries across the globe. The study exhibits the different ways in which various scholars and researchers depict the digital gap and how it affects us. It is necessary to study the digital gap as it affects almost every part of the world, with special interventions being made in developed nations. Many researchers have documented the prevalence and patterns of internet use and the divide it causes. The literature also suggests a number of new measures that have been developed to improve the challenges of a digital divide in the present pretext.

Norris, Pippa (2001), in her study on the digital divide, specifically on civic commitment, information poor, and the internet around the world. She expresses the divide as a natural expression that means the developing gap between information haves and the information poor, which likewise incorporates parts along racial, orientation, and class lines. Norris (ibid) explains why the digital divide is a matter of concern. She explains that individuals with poor information will become more marginalized in a society where fundamental computer abilities have become required for progress, individual headway, a decent profession, educational opportunities, access to informal communities, and open doors for civic engagement. Norris (ibid) further; explains the multidimensional phenomenon of the digital divide which comes with it. This divide may come in the form of age, gender, occupation, education, and social status.

Rogers, Everett (2003), in his study on 'diffusion of innovation,' emphasizes that the digital divide is inevitable, as the growth and diffusion of innovations in information technology are rapidly taking place, which in turn brings social consequences. However, Rogers (ibid) encourages the need for a dynamic program that state and non-profit sectors should take up to reduce this digital divide brought by technological advancements.

Rogers (ibid) states that the social structure has a role to play since introducing innovative technology in a highly stratified society is bound to bring socio-economic disparities. Since diffusion theory conjectures that without effective state intercession, assuming the internet is introduced and follows the anticipated way settled by numerous past advancements, the underlying reception of computerized stages can be anticipated to destroy the current social divisions.

Dynamic drives to even out the state and non-benefit areas' playing fields can expand innovative access. The current social structure likewise assumes a part; developments in exceptionally defined social orders will generally support existing financial variations. The kind of innovation can likewise impact this interaction, for example, the underlying assets expected for access, including monetary speculations and instructive abilities. By and by, the diffusion theory predicts that without effective state mediation, assuming the spread of the internet follows the traditional direction laid out by numerous past advances, then the underlying reception of wired computers can be anticipated to worsen existing social divisions, on the right on time to-middle phases of the S-shaped diffusion curve, and maybe in the more drawn out term also assuming the new innovation produces significant efficiency gains and proceeding with access boundaries.

Loges, William E and Joo-Young Jung (August 2001), in their study on the 'digital divide brought by internet connectedness conducted through a telephone survey', developed a measure to study the digital divide called the 'internet connectedness index' (ICI). It integrates traditional time, history, and setting measures and yet goes past these elements to capture the objectives, activities, and centrality of internet absorption into the regular day-to-day existences of social groups. Loges and Jung (ibid) also explore the digital divide between young and old individuals using an ecological approach (this gives a system to understand what people and their social environment commonly mean for one another across the life expectancy) that considers the objectives, assets, and correspondence environment of the respondents. Loges and Jung (ibid) inspect the overall degree to which youthful and old respondents are probably going to integrate the internet into their day-to-day existences and assist them with arriving at their objectives.

In their study on ‘four digital divides,’ Keniston, Kenneth and Deepak Kumar (2003) underline the factors bringing about the digital divide, such as economic barriers, lack of access, also the capacity to use the internet among specific segments of the populace. Keniston and Kumar (ibid) explain that these socio-economic internet access disparities are growing exponentially and being found worldwide. Besides these factors, Keniston and Kumar (ibid) observe income playing an active role in creating disparities between the rich and poor; likewise, large cities are areas where there will be an uneven distribution of digital platforms resulting in the chasm between rural and urban areas. Keniston and Kumar (ibid) did their research in India, and from their perspective, the digital divide is widely prevalent in metropolitan or large cities. It can be attributed to the socio-economic, financial, cultural, literacy, age gap, gender, ethnicity, religion, language, technological skills, and diverse groups of people diverging from every part of the country who lives for the sole purpose of meeting their daily needs. This notion is found to be relevant across the other countries found by Livingstone, Sonia and Magdalena Bober (2004), in their research on the digital divide among U.K children between the ages of 9 and 19, discussed the inequalities brought by age, gender, and socio-economic status, which influence the way in which they access the internet.

Studies on the Rift Between Doctor-Patient Relationships Occurring Due to Internet

DiMatteo, M. Robin (1998), in his research on the role of the physician in the emerging healthcare environment, observes that most of the study conducted over the years in relation to health information is mainly done in America. These studies started in the mid-1990s when the ‘Pew Health Project’ created 17 specialists' capabilities to show a shifting pattern in medical health care in the direction of a more community-based approach.

DiMatteo (ibid) examines what people want from physicians by using a random sampling of respondents and questionnaires to understand the expectation of the people and their perceptions of health professionals. He conducted his research with the help of a nationwide survey of households in the U.S., in which 640 respondents were chosen. In this survey, he found three factors: diagnosis and treatment, communication, and ethical conduct playing a crucial role in the physician-patient relationship. DiMatteo (ibid) identifies the communication factor as an essential skill for health professionals. In his study, there were several implications that show the

lack of communication by health professionals with regard to sensitivity and the cost of treatment for the patients.

DiMatteo (ibid) talks about previous studies, which consistently showed that the best possible medical outcome occurs only when the patients are fully aware and participate in their healthcare decisions with the doctors. DiMatteo (ibid) explains that since the 1970s, many individuals started seeing themselves as consumers and had challenged physician authority. Now with the coming of the managed era, there is further erosion of trust between the doctor and patient relationships. DiMatteo (ibid) stresses the need for an environment to build trust, as it plays a central role in a doctor-patient relationship.

DiMatteo (ibid) explains that the significance of communication, consideration, and aversion to cost is a significant variable that portrays patients' perspectives toward the treatment process. On the contrary, he finds the doctor and patient communication as very poor to the point where a patient has to leave the doctor's office without acquiring any knowledge of their sickness or how to take care of themselves since, in most cases, doctors tend to employ medical terms which the patients are not aware. Therefore, DiMatteo (ibid) stresses doctors' role in this emerging healthcare system. Their role should be collaborative, with outcome preferences, level of risks, costs, and acknowledging the patient's findings and guiding them to the correct path so as to ascertain the positive and effective relationship between the doctor and the patients.

Dimatteo (ibid) concluded that in this modern era, patients want their doctors to be skillful medical professionals who can diagnose and communicate appropriately with them simultaneously. His research clearly shows that communication skills are necessary for effective diagnosis and treatment in doctor-patient relationships. In developing countries like India, with a huge population, doctors are forced to make time for all the possible patients who have visited the clinic. Considering this, the doctors make a particular allocation, like 15 minutes per patient; hence there will be a lack of time for the patients and doctors to have a fruitful conversation. Therefore, considering where time and communication skills are a must and is found to play a significant factor in building doctor-patient relationships.

As per Hardey, Michael (2001), in both health and social services, an accentuation of the consumer, patient, or user with the inferred capacity to make choices in view of information and experience as it comes. Notwithstanding, the internet provides far more than a simple conduit for government and clinical information that it is thought of as alluring for consumers to access. Consumers can consistently go through the divisions between various professions, knowledge, and practices. They can likewise move from being consumers to producers of information by taking part in Usenet newsgroups or discussion channels or by developing their own website pages.

Hardey (ibid) finds that the health professionals' response to public free access to the health information⁴ on the internet has gone from caution to a kind of hostility. Be that as it may, with a rising number of specialists engaged with the turn of events and upkeep, contents in numerous health-centered websites are primarily controlled by health specialists.

Hardey (ibid) says from the examination of information about internet users, it is clear that the most widely recognized course into health information is through a web search engine. In this manner, it is not surprising that disappointment with the clinical experience and client-centeredness of information and communication technologies is a critical figure empowering individuals to involve the internet for health information and advice. Yet, as we probably are aware, the design of the medical care framework that is established on the power of the medical professionals ensures that patients are reliant upon medical services experts for most clinical therapies and services.

Hardey (ibid) explains how the internet is a vast repository of health knowledge, guidance, and treatment. As an asset for distributing and utilizing health information, it is basically pluralistic, democratic, global, and local. Nonetheless, humble thought has been paid to the consumers or lay authors of online health information. However, with the approaching of the internet, the previously closed and exclusive space of Western clinical information is currently open to consumers. He added because of the internet; another worldview arises that mirrors a culture in

⁴ Health information seekers who actively seek and physically retrieve information from online health websites are considered to have access to online health information.

which guess that specialist knows best, settling on choices for patients without including them and feeling compromised when patients have access to the elective source of clinical information, which is widespread, in spite of the way that strategy starts going against the norm.

In like manner, the possible proliferation of an information hierarchy system on the internet does not guarantee to imply that it will be developmental in shaping how users recognize, use or produce health information on the internet. Indeed, the variability of information and choices are accessible to consumers that describe a post-conventional society where options are not compelled by the status concurred to a predetermined number of 'specialists'.

Hardey (ibid) said it has become more intricate because of the specialist's developing reconfiguration-patient/consumer-health professional relationship. Apparently, logical see parts of the conventional relationship where trust is created by arranging determination and treatment. The inquiry is not one of whether internet health information is genuine but instead the more logical one of how health and ailment are perceived and the types of social connections that come with it. In several cases, the response might be that consumers gain an extraordinary arrangement, while in different cases, the outcomes might be less confidence in clinical care and more inclination towards risk.

He concluded by saying that the study on commercialization in medical services observed that consumers are taking on additional obligations in dealing with their own healthcare and settling on their own choices. Roughly 50% of those surveyed in the study felt that they had as much clinical information on their specific issue as their doctors, as many revealed that they are superb chiefs of their own healthcare.

Diaz, Joseph An et al. (2002) states that the doctor-patient relationship is likely to alter, and medical professionals may encounter new difficulties if consumers acquire health information from the internet, share just a fraction of that knowledge with their physicians, or use the internet instead of contacting health professionals. Diaz et al. (ibid) call attention to the accessibility of internet health information. Overall, few studies have directly examined internet use among patient populations, and no previous findings have focused on a critical analysis of the patient

population. Their exploration was to check: 1) assess the number of patients in an internal medicine private practice who rely on the internet to access medical information., 2) represent the kind of information sought 3) compare people's perceptions of the sort of information available on the internet with those of their health care providers, and 4) determine if individuals who utilize the internet for health information consult their doctors about it.

Their research data shows 59% (out of 269 respondents) of those involving the internet for health information stated that they did not discuss the information with their doctor. Moreover, 11% (20 of 296) of those who use the internet for medical services information said they prefer it over consulting or engaging with their doctors. These respondents utilized the internet for various clinical topics. Be that as it may, contrasted with all respondents, a more prominent rate showed involving the internet for second thought (69% versus 41%) and for information on corresponding or alternative medication (83% versus 41%).

Diaz et al. (ibid.) emphasize how numerous scientists and institutions have evaluated and proposed instruments and policies to help patients and clinicians evaluate the nature of clinical and online health information. Notwithstanding these endeavors, the dependability and legitimacy of the assessment devices are still being questioned. Doctors, nonetheless, can become proactive by really getting to know organizations such as the Health on the Net Foundation (www.HON.ch), the Internet Healthcare Coalition (www.ihealthcoalition.org), and Health Internet Ethics (www.hiethics.org) that are devoted to the nature of health information on the internet. Doctors may be able to best assist their patients by identifying their patients' use of the internet and acting as consultants in locating reliable content. As a part of the clinical history, doctors ought to regularly ask about their patient's utilization of the internet to get clinical data. For patients who are now associated with the internet, medical care professionals ought to be ready to give internet-based health resource suggestions and help patients assess the nature of clinical information accessible on the world wide web. They argue that good communication is necessary for the doctor-patient relationships to grow and building a friendly atmosphere with the patients will produce positive results in their diagnosis and treatment process.

Elizabeth, Murray et al. (2003) said, however the utilization of the internet keeps on multiplying, and its effect on medical services is hazy. The upsides of the internet as a vital source of health information incorporate easy access to a massive volume of information, simplicity of refreshing information, and the potential for intuitive configurations that promotes understanding and maintenance of information. Online health information might help the patients to be more educated, prompting better health results, more suitable utilization of health administration assets, and a more grounded doctor-patient relationship. In any case, health information on the internet might be misdirecting or confounded, compromising healthy ways of behaving and healthy results or bringing about improper clinical mediations intervention outcomes. Doctors might accede to inappropriate requests, either in light of the fact that refusal is tedious or in light of the fact that they dread refusal would debilitate the doctor-patient relationship. Responding to unseemly patient solicitations might be especially troublesome in overseen care, where patients might accept that doctor refusals might be persuaded by the need to control costs.

Elizabeth et al. (ibid) says the second area of vulnerability is the effect of the internet on health inconsistencies. They had an assessment that the internet could decrease differences assuming health information becomes available to burdened groups. Nonetheless, it could likewise increase the differences if higher financial groups can access health information, recognize precise information from wrong information, and apply it to their own circumstance. At last, it is muddled what online health information will mean for the doctor and patient relationship, the foundation of satisfactory clinical outcomes. Will it work on the relationship as patients become more dynamic partners in their own medical services? Or on the other hand, will doctors experience issues changing as they no longer have special access to clinical information? The evidence to date on these inquiries is insufficient.

Elizabeth et al. (ibid) finds that the surveys of internet use by general society would in general utilize slanted examples, like internet users, patients with certain conditions, or medical care providers. These reviews fail to give populace-based evaluations of internet use, its relationship to financial status, and patient concern about the reliability of online health information. To resolve these issues, one should embrace a huge, a population-based study to determine the public's utilization of the internet for health information; their perspectives about the quality and

impact of the data accessible; capacity to evaluate such data; influence on the doctor-patient relationships; and effect on health services usage. Elizabeth et al. (ibid) say their review goes further by determining how frequently patients collect information from the internet to a doctor and the result coming about because of it. Their study was carried out on 92 people focusing on how Americans arrive at conclusions about medical services and their sentiments about the medical services accessible to them. The study incorporates patient assumptions for taking the information to their doctor, their impression of, and fulfillment with, the resulting discussion, the effect on health services use, and the impact on the doctor-patient relationship. Demographic and financial information, including age, ethnicity, educational achievement, income, health care insurance status, and current health status, were gathered from all respondents.

Their review recommends that patients accept health information on the internet has more sure than unfavorable consequences for the doctor-patient relationship. Patients were bound to report a diminish doctor-patient relationship in the event that the doctor was seen to have bad communication abilities or went about as though their position had been tested, or when they did not get requested mediations. Being in managed care or in distraught groups was not related to a deteriorated doctor-patient relationship in the wake of getting information from the internet. These findings are consistent with patients who believe in doctors to explain the health information they had obtained independently.

Elizabeth et al. concluded that the internet has the potential to transform how people access health information, in this manner improving patient fulfillment and cooperation in medical services. Some issues should be addressed before their actual potential as a force for equity and patient well-being can be understood. This way, internet access should be improved for impeded groups. Second, the public necessities to further develop their information search and evaluation abilities. This may be accomplished through a mix of government and private sectors, including instructional guidelines for these skills. Finally, doctors and students need to foster their communication skills to incorporate conversations about online health information brought by patients.

Lee, Chul- Joo (2009), in his research on the role of the internet in a health-knowledge gap between the doctor and the patient, talks about two opposing hypotheses found in medical sociology related to technological advancement and physician-patient contact. The first hypothesis talks about diffusal of health knowledge previously available only to doctors and now widely available via the internet, which could decrease individuals' reliance on specialists as the primary source of health information. The second hypothesis states that there is still a knowledge gap between the patient and the doctor despite the information found online, which is because of new data continually arises and is most readily accessible to health specialists. Furthermore, health information found online involves a question of reliability and validity; thus, people tend to rely on doctors to diagnose and treat their healthcare. Lee (ibid) tends to endogeneity by investigating the wide idea of the information gathered instead of utilizing instrumental variable techniques. Lee's (ibid) analysis and hypothesis show that the internet positively affects relationships between doctors and patients. Thus, he concluded that this growth in health information on the internet might result in the decline of doctor-patient relationships. Looking at this perspective, one can see there is an enormous amount of information available on the internet; for example, typing a single number or alphabet in a search engine will yield millions of results that may not necessarily relate to it. So, let's look from a health information point of view. A simple headache/stomach pain surfing the internet will give millions of contradictory and disturbing results with no definitive answers. Thus, forcing the patients to visit a doctor at regular intervals.

Studies on Gender, Age and Education in their Search for Health Information

Dutta, Mohan Jyoti and Bergman (2003), in their study on the role of communication, consumer intention in seeking out health information, and variables in health communication, talk about demographic variables that may be related to patients' search for health information. These variables may also be connected with the patient's compliance with searching for additional health information. Dutta and Bergman (ibid) hypothesize three demographic variables: usage, education, and gender, which might significantly impact the patient's search for information. They also try to understand how these variables are connected with the patient's eagerness to look for health-related information other than the doctors.

Dutta and Bergman (ibid) apply the 'knowledge gap theory', which states that the prologue of the new source of health information might lead to a knowledge gap between consumers with rich information and poor information. The applied knowledge theory's driving force is that information gathered is directly related to the level of education and the patient's eagerness to search for information. Dutta and Bergman (ibid) said that age is relatively linked with consumer search for information in this era of information, which suggests older consumers are likely to look for more information than younger consumers. They supported their hypothesis with the help of five thousand questionnaires collected from the respondents between 18-91 years old, taking 47 as the mean age and a standard deviation of 16.1 years in the USA. These results show age has a distinct effect on the query for information.

Dutta and Bergman's (ibid) third hypothesis talks about the impact of gender, where they explain how earlier studies have reported a significant effect of gender in seeking out health information. Thus, they deploy dichotomous variables to differentiate whether males or females are bound to look for health information. Their data showcases at least a 3.6% (in every age group) difference between male and female counterparts, which clearly shows that gender plays a significant role in the search for information. The second hypothesis on education results shows a clear difference between the segments of the population exhibiting higher education trounces over the less educated in search and participation for information. Thus, Dutta and Bergman (ibid) proved their hypothesis that demographics significantly predict health information behavior.

Reliability and Validity of Information Found Online

Rain, Stephen A (2008) study on 'seeking health information in the information age' explores internet self-adequacy (alluding to a person's discernments and capacity to achieve general internet-related behavior) through acquiring health information from the World Wide Web. Rains (ibid) likewise look at internet viability as a biased mediator of exogenous factors mirroring an individual's excitement to take action and deal with his/her well-being and experiences utilizing the internet and endogenous factors demonstrating information-seeking behaviors and results. Rains (ibid) speculate that even among people who are excited to procure health information, a feeling of internet viability might convince a person to utilize the internet to generate health information and related well-being outcomes.

Rains (ibid) say the internet and the world wide web have become an essential source of information for individuals seeking health information. And despite this potential offered by the internet, an individual access to medical information must go through many difficulties to acquire the correct information. Thus, Rains (ibid) stresses the importance of computer hardware and software operation knowledge.

Rains (ibid) state that to fully understand internet self-efficacy's significance, scholars have to understand its role in information-seeking behavior. Since self-efficacy concerns the skills that an individual possesses and what he/she can do with those skills. To answer these questions, Rains (ibid) applies a comprehensive model of health information seeking (CMIS), which predicts that segment and health-related factors impact the insights on the viability of a medium and which influences the media use. Rains (ibid) conducted his survey on 157 respondents from the Southwestern University of America. Rains (ibid) collected his data employing a questionnaire survey method posted online; by carefully selecting respondents who are accustomed to utilizing the web for health information, including individuals who search for information for the sake of others. The data analysis shows that internet adequacy has to some extent, interceded the connection between the respondent's craving and experience of internet perusing and their mentality toward the nature of online health information. Having internet access doesn't ensure that an individual will have a positive involvement in getting the correct information on health since there are a number of challenges, such as knowledge about the computer's ability to acquire the correct information from a multitude of websites when one goes online to obtain health information.

Rains (ibid) research throws light on the importance of internet self-efficacy, which influences web use and, in the process, empowers the patients or consumers. Rains (ibid) stress that the connection between craving for information seeking and internet self-viability is significant in light of the fact that the internet is very appropriate for those persuaded to assume a functioning part in their own medical health care. Thus, he concluded that this self-efficacy could be increased depending on the individual experiences in acquiring health information.

In their work on consumer health information-seeking behavior, Cline, R and K.M Haynes (2001) contend that health experts should be worried about consumers looking for health information on the web. They stress that one ought to consider the expected advantages, blend quality concerns, identify values for assessing the online information and evaluate the literature. Cline and Haynes (ibid) claimed more than seventy thousand websites are associated with health information and found that fifty million or more people have accessed online health information for their healthcare. One should keep in mind that the internet provides broad access to health information, interactivity, information tailoring, and anonymity; however, it comes with a price, such as unequal access, disorganization of information, technical languages, and lack of stability in information.

Cline and Haynes (ibid) believe that the internet has created a landslide on readily accessible information, leading to massive growth in looking for health information, separating the boundaries of traditional health information-seeking behavior, availability worldwide, and low expenditure cost. Cline and Haynes (ibid) say due to the fluid nature of the internet, health professionals are concerned about the reliability of health information found on the internet. They explain that anyone can develop a website. These websites have become a part of the world's biggest vanity press, permitting any person with admittance to the internet to act as a creator and distributor of material regarding any subject. This intuitive health communication is estimated to influence medical services by supplanting the traditional source of information, medical care, and community assets with online information, discussions, and encouraging social groups.

Cline and Haynes (ibid) say as consumers continue to utilize more and effectively participate in the administration of their medical services, there is a higher chance that this active role will lead to an encounter with health professionals. With the help of the data collected, they saw an increase in interactive health communication, which consumers seek for its ability in dissemination of information, health promotion, social help, and health services capabilities. This has led to increased interaction between health professionals and consumers after the onset of the internet.

Therefore, Cline and Haynes (ibid) want health experts to focus on health information accessible on the web for different reasons, which incorporate extent and variety of purposes, variety of clients, and its suggestion on the medical services; as far as design, medical care connection, and nature of clinical outcomes. Cline and Haynes (ibid) make sense of the explanations behind the growth of online health consumers seeking behavior, which incorporates; the improvement of consumer-oriented medical services models, the information content accessible web-based outperforming the clinicians, savvy and no time requirements, accentuation on taking care of oneself and counteraction, an expansion in the maturing populace who needs steady clinical consideration and necessities, expanded interest in elective ways to deal with medical care, accommodation and secrecy and variety of information in all actuality do add to attractions. Cline and Haynes (ibid) presume that future exploration needs to address the internet as a component of the greater health communication system and take advantage by integrating surviving correspondence ideas.

Fox, Susannah (February 1, 2011) research on cell phone use for acquiring health information from the internet found that 85% of American adults own a cell phone. Her past research on the 'Pew Internet Project' consistently shows that wireless forms of the network are more popular among internet users in a wide exhibit of online activities. She found that 83% of remote wireless connections have used the internet to seek health information, contrasted with 70% of internet users who don't have a wireless connection. Fox (ibid) found wireless users have a wide area of interest, outperforming that of bound partners on 13 of the 15 topics consolidated in their survey; the information shows that 48% of wireless users look for health information and health experts on the internet, contrasted with 31% of internet users who do not have a wireless connection.

Fox (ibid) talks about the disparities in access and interest regarding health information search, which can be found in the form of groups. For example, younger adults with wireless connections are more likely to look for health information using their cell phones, unlike older adults. Fox (ibid) collected the data to study how American adults utilize their cell phones have a wireless connection in the search for information; 56% look for specific information on a particular disease and treatment, 44% look for information on health experts, 36% search for

information on unambiguous emergency clinics or clinical offices, 33% search for data on health care coverage and doctor help, 29% search for data on food handling, 24% search for data on drug security, 22% search for data on natural health hazards, 19% search for data on pregnancy and labor, 17% search for data on cognitive decline, and dementia, 16% search for data on clinical trial results, 14% search for data on the best way to oversee persistent agony, 12% search for data on long haul care for an old or different-capable individual, 7% search for data on a different-abled person, and 28% search for data on some other health-related issues. These outcomes show a critical gap in demographic segments with regard to online health information seekers through cell phones.

The dependability of information obtained through the use of the internet is always a matter of concern, containing millions and trillions of information that do not have authentic evidence or studies written anonymously with no credentials. Therefore, the task of retrieving the said problems and solutions becomes impossible. Thus, more effort should be given to promoting authentic and reliable website links and channels to ensure the masses do not consume biased or wrong information.

Conclusion

Anthropology is a scientific discipline that examines society and the trends that have shaped it, as well as the laws they uphold and the traditions that guide how people interact with one another and has also been questioning the many ways we accumulate and disseminate knowledge (Weiner 1995:15). Hence, any changes in the human behavior be it physical, cultural, social, economic is directly associated with the anthropological study. And as such, Anthropology is concerned with comprehending the big picture of a specific group. This entails the observation method in order to document the minutest aspects of people's lives. This involves analyzing the macro-level factors and institutions that affect people and lead them to behave as they might.

The literature review is done on the works by renowned scholars and authors like DiMatteo (1998), Craan and Oleske (2002), Norris (2001), Cline and Haynes (2001), Fox (2000, 2006, 2008, 2011), Keniston and Kumar (2003), Cotten and Gupta (2004), Dutta and Bergman (2004, 2005), Madden and Fox (2006), Rogers (2001, 2003), Livingstone (2003, 20004, 2007, 2011),

and Rains (2008, 2009). All of them elaborate on the idea that the internet is bringing immense changes, especially in health information and the health care system. At the same time, they talk about the impending changes and challenges it brings and how to cope with this digital platform. With the assistance of the literature review, the hypothetical and exact premise is ready, and keeping in mind, the crucial factors that directly or indirectly influence the variables in health-information-seeking behavior are noted. As mentioned by many scholars and researchers, the critical factors include age, occupation, education, gender, socio-economic status, language, computer skills, internet experience, health status, knowledge of the disease, apparent risks associated with the disease, and how different individuals utilize the online content.

We notice lots of gaps in areas that are unworked and also need to work on other areas. So, the literature review points to these areas. Therefore, this study will consider all these factors influencing educated adults in managing their health choices and decisions. The next chapter will highlight the divide brought by the ICT advancements, known as the digital divide.

Chapter 4

The Gap of Digital Divide in India

Introduction

Over the last ten years, there has been a vast development of technology which is undeniably headed for what is popularly known as the ‘Information Age’ (Shapiro, Andrew L 1999). The information age has not only brought about changes and challenges but the world itself closer. Challenges bring the rapid pace of innovation and social disparity due to the impact of the information age, giving an arrow image shooting straight at its target. As a result, we can see that post-modern societies are currently experiencing a sharp rate of diffusion.

In this context, the information age came in the form of the internet and has become an important focus of research and study because of its socio-economy and financial changes. Yasin, B. and Hilal Ozen (2011) believe that the internet has turned into a famous asset for information and communication but also provides consumers with a wide range of opportunities for learning and undertaking varied activities. Likewise, numerous researchers have shown mounting evidence that the internet is becoming an increasingly important medium, particularly for delivering health information, health education, and health promotion. The implications of these developments for health communications are tremendous. However, consumers access the internet for various purposes and reasons, which has also led to numerous problems such as issues of access and availability of the internet itself, not just the information and changes it leads to. This, in turn, gives rise to the early predictions of a growing disparity among the people, which we have popularly known as the ‘digital divide.’ Dutta, A. and Rahul Roy (2005) explain that this uneven internet distribution across countries has strengthened social and economic inequalities. These skewed distributions of the internet and other forms of mass communication gave birth to the digital divide.

Countries worldwide have acknowledged that the digital divide is becoming a huge social problem leading to clashes between our cultural and social systems. The disparity can be attributed to our inadequate understanding and skills or limited opportunities to learn about and

exploit these new technologies. Thus, countries worldwide have been trying to reduce the digital gap between the alleged 'information rich and the information poor' (Dutta, A and Rahul Roy, 2005) by focusing on the infrastructure and development facilities, institutions, awareness, and several other forms of factors to bridge created by the digital divide.

Therefore, this chapter will focus on understanding how the digital divide (brought about by the advancements in information and communication technology) is prevalent even among educated consumers, what factors are involved in bridging the gap, and how to overcome such gaps. It is important to state that the chapter is almost entirely based on secondary sources to show how the ICT developments, schemes, projects, and Acts are enforced to bridge the divide created by the ICT revolution.

The chapter has been divided into several sections: it engages with the idea and comprehension of the digital divide, focuses on the broad discussions on some of the researcher's varied approaches and contributions in explaining the digital divide, and furthermore comprehends how with time, the focal point of research has developed. Understanding the digital divide brought about by the internet. An attempt to study several factors (especially the internet role) of the digital divide span across the globe. Focus on discussing the past and present scenarios of the digital divide worldwide. Will discuss the digital divide caused by ICT in India and Hyderabad city. Understanding information technology and schemes implemented to bridge this divide. It deals with reviewing the literature and analyzing the relevant literature on some critical aspects of the digital divide, and the section ends with the discussions and conclusion.

Understanding the Importance of the Study

Anthropological approaches to health and disease have considerably increased and broadened in this fast-paced modern economy, which in this context, tries to understand the changes and implications brought by technology affecting the social, culture, economy, and health as a whole. Likewise, epidemiological studies have also demonstrated how social inequality contributes to health problems regardless of income. In turn, it provides evidence that hierarchy effects can function across vast populaces and not just within distinct groups.

Researchers have shown that the digital divide is multidimensional due to its changing nature and variations brought by technological advancements. This research study explores the micro aspects of the digital divide in the State of Telangana, particularly in Hyderabad city. The main objective is to study the digital divide problem and will attempt to address the difficulties in connecting the digital divide gap. The study likewise endeavors to investigate and recognize the causal variables of the digital divide in Hyderabad city.

What do the Digital Divide Means in the Context of the Internet?

The digital divide may be described as the disparity between individuals who have and do not have access to information and communication technology. It has become a significant subject on academic and political platforms (Shapiro, Andrew L 1999). However, the problem is that even in the academic literature, this point is exceptionally divided, and many research findings are conflicting and vague in the sense that these findings cannot relate to all people around the world. Between the 1990s and 2005, most research studies focused on measuring the divide instead of developing a reliable analytical framework. Likewise, in information systems and development terms, attempts have been made to critically analyze the social-economic effect of information and communication technology (ICT) innovation and its relation to bridging the digital divide, especially in emerging nations (Bertot, J. C, 2003).

Since the mid-1990s, it is apparent that most scholarly works have given the digital divide importance. This subject became a concern of debate at the national and international level as they purposed to bridge the growing issue of societal inequalities. Several schools of thought emerged based on the digital divide interpretation, where researchers and scholars try to address and respond to numerous critical inquiries; for example, what exactly does the digital divide necessarily mean? Who gains and who loses when the digital gap is bridged? What direction will the digital divide be headed in the future? (Kamila, K, 2011).

Researchers assert that one of the most crucial issues of concern in the ever-growing information age has been the ever-growing issue of a digital divide between people who have internet connection and those who do not have (Andrew L. Shapiro 1999; Everett M. Rogers and Pratibha Shukla 2001; DiMaggio et al. 2004; Hargittai 2004; Stephen A. Rains 2008; Zamaria & Fletcher,

2008; Kanchan Kamila 2011). Although earlier research approaches primarily focus on the binary classification (is the undertaking of classifying the components of a set into two gatherings in view of a classification rule) of accessibility. In recent years, a more refined understanding of the digital divide and several conceptualizations of approaching the digital divide research has emerged (DiMaggio & Hargittai, 2001; Van Dijk & Hacker, 2003; Van Dijk, 2006).

Shapiro, A. L (1999) explains that instead of choosing a specific conceptualization, the focus should be on all the factors that appear to be responsible for creating a digital divide. Shapiro (ibid) feels that the digital gap can be classified into three types: social divide, democratic divide, and global divide. A global divide is becoming more evident in which a wide gap is observed between the industrialized and developing nations. Every country has a social divide in the form of accessibility between the rich and poor. What is more, a democratic divide between the people who use/do not utilize the internet to engage, prepare, and participate in open life, even within the online community. Shapiro (ibid) finds that there has been a rise in developing theoretical and empirical literature to examine the mentioned issues. However, there are still complications in knowing how far one can generalize these phenomena more widely unless we understand how technology interacts with one's broader environment governed by each country's social, economic, and political systems.

Rogers, E. M and Pratibha Shukla (2001) define the digital divide as the 'gap between individuals or systems advantaged by the internet and those relatively disadvantaged by the internet'. They said variation in internet users per thousand populations is basically due to the following reasons, (I) absence of monetary assets, (ii) absence of focal station power, media communications, and other frameworks, and (iii) government policies that do not effectively energize or advance web dissemination. They found that those consumers who saw actual access to the internet as liberated from obstacles as far as cost and network are concerned would utilize the internet to find healthcare information more seriously than those who experience actual hindrances to utilizing the web. They also found that consumers who experience such obstructions while obtaining healthcare information from the internet and have trouble

understanding internet-based information content will be less likely to involve with the internet for that reason.

Norris, Pippa (2001) suggests that there are three significant divides; (I) a global divide between the developing and the developed nations, (ii) a social divide between the internet-haves and the have-nots, and (iii) an autonomous divide, including individuals who use and individuals who do not utilize the communication technologies.

Cullen, R. (2001) viewed these disparities and mentioned that many research and policy papers address the digital divide by giving an example that some groups of people are specifically disadvantaged in their uptake of information and communication technologies (ICTs). These include individuals with low livelihoods, low educational qualifications or low computer levels, jobless, older men and women, rural area settlers or remote places, disabled people, single parents, and girls. Cullen (ibid) finds that this group of people is already disadvantaged in terms of their education, income, and health status culturally compared to western or other developed countries. Cullen (ibid) states that there are several indigenous peoples, migrants, and other ethnic minority groups that are also identified as having a deficient intake of information and communication technologies.

Hargittai E. (2002) raised a similar issue: once the internet becomes accessible, there is a possibility that the dimensions of abilities and experience to the divide might become one primary issue. Bertot, J. C (2003) contends that this thought of the divide similar to a gap of technology between the haves and have-nots is in that frame of mind as, in view of it, legislators decrease the financing to numerous technological initiatives to connect the digital divide gap in specific communities.

In fact, DiMaggio, Paul, et al. (2004) contended that the term digital inequality ought rather supplant the digital divide to uncover the shifting degrees of purpose and their social ramifications precisely. DiMaggio et al. (ibid) focused their study on ways in which the understanding of different internet users about online resources either encourages or hinders the degree to which individuals can ideally profit from their utilization of digital media.

Regarding the expression of haves, several researchers proposed that our techno-rational thinking has to be reframed to a more social, psychological, and cultural thought pattern. For instance, Van Dijk, Johannes A.G.M (2005) mentioned that the term ‘access to information and communication technology’ has to be more comprehensive by perceiving that it has to go yonder merely as having a computer and a network connection but by also putting into consideration the disparities that exist with regard to access like inspirational access, factual access, skills, and usage.

Likewise, Rains, Stephen A (2008) defines the digital divide as a term coined to capture the discrepancy between individuals who can access the internet and those who cannot. These are accompanied by characteristic features such as gender, education, ethnicity, income, and language barrier, which could be reason for the divide across the digital landscape. As internet adaptation rates are increasing steadily, the distinctions between users and non-users are no longer visible using the same lens. Rains (ibid) states that there are three forms of the digital divide; (i) the initial internet was only beneficial to those with access, and that gave a partisan advantage to many; and (ii) the subsequent wave of digital divide points to skills divide, as it has now seemed as though gender and income were not the key motives for differences across the usage rates, (iii) the current wave of digital divide researches attempt to include access to internet bandwidth and language barrier (since English is the primary medium for utilizing the internet content).

Singh, Sumanjeet (2010) describes the digital divide as the spiral of asymmetrical access to the internet and usage of information and communication technology, as well as the economic rebound reasons that have propelled the rise of information divergence all over the world, both within and across nations, and also locally in communities. Singh (ibid) mentions three dimensions where the digital divide is essential, and information and communication technology makes a distinction. In the advanced and information-based world, monetary opportunities, like employability, rely on access, communication technology, and computer skills. Nonetheless, information and communication technologies assume a significant part in all cultural connectedness, from political cooperation to interfacing neighborhood networks, companions, and families. Secondly, information and communication technologies are essential in accessing

one's cultural resources and expressions in the globalized and socially diversified world. Thirdly, the definition replaces conventional innovation-focused depiction of the digital divide, reminding us that the shortage of technology is not generally a stalemate. It is evident that innovation remains stagnant and ineffective in the absence of the necessary knowledge and talents, as well as when it is implanted in the public eye in the absence of fundamental human capacities and abilities. When developments are collaborative activities, they become truly authentic.

Kamila, Kanchan (2011) mentioned that variables such as income, educational background, and sociocultural background that provide demographic data are essential. Kamila (ibid) states that there is a possibility that these can deliver information on how diverse society sections interact with mass media and how it impacts them. Therefore, this is an area of concern because the internet does not scale people's economic background; further could be one reason leading to the digital divide between information haves and information poor. Likewise, there are two discrete halves from a didactic point of view, namely 'literate and illiterate'. Thus, the digital divide allows certain resemblances to precede conceptualizations of the knowledge gap hypothesis, which describes that the group of people with higher financial status acquire information at a relatively quicker rate than those with lower financial status, as a result widening the knowledge gap between these groups.

Kamila (ibid) further states that most recent research works also focus on advanced access and use gauges, the nature of access, setting and power of administration, sorts of usage, and user capacities. This uniqueness is seen primarily in India's social setting among high and low castes, metropolitan regions, provincial regions, and the like. With the help of the above studies, the digital divide can be understood as a multidimensional study uniting experts in financial aspects, populace studies, political theory, communication policy, education strategy, and numerous other social sciences. Likewise, the digital divide can also be defined as a gap or a deficiency created by social, cultural, and economic factors generated by lacking information and communication technology concerning access and skills.

Talking about the digital divide, especially its divide in the healthcare management process, is crucial to study. Though the internet remains a broad phenomenon, our understanding should be

established in the far-reaching literature on the deeply grounded reasons for imbalances in old types of social communication and civic engagement (Bertot, J. C., 2003). The foremost question is whether the internet's potential forms will help diminish the prevailing disparities or worsen the situation. Internet consumers access the internet for various reasons and purposes, which gave rise to several problems and confirmative the growing digital divide. The internet population has grown by leaps and bounds and is progressively opening to reflect the general population.

It is also observed that the inequalities created due to lack of access to computers, the internet, and broadband may have adverse effects in the context of health information and public health care (Castells, M., 2001). Today, many healthcare agencies and public health organizations rely more on the internet as an essential source of information and medical care administrations (Cline, R and K. M Haynes, 2001; Cotten, S. R., & S. S. Gupta, 2004; Mittman, R., & M. Cain, 2001; Turner, R. et al., 2003). The implications of this development for health communication are tremendous.

Benigeri, M and P. Pluye (2000) find internet plays an essential role through which health and medical professionals can convey knowledge and information on health to consumers and help people improve their healthcare. However, it is also a fact that technology obscures some inadequacies, for example, (1) the sporadic nature of health information accessible on the web, (2) complications in result, understanding, and utilizing said information, and (3) the Inability to access the internet by people who do not have a connection and, (iv) the potentials for harm and risk of overconsumption.

Cotten, Sheila R., and Sipi S Gupta (2004) believe that if people cannot have access to the internet, they are unable to benefit from the health care assistance provided by the internet. Cotten and Gupta (ibid), find those who have accessibility to the internet for health information are more knowledgeable and have better health and contentment than those who entirely depend on traditional sources of information. Rains, Stephen A (June 2008) finds that with the surge and necessity of technology, there is a massive prospect that people with a bit of income-socio-cultural background will be pushed to the side-line and further become more disadvantaged. This

problem is expected to be experienced in emerging countries, which are already denied many facilities like the procurement of computer amenities and other network connectivity, and exacerbated by inclinations in the information economy, preferring a reduction in public subsidy and private sector development (Schwimmer, Brian., 1996).

Steffefson, Michael., et al. (2011) express concerns that health information is not equally accessible to the less educated, economically disadvantaged group, and socially marginalized people are least likely to access health information/eHealth on the internet. eHealth (eHealth is used as a reference for electronic health) indicates the ability to search for, locate, understand, and analyze health information from electronic sources and use such knowledge to tend to or caring for a medical condition. Thus, the digital divide can be classified based on age, education, computer skills, gender, income, internet access, racial group, and even within a locality, which creates a divide between the consumers of different groups of people. To better understand how this divide came into being, it is always good to refer to the past and see its shortcomings. Thus, based on the above studies, it is evident that the internet is gaining importance for delivering health information and promoting health education.

History of Digital Divides Around the World

The following section intends to review the history and significance of the digital divide, why such a gap occurs even within the same cities, the factors responsible for the divide, and the utopia/dystopia debate of the online experience as they pertain to understanding how people access health information in the internet age.

In the middle of the 1990s, the term digital divide was widely used, though as early as 1995, the word appeared in several news articles and politicians' speeches (Kamila, K, 2011). Digital divide perhaps is one of the most debated phrases in today's context, and it seems to have been introduced in the United States of America. Many people opined that Andy Grove (one of the creators of the digital divide network) coin the term 'digital divide'. According to Benton Foundation, the former President of America, Bill Clinton, first used the term in his speech during the 'National Information Infrastructure' discussions in 1993 (Thakur, G. K, 2014). These arguments linger as to who coined the term; however, it has been pragmatic that with time there

is broader reception of the fact that there is a cumulative gap midst information haves and information have-nots, what we now call the digital divide.

In 1991, Tim Berners-Lee, an English computer scientist, made the first ‘web browser,’ including a unified editor that could generate hypertext documents on the subsequent computer, as a means for people to share information. The hypertext format permitted people to see documents on-screen without partaking in downloading them first. The first browser development allows a fluid use of online images and graphics processing. By 1996, 45 million people worldwide were using the internet. By 1999, international users reached 150 million (Rains, S., 2008). Internet diffusion started mounting at an incredible stride in seven regions worldwide between 2009-2019 (shown in table.1), with substantial growth.

A 1995 NTIA (National Telecommunications and Information Administration) report signifying demographic differences in telephone service access sparked interest in the digital divide. According to the U. S government’s universal service telecommunication policy, every individual has the fundamental right to access information. They orient their policy in producing sensible entrees to information services for all Americans (Katz, R.E., & J. E Rice, 2002). Therefore, such forms of inequalities rising due to the digital divide are considered antithetical to their policy. The growth rate of internet infiltration is high in North America, 89.1%, followed by Europe at 82.9%, Oceania/Australia at 68.0%, Latin America/Caribbean at 66.6%, the Middle East at 65.8%, Asia at 51.7%, and Africa stood last at 35.9% (internetworldstats, 2019). However, this development comes at the outlay of the divide between the people shaped by these industrial advancements.

Table No.1: Internet Diffusion Around the World

Internet usage and population statistics around the world, 2019						
World Regions	Population	Population % of World	Internet users	Internet penetration rate %	Growth 2000-2019	Internet users%
Africa	1,320,038,716	17.0 %	474,120,563	35.9%	10,402%	10.9%
Asia	4,241,972,790	54.7%	2,190,981,318	51.7%	1,817%	50.4%
Europe	866,433,007	11.2%	718,172,106	82.9%	83%	16.5%

Latin America/Caribbean	658,345,826	8.5%	438,248,446	66.6%	2,235%	10.1%
Middle East	258,356,867	3.3%	170,039,990	65.8%	5,076%	3.9%
North America	366,496,802	4.7%	326,561,853	89.1%	202%	7.5%
Oceania/Australia	41,839,201	0.5%	28,437,577	68.1%	273%	0.7%
World Total	7,753,483,209	100.0%	4,346,561,853	56.1%	1,104%	100.0%

Source: www.internetworldstats.com/stats.htm

Factors Causing the Digital Divide

There are early adopters of any new technology, those who start exploiting the technology first, either because of financial leeway, access, or curiosity. Therefore, understanding the history and contemporary significance of this research on the digital divide is vital to diffuse awkwardness between those with internet access and those without internet connections. The underlying aspects of the digital gap might ascend because of monetary thought processes to get to and a lack of want or capacity to utilize the internet among specific population groups (Wagner, Todd H. et al., 2005). Internet access has been considered substantial in the digital divide; however, ability and educational background can also be indispensable factors in determining who benefits. Previous studies also reveal that the internet has infinite health information with poor-quality content and that people cannot judge the quality of the information provided. In this manner, certain individuals might be getting fewer advantages than they suspect. Wanger, Todd H. et al. (2005) accept that there are different factors other than internet access that could make sense of why most of those with unlimited access did not utilize it to seek health information. Van Dijk, J.A.G.M (2005) also said this divide has further broadened the disparities that previously existed in society regarding the inadequate delivery of resources and materials, leading to the emergence of a new discourse.

This disparity is typically seen in internet connectivity, where an estimated populace of 3.5 billion internet users around the world was recorded in the 2016 survey (Statista, 2016). It shoots

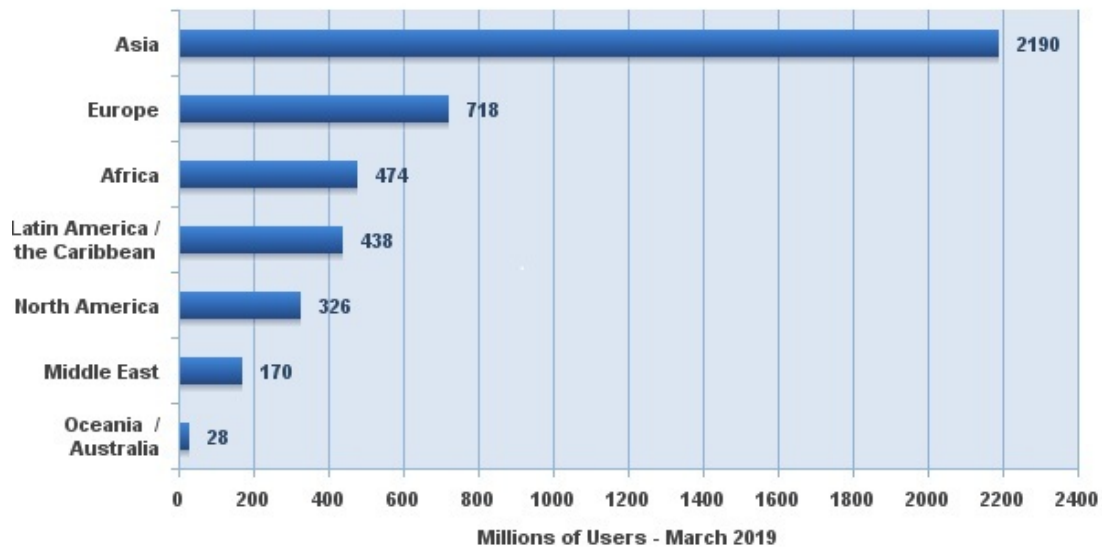
up to 68% of the total global population accessing the internet in March 2022 (internetworldstats, 2022). Around the world, most internet users are situated in East and South Asia, while China is the biggest internet-based consumer (more than 1 billion users in 2022, Statista 2022). In 2016, China had north of 721 million web clients, which rose to 854 million users at the end of 2021, an increase of 3,796% of internet users. Meanwhile, India had a mere 5 million users in 2000, which rose sharply at the end of 2021 with 560 million users, an increase of 9,142.5% in internet users, and an overall penetration rate of 11,200% between 2000-2021 (internetworldstats.com, Table.2 and Fig.1). India is positioned second regarding internet users. The most well-known language on the internet by the portion of users is English, trailed by Chinese and Spanish. Monaco has the world's quickest average internet connection speed, from 261.82 megabits per second (broadband speed) and 105.01 megabits per second (mobile speed) at the end of 2021 (worldpopulationreview.com, 2022). While India stands at a measly 64.03 Mbps (69th position) and 17.89 Mbps (118th position), respectively. The average internet speed around the world is 69.14 Mbps, whereas India's speed comes around 30-40 Mbps (broadband) and 11.58 Mbps (mobileband) at the same time (Statista, Dec. 2022). Estimates of internet users among the top countries across the continent are shown in the table below:

Table 2: Countries with Highest Number of Internet Users (2000-2021)

Sl. no	Country	Internet Users 2000	Internet users 2016	Growth 2000-2016	Internet Users 2021	Internet growth 2000-2021
1	China	22,500,000	721,434,591	3,106.4%	854,000,000	3,796%
2	India	5,000,000	462,124,989	9,142.5%	560,000,000	11,200%
3	United States	95,354,000	286,942,362	200.9%	313,322.868	328%
4	Brazil	5,000,000	139,111,185	2,682.2%	149,057,635	2,980%
5	Japan	47,080,000	115,111,595	144.5%	118,626,672	252%
6	Russia	3,100,000	103,147,691	3,227.3%	116,353,942	3,751%
7	Nigeria	200,000	97,210,000	48,505.0%	126,078,999	63,000%
8	Indonesia	2,000,000	88,000,000	4,300.0%	171,260,000	8,560%
9	Germany	24,000,000	71,727,551	198.9%	79,127,551	329%
10	Mexico	2,712,400	69,000,000	2,443.9%	88,000,000	3,144%

Source: <http://www.internetlivestats.com/internet-users/>

Figure 1. Internet Users across the Continent



Source: www.internetworldstats.com/stats.htm

The study does indicate that roughly 80% of respondents with web access look for health information. The people who make this stride to a great extent have good impressions of health information on the internet and feel that it has helped them. Albeit, the ability to access help in one way explains the digital divide. The study also indicates that most respondents utilize the internet for consumption purposes like watching movies, soap operas, e-mails, chatting, social connections, daily activities, or keeping up to date with the surrounding environment.

Another form of the digital divide has been seen in mobile devices, especially smartphones, mainly used to access the internet. The 2016 statistics show that every day, millennial internet users, for instance, invest a typical time of around 185 minutes on mobile internet services (Statista, 2016). In 2016, it was forecast that the quantity of Smartphone users would grow from 2.1 billion, with an estimated 62.9% of the population worldwide already owning a mobile phone. It was projected that a little more than 36% of the total population would own a Smartphone by 2018, i.e., 10% more than that in 2011. By 2019, the amount of mobile phone users worldwide surpasses five billion (DOT, 2018), with 813.2 million internet subscribers. Recently, the smartphone was sold at a staggering rate of 3,882,762 pieces per day (as of 2019),

and in 2021, smartphone manufacturers sold over 1.43 billion cellphones worldwide, indicating a sharp increase in internet utilization owing to mobility, flexibility, efficiency, privacy, cost-effectiveness, and portability.

During the pandemic period, i.e., 1st, 2nd and 3rd wave lockdowns have been implemented in all regions, colleges, schools, retail malls, temples, enterprises, airports, and train stations, for example, were essentially shut down, activities that need human contact and gathering. As a result, to interact, connect, and work from home, individuals have turned to the internet and internet-based services. When compared to pre-lockdown levels, internet service consumption has surged from 40% to 100% (De, Rahul et al., 2020). It is also important to note that video conferencing, such as Google Meet, Zoom, Skype, and WhatsApp, witnessed a tenfold rise in usage.

What do People Generally Surf on the Internet?

One of the most common activities on the internet is like e-mail, work, visits to social networking sites, online inquiry, video conferences, online talk, and online video calls (especially that of YouTube, with an estimated view of 6.1 billion per day as of 10th April 2019), and shopping online. Today, texting is turning out to be more normal among mobile internet users around the world. Like that of the trending mobile messaging apps ‘WhatsApp’, which is used extensively by more than 2 billion monthly people. Facebook Messenger estimates more than 1.3 billion active users, and the parent social networking site with 2.77 billion dynamic users is expected to reach 3 billion users by the end of 2022. Other well-known informal social communities include Instagram, with active users of 80,956,389+ per day, Twitter with 345,948,419+ active users, and Tumblr, with 118,583,387+ active users per day, (internetworldstats and Statista 2022), as well as other mobile phone talk applications like Zoom, Facebook Messenger or WeChat, Google meet, Skype and Pinterest, are increasing each day. Today, most internet users worldwide use e-commerce, which has also led to the expansion of the e-market.

Social Networking Sites (SNS) were one of the most popular forms of communication available to individuals during the COVID-19 shutdown. Several studies have found that SNS saw a huge

jump in consumption, which is reported almost in every part of the world throughout the pandemic period. Facebook saw an increase of 8.7%, and Tik Tok saw an increase of 85.3% during the pandemic (Statista, Oct. 2022). This saw a massive consumption of the internet in SNS (Facebook, Twitter, Instagram, and WhatsApp), mass media (YouTube, TikTok, and other forms of streaming services). In India, Facebook saw an increase of 450 million users between 2015-2022 and an increase of 30+% every year during the pandemic period.

Besides, in Asia, mobile e-commerce has become widely popular and is a vast market, taking over the traditional store or person-to-person market. E-commerce has become an essential component of the global retail structure. Like many other businesses, the retail scene has experienced significant alteration since the birth of the internet. Due to the continuous digitization of modern life, customers from practically every country today benefit from the advantages of online purchases. With over five billion global internet users, the number of people making online transactions is snowballing. In 2021, global e-commerce sales topped 5.2 trillion US dollars, which is only likely to rise in the future (Statista, Dec. 2022). Today, Amazon is the leading web-based business that deals with more than \$27 billion in income, followed by Flipkart in India (internetworldstats, 2020).

The diffusion of the internet is at a monumental stage, and nearly all the countries worldwide are getting swallowed at its pace. The world population counts at 8 billion, with active internet users of 5.07 billion people; besides these, websites are growing day by day, which figures at a humongous total of 1.5 billion (and 200 million active websites) and still counting. E-mails sent stood at 319.6 billion per day (as in 2021), and internet consumption stood at 5.7 billion gigabytes per day (internetworldstats, 2020).

The number of internet users climbed by 10.2% in 2020, the first year of the pandemic, the largest increase in ten years, owing mostly to a 13.3% increase in internet use in developing countries. Growth reverted to a more moderate 5.8 percent in 2021, matching pre-crisis levels (Statista, Jan 2022). Internet in India increased hugely year by year between 2010-2022, from 92.57 million users to 932.22 million users. With a huge jump during Covid-19 from 493.96 million users in 2018 to 636.73 million users in 2019 and 100+ million users the following year.

Thus, one can see that numerous studies have been done on the problems involving the digital divide and identify the ample opportunities information and communication technology provides to improve the country's productivity and efficiency and develop people's well-being. Besides, based on the information system literature, it is evident that individuals and organizations in developed countries benefit from all these information and communication technologies (Quarterly newsletter, 2018). It is important to note that the divide not only comes in the form of technology such as smartphones, iWatch, laptops, tablets, and so on but also in the form of internet speed which is not uniformly spread across the country and within regions. This divide can also be in the form of internet utilization since the general average consumers use it for the main purpose of media consumption rather than for learning, acquiring information, keeping upto to date, and so on. Another form of the divide can also be seen in the form of technical skills, individual interests, language barriers, complexities in acquiring the correct information, and cultural, social, and financial. Some see it as a waste of time to spend on the internet.

The phase of Information Technology in the Context of the Internet in India

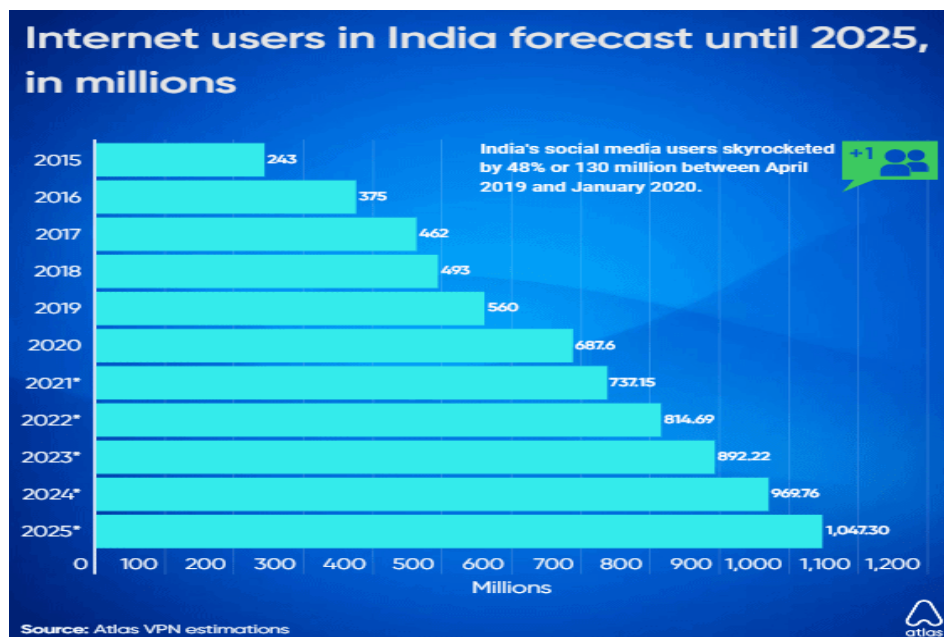
One of the earliest cyber cafés is the 'Coffee Day Cyber' cafe situated on Brigade Street in Bangalore, India. This cafe opened in 1995 and, from that point forward, has stretched into a chain of cybercafes all over India. All over the world, Cybercafes can be seen (Bist, R., 2007).

Internet got announced in India in the early 1990s. Videsh Sanchar Nigam Limited (VSNL), established on August 14, 1995, introduced the internet by means of dial-up in six urban communities. Initially, only a few major cities could access the internet, and the rest was under the government's control. VSNL, the agency in control of internet activities, and the department of telecommunication (DOT) provided intermittent networks with low transfer speeds and extremely hardly few telephone lines. The connection rates were meager at 5%. The charges were relatively very high despite the low level of service provided. Domestic users were charged \$2 (roughly around 20 rupees at that time) per hour, whereas, for a couple of privately owned businesses that could bear the cost of them, it ran more than \$2000 (around 40,000 rupees) each month for a 64Kbps line. After three years of government collaboration, there were only about 150,000 internet connections in India towards the end of 1998. Several small to major internet

service providers opened shops, resulting in a pricing war and better service. (Singh, Sumanjeet, 2010).

Internet monopoly by the government mostly ended in early 2006; since then, a considerable increase in internet consumption began (which can be seen in Table no. 3 below). The growth spurt is increasingly higher in the ascending year, once standing at 2.8% of internet Penetration at the end of 2006. In 2018, internet penetration stood at 38.0%, rising sharply to 50.0% (end of 2019) of India's total population at the onset of the pandemic (Statista, 2022). In January 2022, India had 830 million internet users. At the beginning of 2022, India's internet penetration rate was 47.0 % of the entire population. The internet users outpaced the projected score of 814.69 million users in 2022 (see chart.1), which is achieved at the end of 2021. Going by this pace, the overall number of users is expected to cross 1 billion internet users by 2025.

Chart 1: Internet Users in India (2020)



Source: atlasVpn (September 23, 2020)

Internet is the new buzzword in a brief passé all over India. Both the state and Central governments are assertive about internet growth. Studies have shown that the internet has gained momentum in India's metro cities and small towns. Only 1.2% (20.26 million at the end of 2016)

of the people in rural India have access to the internet, whereas, in urban India, it is 12% (405 million subscribers). Urban users dominate internet use, contributing more than 60.6% of India's internet consumption (DOT report, 2018).

The data from DOT shows that 30.3 million people in urban areas use the internet daily, whereas only five million use the internet in provincial regions. The number of internet subscribers rose to 30 million in September last 2007. Disparities are also seen high among internet users and non-users, with a ratio of 63.5% to 36.5% even when there is a connection.

Internet (broadband and narrowband put together) access rapidly increased to 4% in 2009 with an estimated 80 million people. It crossed 7% in 2010 (ultraxart report, 2018). As per DOT, disparities are seen within the Indian states. State-wise, the highest number of internet subscribers (between Dec. 2015 to March 2016) in Delhi, Maharashtra, and Tamil Nadu, followed by West Bengal, Karnataka, and Kerala. North East-II, Assam, Oriya, Andaman and Nicobar, and Uttaranchal have the least internet subscribers (Table 3, DOT report 2018).

Table No. 3: Internet subscriber base of Rural-Urban India (Dec2015-March 2016)

[Subscribers in Millions]

Telecom Service Area	Narrowband (Mar-16)		Broadband (Mar-16)		Total Internet (Dec-15)		Total Internet (Mar-16)	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Andhra Pradesh	5.70	7.99	3.43	7.74	9.05	15.38	9.13	15.73
Assam	2.37	1.56	0.84	1.98	3.38	2.79	3.21	3.54
Bihar	6.92	6.89	1.95	3.87	8.43	10.00	8.86	10.76
Delhi	0.49	8.13	0.45	11.53	0.95	18.72	0.93	19.66
Gujarat	4.11	7.23	1.95	7.81	6.16	15.00	6.06	15.04
Haryana	2.08	2.27	0.89	2.32	2.96	4.50	2.97	4.59
Himachal Pradesh	1.02	0.82	0.74	0.46	1.73	1.15	1.76	1.28
Jammu & Kashmir	1.16	1.10	0.67	0.68	1.84	1.65	1.83	1.79
Karnataka	3.62	6.83	1.92	10.26	5.85	16.33	5.54	17.09
Kerala	2.70	3.76	2.87	5.27	6.14	8.25	5.57	9.02
Kolkata	0.25	4.62	0.30	4.10	0.55	8.48	0.55	8.72
Madhya Pradesh	5.18	7.39	1.07	6.78	6.37	13.08	6.24	14.17
Maharashtra	6.59	9.08	3.18	10.64	9.70	18.82	9.76	19.72
Mumbai	0.16	6.60	0.12	8.77	0.30	15.31	0.28	15.37
North East	1.35	1.11	0.62	0.99	1.96	1.74	1.97	2.10
Orissa	2.72	2.68	0.65	2.25	3.60	4.25	3.37	4.93
Punjab	3.59	4.68	1.12	4.07	4.56	8.45	4.71	8.75
Rajasthan	5.16	6.38	1.85	3.87	7.28	9.58	7.01	10.25
Tamil Nadu	3.53	9.59	3.32	11.56	6.86	20.41	6.86	21.16
Uttar Pradesh(East)	9.40	7.26	1.81	4.01	10.98	10.86	11.21	11.27
Uttar Pradesh(West)	5.15	6.04	1.32	4.00	6.15	9.48	6.48	10.04
West Bengal	5.43	2.24	2.21	3.51	7.36	5.27	7.64	5.75
Total	78.65	114.25	33.29	116.47	112.16	219.50	111.94	230.71

Source: <http://www.internetlivestats.com/internet-users/india/>

In the data of IMAI (Internet and Mobile Association of India), internet diffusion increased from 22% with 277 million users in 2015, which further increased to 27%, i.e., 405 million users in 2016. In December 2017, internet access in metropolitan India was 64.84%, contrasted with 60.6% in December 2016. Similarly, internet access in the provincial region expanded from 18 % in December 2016 to 20.26% in December 2017. The data moreover shows an average of 281 million daily internet users, with 182.9 million, or 63.50%, accessing the internet consistently in a metropolitan region. At the same time, in rural India, only 98 million users, or 36.50 %. Delhi, Mumbai, and Kolkata are the three leading cities with the highest access in urban India. Simultaneously, Jagdalpur, Fatehpur, and Imphal (as of Dec 2017) present the minor internet user among 170 cities (ultraxart report, 2018).

Regarding gender, it was estimated that there are 143 million female internet consumers, roughly 30 % of all internet users (starting around 2017). However, digital India is making inroads into rural India, and the underlying digital gender gap persists, particularly in rural regions. Therefore, bridging this literacy disparity between the gender becomes critical to guarantee that everybody gets educated, engaged, and security online (IAMAI report, 2018). At the beginning of September 2018, the internet subscriber stood at 429.25 million, which has increased dramatically by the end of September 2018 to 560.01 million, meaning an improvement of 9.32 % as per estimate, the number of people using the internet in India would rise by 9.18% every year until 2025. (DOT report, 2022). In 2022 (see table no. 4) the internet disparity between men and female, state wise across the India, shows still a prevalent gap between the gender and only uniformly seen in the state of Sikkim. In urban India, 52.8% of women and 72.5% of males utilize the Internet. In urban India, the North-Eastern States, Goa, Delhi, Chandigarh, Himachal Pradesh, and Punjab have the greatest percentage of Internet users. Odisha, Telangana, and Bihar have the lowest proportion of Internet users in urban India.

Table No. 4 Internet Penetration in India 2022 Gender

#	States and UTs	Women User (%)	Men User
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			(%)
1	Andaman and Nicobar	34.8%	46.5%
2	Andhra Pradesh	21%	48.8%
3	Arunachal Pradesh	52.9%	71.6%
4	Assam	28.2%	42.3%
5	Bihar	20.6%	43.6%
6	Chandigarh	75.2%	91.9%
7	Chhattisgarh	26.7%	56.3%
8	Dadra and Daman	36.7%	68.3%
9	Goa	73.7%	82.9%
10	Gujarat	30.8%	58.9%
11	Haryana	48.4%	72.4%
12	Himachal Pradesh	49.7%	67.9%
13	Jammu and Kashmir	43.3%	72%
14	Jharkhand	31.4%	58%
15	Karnataka	35%	62.4%
16	Kerala	61.1%	76.1%
17	Ladakh	56.4%	67.8%
18	Lakshadweep	56.4%	80.3%
19	Madhya Pradesh	26.9%	55.7%
20	Maharashtra	38%	61.5%
21	Manipur	44.8%	73.9%
22	Meghalaya	34.7%	42.1%
23	Mizoram	67.6%	79.7%

24	Nagaland	49.9%	64.6%
25	NCT Delhi	63.8%	85.2%
26	Odisha	24.9%	50.7%
27	Puducherry	61.9%	80.7%
28	Punjab	54.8%	78.2%
29	Rajasthan	36.9%	65.2%
30	Sikkim	76.7%	78.2%
31	Tamil Nadu	46.9%	70.2%
32	Telangana	26.5%	57.4%
33	Tripura	22.9%	45.7%
34	Uttar Pradesh	30.6%	59.1%
35	Uttarakhand	45.1%	74.6%
36	West Bengal	25.5%	46.7%
Total	India	33.3%	57.1%

Source: [Findeasy.in/Indian-states-by-internet-users/](https://findeasy.in/Indian-states-by-internet-users/)

Likewise, one can see wireless internet subscribers enjoying a wild share of 96.21 % of the total internet subscribers. As time went by, the number of broadband subscribers extended from 481.70 million in the end of 30th September 2018 and saw a further increase to 518.55 million as of 31st December 2018, 36.85 million (Quarterly report, 2018).

In 2019, 34.8 % of India's population had access to the internet out of the total population of 1,326,801,576 (1 billion 32crore 68lakh 15thousand seventy-six) (internetlvestats, report, 2019). The number of wireless subscribers rose to 752 million (at the end of 2020) on the onset of Covid-19. According to the Indiatimes report, in 2021, 61% of Indian homes utilized the internet, up from 21% in 2017. Over 130 million people went online in 2020 and 2021, with almost 80

million going online in 2020 and 43% (roughly 34 million) going online as a result of the COVID-19 issue (Khanna, Monit 15 Nov. 2021, Indiatimes.com). At the time of writing this thesis, India has 833.7 million internet users, with a penetration rate of 59.5% (internetworldstats, 2022). Going to this estimation, India will reach total internet users of 1 billion in 2025 (atlasVpn report, Sept. 23, 2020).

India's digital adoption has advanced by 4-5 years during the pandemic (Kunal Vohra, TOI, 2021). Physical dependencies have been replaced by digital infrastructure, and the fulfillment of Indians' daily lives has migrated online. People remaining indoors linked virtually to stream content, buy necessities, e-learn, tele-consult, play games, make payments, social network, and utilize remote apps to work from home, increasing data usage by 25%-30%. There is a growing positivity toward a more digital way of life, and statistics (growing numbers of internet users) back this up. It is crucial to point out that time spent on cell phones has increased by nearly 25% to 6.9 hours per user each day (Statista, 2022). Thus, witnessing a major movement toward digital, which is expected to have long-term consequences, particularly in the areas of digital platform adoption, online gaming, and e-learning.

Information Technology and Schemes Implemented to Bridge the Digital Gap

India is multicultural and multilingual, with 29 states, seven union territories, 22 official dialects, and 13 scripts. Accordingly, it is of essential importance that information technology has to be processed. Software for translation should be established in vernacular dialects and accessible at a reasonable amount for the broader proliferation of information technology to assist the people at large. This will, in turn, overlay the way in the direction of digital unity and knowledge for all to diminish the digital divide gap since information and communication technological and infrastructural development is the pillar of any modern society. Since India has about 4 lakh villages, which are geographically dispersed, with fewer populations and a shaky economy, it is not easy to provide internet connectivity to each village.

Furthermore, the telecom companies may not undertake schemes in remote villages because the villages' procuring economy is insufficient to recover the cost of connecting them. Therefore, in view of connectivity, one must regulate the cost-effectiveness, ease of deployment, and proper

administrative innovations that are vital for the sustainable deployment of telecom systems in India (Rogers, E.M., and P. Shukla, 2001). It is essential to point out that some of the major metro cities in India are at par with about developed nations; moreover, a portion of the country regions in states like Orissa and eastern Bihar are more regrettable than a portion of the least advanced states (Singh, Sumanjeet, 2010).

Information technology is the main structure for transformation and process restructurings with minimum confrontation. Various studies (Marwaha, S.K., 2006; Rogers, E.M and P. Shukla, 2001; Brodie, M et al., 2000; Norris, P., 2000; Singh, S., 2010) exposed that good governance in any given society could not be done without information and communication technology (ICT). ICT also focuses on bringing about effectiveness, efficiency, and transparency in the system. The Indian government is increasingly employing ICT to deliver and promote its services during emergencies and significant events beneficial to the citizens.

Though ICT brings the assistance of digitally connecting, it also poses other potential threats to development and digital opportunity, e.g., rural people cannot be a part of this bandwidth connectivity group due to literacy and financial problems. By large, technologies developed so far adhere to the literate classes' needs (Bist, R., 2007). Therefore, we must start prioritizing building technologies that profit the communal masses of society. As one of Asia's leaders in the information technology (IT) sector, information technology plays a significant role in developing a country or nation. In this regard, the scope of India's future progress and advancement will significantly depend on its ability to spread information and knowledge to the common masses of society.

Several aspects hamper the growth, but among them, literacy is one of the key factors dividing the people of India into categories. At the same time, many people have the skills and knowledge to use the ICT tools like the internet, computer, smartphone, laptops, PDAs, and the like. Yet, the mainstream population is entirely ignorant about accessing the internet or computer. It is also apparent that numerous technological innovations and advancements have been achieved within a short period by the government of India.

Recognizing that information technology is indispensable for a country's development, India's government has taken specific initiatives to address the issues and complications of the digital gap. From 2003-2007, the administration of India supported the implementation of the National E-Governance Action Plan (NEGAP). This plan looks to lay the foundation and convey the push for the long-term development of e-Governance within the country (Marwaha, S.K., 2006). It is also noteworthy to mention some important government organizations such as; the Center for development of advanced computing (C-DAC), National Informatics Center (NIC), Software Technology Parks of India (STPI), DOEACC (Department of Electronics and Accreditation of Computer Courses), and Education and Research in Computer Networking (ERNET India), which all together works towards the country's information and communication technology development (Marwaha, S.K., 2006).

The national informatics center (NIC) is one of the pioneering interventions that led to the proliferation of information technology, facilitating economic growth and bringing about social transformation in India. NIC also does provide network backbone and e-governance backing to the focal government, state legislatures, union territory organizations, districts, and other small-scale Government bodies (Marwaha, S.K., 2006).

Studies have shown, and it is apparent that the government of India has undertaken measures and initiatives to bridge the digital gap. For example, the 'Information Technology Act 2000' was passed to guarantee that online business and e-governance reach out to the masses and in remote regions. This scheme recognizes the potential of pervasive broadband service for gross domestic product (GDP) growth and enhancing the quality of life through communal applications. It also engages with e-governance, tele-education, telemedicine, employment creation, and entertainment (Rogers, E.M., and P. Shukla, 2001).

Numerous initiatives and schemes are the Kisan call center (launched in 2004 to deliver extension services to the cultivating community and respond to issues brought by farmers in their local dialect). Life line India (established in Nov. 2006, is intended to deliver cultivating communities with induction to expert assistance on agribusiness and animal husbandry). Bhoomi project (records of land possession). Gyandoot Project (provincial data network where

individuals can undoubtedly sign in and complain or request information on crops, woodland fields, water assets, and so forth.). Technology improvement for Indian Languages (participates in creating data handling apparatuses and strategies to work with human-machine communication without a language obstruction, creating and accessing multilingual information assets, and coordinating them to develop innovative user products and services) (Bansode, S.Y and S.K. Patil, June 2011). Another scheme, the ‘Sakshat’ tablet, was initiated by the government of India, and HCL Technologies was launched on 10th January 2011. Sakshat tablet was established as a component of the public undertaking on education through information and communication technology. It was meant to associate 25,000 schools and 400 colleges the nation over for an e-learning program through the current Sakshat gateway (Kamila, K., 2011).

In Andhra Pradesh, the government of India undertook several projects to bridge the digital divide, such as; eSeva, VOICE (to improve disability representation), Fast (transportation), e-Cops (computerized information system support for the work of the police), AP Online (One-stop-shop on the web), Saukaryam (metro administration delivering to an internet-based platform), Online transaction processing, APSRAC (Andhra Pradesh State remote detecting application center). APSRAC projects are applicable in the areas like farming, energy, and marine assets to country strengthening with the assistance of compelling use of remote sensing (RS) and geographic information system (GIS) technology. APSRAC projects likewise embraced the village information system (VIS), which contains a detailed data set on segment subtleties, the number of medical clinics, schools, electricity connections, and the like. Other actions of telecenters⁵ include monitoring of wastelands, wasteland mapping, land use, and soil degradation mapping by efficiently employing remote sensing and geographic information system (GIS) based technology (Kamila, K., 2011).

The Indian government also unveiled the ‘general resources and information dissemination’ (GRID) Center, which was developed and implemented by the ‘Indian Farmers and Industries Alliance’ (IFIA), and the ‘Federation of Farmers Association’ (FFA) at Gummadidala, Andhra Pradesh. The GRID communities are comprised of data booths and an information bank

⁵ Telecenters refers to a public building with computers, and the like that people can use as an office platform instead of travelling distances to work (Cambridge Dictionary)

coordinated with government interventions. National Institute of Rural Development (NIRD) schemes include two public information booths or kiosks with internet connectivity that were established at Vikrabad in Ranga Reddy district and Tenali in Guntur district in Hyderabad (Kamila, K., 2011). These booths give information like assessment results, registries, horticultural costs, governmental systems, land records, educational prospects, and the like.

Many initiatives have been undertaken to develop software, apparatuses, and human-machine interface systems in Indian dialects. The information technology department took a critical step to build tools and fonts in Indian Languages to broaden the proliferation of information and communication technology at free cost for the general public. These tools and software are Fonts, Morph Analyzers, Text Editors, Spell Checkers, Key-Board drivers, Dictionaries, and Messaging Systems for Telugu, Tamil, and Hindi have been launched in the public domain for the masses. These tools are available on the Website (www.ildc.gov.in and <http://tdil.mit.gov.in>) (Marwaha, S.K., 2006). A comparable announcement of fonts and software tools for other languages was also planned.

Looking at all the initiatives and schemes undertaken, one can precisely say that the digital divide gap is plummeting. There is also anticipation that the government plans and public firms will make it probable to link the digital divide. By the by, it is additionally apparent to totally eradicate the digital divide in India; viewpoints like orientation, age, culture, language, gender, education, skills, and such are central parts that influence our everyday activities.

Perspectives on the Digital Divide

(a) Studies on the Digital Divide Across the World

The important concern in recent discussions on the dispersion of information technology in developed and emerging nations is not such a huge amount on the socio-technical financial differences between the countries and how viewpoints like income, age, orientation, education, occupation, area, and infrastructure play a critical role in information technology infiltration. The concern for many kinds of research has taken a paradigm shift, which concerns the rapid change and disparity that the digital divide has created (Jones, J. B et al., 2007). This divide is in the form

of internet access have and have-nots, while not forgetting about the cognitive skills and language (besides other factors mentioned above) necessary to utilize the internet resources fully.

Today, elementary computer knowledge is becoming pivotal for monetary achievement and individual headway, entry to a promising profession and educational prospects, access to social networks, and possibilities for a civic appointment. Also, diffusion theory recommends emphasizing the so-called economic advantages when new technologies are adopted, wherein the rich become more affluent. At the same time, the less wealthy segments begin to decline.

One of the forerunners in the digital divide, Norris, Pippa (2001), stated that the digital divide implies the breach involving the information haves and information poor, including parts along like gender, racial, and class lines. Why this has become a grave concern is a question one must consider. The fundamental issue fixated on the digital divide is that the underclass of the information poor will be additionally underestimated in the social order. Norris (ibid) accepts that the generational fluctuation in variation to new advancements is believably the utmost importance for the future dispersal of the internet but the most underestimated in policy circles. However, the internet appears to be appropriate to the necessities of the older adults in various ways, as sensibly stationary occupants with significant relaxation time, especially for person-to-person communication, leisure redirection, and services like the home conveyance of food. Referring to an illustration of the age gap inside the Nordic district, where the internet has invaded most widely, demonstrates the way into any social cleavage observed to this point. Like, how the youthful age group is multiple times as liable to be online than the more established age. Norris (ibid) likewise observed that nearly 33% of all Europeans under 25 are online, contrasted with just 3% of those over 65 years of age.

Norris (ibid) stresses the critical aspects of comparative inequalities in the information society. It is no surprise that there are utter differences concerning internet access. Notwithstanding, the inquiry remains whether the general aberrations in internet access are either unique or like that of the distribution of other common types of information and communication technology, similar to VCRs and satellite TV. Assume we underscore that the various parts like education, income, or expert imbalances are comparable across all communication and information technologies. All

things considered; this recommends wide clarifications of this peculiarity concerning well-established social definition designs predominant in present-day cultures. Then again, assuming that the distribution of internet access shifts from the use of various sorts of information technology, then, at that point, one ought to look for explanations in light of the particular qualities of the actual internet. Since elements, for example, the monetary expenses of procuring internet access, the cognitive abilities and computing skills expected for surfing, language hindrances to perusing the web in non-English talking nations, and the manner in which individuals answer the kind of resources and facilities accessible on the internet, similar to music, entertainment, and shopping. Both comparative and complete inequalities can be seen as similarly significant. In any case, the previous examination gives a more profound comprehension of this phenomenon's causes and probable solutions.

Norris (ibid) analyses and demonstrates that the core of the issue lies in more extensive social delineation designs that outline access to the virtual world and complete involvement in other systematic structures of information and communication technologies. Norris (ibid) suggests that the gender gap need not be explained, for example, women's approach toward computers or, on the other hand, the absence of a non-forceful way of behaving toward computer games and websites suitable for little girls. This might possibly be precise. Be that as it may, it tends to be a small and wide clarification for why fewer girls than men are online since ladies are likewise more uncertain than men in accessing ICT delivering mass diversions like digital TV, VCRs, and the like. Realizing that internet innovation would not stop insofar as the market stays to request ever lesser, quicker, and better delivery systems, reducing the divide in the process.

Rogers, Everett M (2003) referenced that this plan is a long way from undeniable since the conditions under which modernization is executed decide their social outcomes to a limited extent. He added that unique initiatives to even the odds by the public authority and the private sectors could widen technological access. Rogers (ibid) stated that the existing social foundation likewise assumes a basic part in the technological developments in a developed society, reinforcing the already existing socio-economic disparities.

Jung, Joo-Young et al. (2001), attempts to find whether the digital divide implies having internet connections, e.g., If 90% of internet dispersion is achieved, will it make the digital divide a forgotten or solved issue? Or, on the other hand, does the digital divide need to extend a more comprehensive aspect of disparities in individuals' associations with communication technologies? The digital divide is an analogy for the overall ten-year issue of deficient admittance to new communication technologies questionable about being settled by light dispersion of the internet or related technologies. When technology becomes an asset for keeping up with higher status in the public eye, e.g., computer-based technologies have progressively become essential or must-have in any offices or at home. Subsequently, inconsistent access to such technology becomes more than a question of ownership; the issue of deficient access ought to likewise address whether there is a facility to boost the technology's viability for the purpose of various regions. For example, an individual with a computer with an internet connection may not have the skills and knowledge to get a high-tech job done.

Jung et al. (ibid) developed a measure to understand the digital divide called the internet connectedness index (ICI), which integrates conventional time, context, and history. Still, their research goes beyond these scopes to capture internet integration's goals, centrality, and activities in diverse social groups' everyday lives. They express that conservative time-based internet connectedness activities cannot explain to us why individuals are associating and the way in which they shape their connections. However, it is fair to say that these extensions are similarly essential as critical as the amount of connection time. They contend that this happens when the attention is on internet connections and individual and social impacts, which should be carefully viewed in understanding the more sensitive attributes of the digital divide. For example, when individuals access the internet, the inquiry becomes how they can and do develop the sense and convenience of being connected with the internet. In this manner, disparities exist, even in accessing the internet and can straightforwardly upset individuals' capacity and desire to use their connections for social mobility purposes.

Jung et al. (ibid) accept that scientists are considerably less liable to consider the digital gap to be an issue of ownership of the technology than to consider it to be an issue of fostering a relationship with the technology. They argued that a solitary estimation could not capture this

relationship. All things considered, the relationship should be estimated concerning various elements of individuals' goals and emotional connectedness to the internet. The internet connection cannot be analyzed in separation from any remaining choices present (and dynamic) in the communication environment, whether customary media, local area or public media, or interpersonal communication. Finally, internet connections cannot be perceived without including the subjective aspects that influence individuals' persuasive interests in those connections.

Their study shows that the internet connectedness index empowers the observational appraisal of how individuals associate with the internet in their regular day-to-day existences. Their review upholds that this new measure can catch the multi-layered inconsistencies between various education, age, income, and gender groups. Their interpretation of these differences is that individuals of various ethnic foundations previously special concerning their education, income, age (more youthful), and gender are more expected to be associated with the internet in manners that will safeguard or expand their advantages.

Loges, William E and Joo-youthful Jung (Aug.2001) investigate the digital gap between old and youthful using an ecological methodology that considers the resources, objectives, and communication environment of youthful and old respondents to a telephone survey. They look at the relative degree to which more youthful and more established individuals are probably going to partake in internet use in their everyday activities, and the meaning of the internet as an implies that assists them with meeting their objectives. Further, the assessment is accomplished on the perceptions of factors that characterize the media ecology, including access to computers at school, work, and out-stations areas, on the levels of internet connectedness.

William and Jung (ibid) stress that the digital divide issue is a natural and multi-level peculiarity. They added that it is not just a trouble of people's decisions of access or no access connections with the information technology, nor is the financial reasons to internet services. In any case, it is a subject about how essential the internet is or could assist with accomplishing various crucial objectives in people's day-to-day activities and how implanted the internet is in more youthful and more seasoned individuals' communication infrastructure. The digital divide issue cannot be

isolated from difficulties. For example, how a general public handles the issues of contrasts in life may open doors regarding gender, age, class, geography, identity, or social inclinations. Simultaneously, the internet might be a diverse source for older individuals with various media experiences, objectives, or social events for interacting on the internet.

To more readily comprehend the basic issues of divide even inside similar group with given aspects, William and Jung (ibid) recommend that connectedness is made out of three aspects: (I) history and setting, (ii) scope and intensity, and (iii) centrality in one's life. Here, the set of experiences and setting aspects alludes to when one needs to acquire internet skills and absorb the internet into regular day-to-day activities. The degree and intensity aspect incorporates the scope of individual objectives one looks to accomplish through an internet connection, the substance of online applications (like e-mail, browsing, and messaging), and the degree of time one spends on these activities. The centrality aspect alludes to an individual's emotional evaluation of the internet's effect on their own life and how much an individual would anguish the internet in the event that it was no longer accessible.

Their study demonstrates that the digital divide among youthful and older grown-ups stretches out past inquiries on access. They gave two instances of how individuals respond to internet access: (I) Older respondents vary from their more youthful partners in the nature and setting of their internet use. (ii) Older individuals would represent lower internet connectivity/connectedness. The distinction in connectedness is unequivocal because more established individuals pursue a narrow selection of objectives and activities online, using fewer internet applications, and engaging in the internet in fewer places than more youthful individuals. They presumed that the connection between age and internet connectedness stays, even in the wake of controlling significant access disparities by background. Notwithstanding these differences in extension and power of internet connectedness, more seasoned individuals will generally abstractly assess their internet connection as vital to their lives as more youthful individuals do. They added that the age partition in internet connectedness is because of contrasts in scope and objective and may be subjected to change with time.

Keniston, Kenneth and Deepak Kumar (2003) underline the factors bringing about the digital divide as economic constraints to accessing and the absence of desire or ability to utilize the internet among a particular group of society. They mentioned issues of disproportions concerning internet access among people with low socio-economic backgrounds and that it is found across the globe. They also added people with higher earnings have better accessibility to the internet than those from lower-income groups. Likewise, large cities are unevenly circulated in internet usage, and the urban poor has minimal access, expanding the gap even more between rural and urban areas. Today, young people in India, especially from metropolitan cities who belong to low-income groups, are also using the internet. For example, slum dwellers, cooks, daily wage earners, maids, salespersons, vegetable vendors, and the like are using smartphones with internet facilities.

Looking at disparities within the countries, they derive four reasons which might cause the digital divide. The first divide exists in every nation, between the developed or developing countries, wealthy, educated, powerful, and vice-versa. The second divide is connected to the English language's dominance and what is roughly called 'Anglo-Saxon culture'. Most of the websites were first invented in the United States and other English-speaking countries like Australia, Great Britain, Canada, and New Zealand, including an English-speaking populace of countries like India, Hong Kong, Singapore, and South Africa. The 3rd divide is the gap arising from the discrepancies concerning admittance to information technology between the rich and the emerging countries. At long last, there is the developing intra-public peculiarity of the 'digerati' (a prosperous tip-top portrayed by abilities fitting to information-based businesses and technologies), developing affluence and impression unmistakable to traditional textual styles of elite class status, and compulsive concentration, particularly among youngsters, on the state-of-the-art advancements, negligence for convention and authority, and stimulus to the morals of conventional progressive systems.

Livingstone, S and Magdalena Bober (2004) researched the digital divide among children and young people. They analyzed the survey findings with respondents between the ages of 9 and 19 in the UK with variations in age, gender, and socio-economic status. This study was on the accessibility and use of the internet. Since both the level of utilization and the explanations

behind low and non-use of the internet differ by age, it can make sense why contrasts in internet utilization matter, adding to inclusion and exclusion. They added that the demographic data, use, and proficiency variables are crucial in affecting the extent and complexity of internet usage.

The younger generation is progressively arbitrated by information and communication technologies in school, home, and society. Livingstone and Bober (ibid) explain that modest research has addressed imbalances and pervasiveness in children's and youngsters' access to the internet or explained why some have less or no utilization of the web. Youngsters are comprehensively seen to be tended to as the internet age or online experts - names they relish, albeit some researchers have challenged this as a predominant myth.

Livingstone and Bober (ibid) explain these variances by considering specific variables like the recurrence of internet use, length of time spent on the internet, sorts of services, mastery in use, specific skills on the internet, and perspectives towards internet use. They employed a random location sampling method across the UK. And their data shows that most children and youngsters have internet access at home (74 %) or at school (92 %). For the most part, kids and youngsters use it every day (41 %) or week by week (42 %). Only 13 % are infrequent users (i.e., use it not exactly once per week), and only 3 % are considered non-users.

The age discrepancy in the frequency of internet utilization is nonlinear for the two frequencies of utilization and time spent on the internet. They observed that youthful mid-teenagers are more learned users while, typically, the older the kid is, the more years they have been on the internet. Comparatively, it was found that working-class children use the internet lesser than middle-class children. Their study also revealed that children from diverse backgrounds use the internet correspondingly, assuming that they have equivalent access; existing uniqueness in access will have tremendous contrasts. For instance, kids and youngsters with home access will generally have spent more years on the web, utilize the web more regularly, invest more energy online daily, and have more elevated levels of online abilities and self-adequacy. Whereas adults and across all age groups, restricted availability is the premier explanation for preventing kids and youngsters from connecting more on the internet. The other explanation is indifference, ordinarily found among teens contrasted with 9 to 11-year-olds.

Despite the fact that not genuinely critical, there is a clue that security, parental limitation, and absence of abilities are likewise vital for the most youthful group. The discoveries likewise introduced that few youngsters do not utilize the internet, unlike their folks and grown-ups who access the internet. Thusly, the straightforward declaration of a twofold gap between the haves and the poor, or users and non-users, is not relevant to youngsters at this point. In any case, it is not necessarily the case that access issues are presently not important. Their discoveries uncover disparities brought by age, orientation, and financial status concerning the nature of internet access and use. Their outcomes likewise show how age and gender shape and characterize the exciting open doors taken up by youngsters. Apparently, skills-based interventions would be ideal for more youngsters, while empowering more regular use for more established teenagers will improve their pursuit of opportunities.

Livingstone, S and Helsper Ellen (2007) believe that it is challenging to decide if the digital divide is smoothening the playing ground for youth or raising new obstructions for some while advantaging others' cultural positions. Contrarily, several studies suggested that there should be a classification of information technology users beyond the traditional distinction of online haves and internet those who lack access. All things considered; few have given a point-by-point theoretical structure for a more careful empirical study of usage variances. Their research was focused on a diversified group of youth concerning internet use, and the data was collected from 1,160 surveys to demonstrate the prevailing variances along the deliberated dimensions. These variables can be seen in the form of gender, education, income, computer skills, language, and social and cultural differences which significantly impact how people utilize the internet.

Their study was based on how variations in user's perceptive of online tools and services could impact or frustrate how much individuals can ideally profit from their utilization of computerized media. Livingstone and Ellen (ibid) study centers around refined access and use measures, including nature of access, setting and intensity of purpose, sorts of usage, and user capabilities. They observed that the distinctions are not generally thought to be dichotomous properties; all things being equal exist on a spectrum. Running against the norm, the absence of ability in these domains might disadvantage others. In this manner, to comprehend these distinctions, they develop a hypothetical structure for the idea of manners by which information technology

utilizations might veer off across users and include multiple ways for which individuals' internet-based exercises and expertise might contrast, for example, (i) experience with and utilization of devices on the internet, (ii) information on what is accessible on the web, (iii) aptitude to find as expected content on the internet, (iv) capability in internet browsing, (v) knowledge of where and how to pursue support with questions online and (vi) variances in young people's internet uses. They explained that individuals' capacity to find desired sorts of information on the internet and their ability to evaluate the unwavering quality of the information is an indispensable piece of the medium's capability to add to individuals' ordinary requirements and prosperity, in the long run further developing their life possibilities.

Jones, James B et al. (2007) accepts that the worldwide digital divide is simply one more replication of the technology dualism principle. Singer (1970) was the first to introduce the dualism principle. The particular dualism principle perceives that the digital divide emerges; when one gander at technology development and gaps between nations that have existed since the modern age. It is on the grounds that technological advancement has consistently centered around nations intently resembling developed nations' financial characteristics (or metropolitan areas inside a country with major differences in income and education). Jones et al. (ibid) utilize this principle to recognize that the diffusion pattern of information and communication technology strictly resembles the concept of technological dualism and would seem to predict that this outcome will benefit the wealthier countries.

(b) Studies on the Digital Divide in India

In the past few decades, India has become one of the countries where enormous technological and communication progress has grown momentum (Dutta, A., and Rahul Roy, 2004-05, Bowonder, B. and Gopi Boddu 2005, Marwaha, S.K 2006, Bist, R. S 2007, Singh, S 2010, Kamila, K 2011). Rogers and Shukla (2001) have a different view about the digital divide in the Indian context, prompting questions as to who is connected in India. They are, precisely, a collection of tiny, wealthy, successful, and English-speaking minorities. Despite the perseverance of old elites and the advent of new elites, India remains one of the most damaging social regimes in the world, despite its historic cultural treasure.

Singh, Peter M. (2004) explains that the digital divide is a worldwide peculiarity that exists in financially poor nations as well as in the purported developed nations, among nations, and inside any single given country. He additionally says that internet access is at the center of the digital divide and incorporates few elements; cost, content (comprehensibility), capability (skills and language barrier), and several dimensions such as the basis of age group, gender, income, race/caste, education, and ethnicity. As indicated by him, the main component is the caste system which works at various levels, victimizing individuals and partitioning society.

Singh (ibid) explains a broadening gap between the nation's metropolitan populaces and its failure to remember the provincial or rural populace. In like manner, shopping online and e-mails have neglected to forestall old issues like literacy, poor, and unemployment in India. Furthermore, the digital gap is not limited to less developed states with poor infrastructures, such as Bihar, Uttar Pradesh, Rajasthan, and Orissa. It is additionally predominant in the IT (information technology) states like Karnataka, Maharashtra, Tamil Nadu, Delhi, and Andhra Pradesh. He emphasizes that any digital revolution needs a qualified environment, which India has yet to establish.

Singh (ibid) explains that the digital divide is a moral concern. It raises a new array of social problems, including intellectual and socio-economic factors, programming theft, computer crime, hacking, infection, protection, over-dependence on an AI machine, and working environment stress. Stresses that social divisions and differentiation have gotten through, for the most part, unblemished by information and communication technologies, which obligated its presence to the craving of the rich individuals. In this situation, comprehension should be reached to move from resource-based to information-based creation. And furthermore, a shift from political, religious, and socio-economic obligations precedence has yet to be developed. Singh (ibid) concluded that the gratification of human rights is not generally compelled to advantaged people and social elites, which is thinkable through means of access and use of the resources (finance, infrastructure, knowledge, and skills) that allow people to express themselves, connect, express their ideology, generate, control, and offer the beginning of knowledge and information.

Marwaha, S. K (2006) talks about initiatives proposed by earlier researchers that have helped reduce the gap among several social groups and show progress in many areas but points out that these initiatives are moderately weak in rural areas. It happened not only due to the lack of financial constraints but also owing to a lack of innovations. He believes that we can realize success only when the initiatives receive acceptance at the grass-root level, like panchayats and blocks, with local community support. Thus, digital development objectives should improve facility excellence and empower people to contribute to developing programs, actively decision-making, and improving quality of life. The free access to information will allow them to widen their thought design, acting as a free agent contrary to their traditional poverty, obtaining new life skills, expanding new thoughts and knowledge, and empowering them. The rural network of information will also act as information facilities and specific sorts of communication from one hub to another across significant distances, where every hub fills in as a community center, medical center, library, bank, matrimonial office, government information center, educational resource, and public telephone booth center. Marwaha (ibid) concluded that completing the information and communication technology design and making it relevant to the people will drastically improve the growth and capability and elevate people's lives, especially the less privileged groups of society. Besides, it will also enhance the social relations within the community, and the government and the citizen must give their equal conscious effort to achieve the goal. This study is supported by other global researchers stressing the importance of ICT and its role in bridging and bringing people closer to one another.

Venkatesh, V and T. A. Sykes (June 2013) conducted a longitudinal study on the rural village in India. They think of two theory that catches the two critical advantages of social networks, (I) power and influence and (ii) access to assets from both immediate and roundabout social ties, to concentrate on the digital divide in the emerging country. They proposed a model of technology use and financial processes with context to digital divide interventions in an emerging country and found that 39% and 47% of the fluctuation in technology utilization and economic developments, respectively, and an additional 16% comes out with new variables. Their study proves that the social network variables directly affected financial outcomes far in excess of what was intervened by technology utilization.

In this manner, the authority of India ought to zero in on coordinating the social network perspective with other individual-centric perspectives to exhaustively figure out the fundamental peculiarity. They reasoned that future exploration ought to inspect various settings, incorporating those with more critical social fluctuation, as it might give a thorough or moderating role to promoted culture. Their review focuses on the fact that for any emerging country to connect the digital divide is to zero in on progression along a few aspects like education, financial achievement, and accessible medical services. For development to happen, programs expected for this reason should find lasting success and proposition unmistakable advantages.

Bist, R. S (2007) found the digital divide gap to be significantly observed between rural and urban India. Researchers have shown that considerable investments are required to bridge the digital divide gap. New wireless technology in the 'local loop' can conceivably diminish the improvement cost and, in this manner, increment the number of associated towns. The concept of the emergence of this aspect of digital convergence is one leeway that can be used to reduce the digital divide. It is also apparent that both governmental and non-governmental organizations are putting much effort into developing and improving the country's telecommunication infrastructure. Singh, S (2010) also believes that this improvement and development in modern telecommunication technologies will benefit the mass population of India's diverse culture and background and transform the country into a techno-savvy society.

Bansode, S.Y and S.K. Patil (June 2011) talk about the factors that contribute to the digital divide, like gender, disability, actual access, absence of information and communication technology support and skills, attitudinal variables (perspectives towards technology), age, racial isolation, pertinent content (content not interesting to the user). They discuss factors prevalent in the Indian scenario, including literacy rate, education system, and language. They also talk about the schemes and initiatives undertaken by the authority of India to connect the digital divide, for example, the Kisan call center, Lifeline India, Bhoomi project, Gyandoot undertaking, and technological advancement for Indian dialects. They stress the importance of a library, which can act as a training center for the people to access information through the internet and employ free literature access.

Kamila, K (2011) finds that many society sections are left behind in the information technology revolution, such as older people, Individuals with limited formal education, those who speak English as a second language, the socially poor, and technophobes are all at risk. The topic of equity and how to overcome health inequities are key concerns for health promotion. While information technology is critical, it must be supported by other approaches in order to reach the most vulnerable groups.

Malik, Ridhi (2014) said cash is the king in India, and according to RBI (Reserve Bank of India), currency exchange represents 90% of all monetary exchanges in India. The quantity of computerized financial users in India is assessed at 100 million, representing 33% of the number of ledgers. However, at that point, Malik (ibid) likewise mentions that almost 50% of the Indian populace does not yet have a basic bank account.

Malik (ibid) also points out that with internet savvy and online shopping, India still trudges with offline shops. The benefits of current electronic online transaction systems have not touched all sections across the country. It is due to a concentrated number of services and products to a large degree being intended at the level I and level II areas of the country, where residents, as of now, can access formal banking channels. This slow adoption can be attributed to a lack of robust internet connectivity across the country. He predicts that the number of computerized banking customers will increase from 100 million in 2012 to 450 million by the end of 2020. Malik (ibid) concludes that for a society to achieve cashless transactions, the crucial component would be producing a modern and extensive payment system that includes numerous factors such as affordability, assurance, accessibility, availability, acceptability, awareness, and appropriateness.

Conclusion

This chapter's primary purpose has been to understand better how information technology, especially the internet, brings about the digital divide. One can easily get astray by technology just because it is never limited. The technology options we choose are determined by who we want to reach and what we want to say. It is crucial to ensure that your target audience has access to the necessary technologies. As the internet grows and opens the way for a rising number of possibilities, it has also opened up double deception potential. The conceivable

outcomes are boundless, both in the idealistic and the undeveloped territory, particularly while traditional establishments, for example, legal systems, take some time to reach numerous new turns of events. While multiple technical enhancements and government policies have been carried out to handle a portion of the above issues, those interventions take time, requiring an educated user base.

Due to the topic's broad nature, it is not possible to discuss all the critical aspects of the study. However, this review has looked at some vital research designs and methods that are not exhaustive or conclusive. Still, it conveys the literature's key relevant points. The study also emphasizes that more future research has to be done to address the substantial question of why, how, and the benefits and impact information and communication technology has on individuals in developing countries.

Researchers across the globe have acknowledged the ubiquity and designs of internet usage and the digital divide it brings. This can largely be attributed to numerous factors such as gender, age, occupation, education, costs, income, cognitive skills, computing experience, language, people's response to the type of resources and facilities available online, social background, or traditional hierarchies, people's objective, geography, and cultural preferences, the narrow scope of goals, lack of desire to utilize the available facilities, and limited access; which acts as a deterrent and thereby creating the divide. Studies have also shown that a country's growth depends on the availability of information and communication technology and will provide an unprecedented opportunity to meet vital development goals.

Therefore, it is necessary for internet connections at schools and classrooms, trained teachers, free or low cost, and community access in rural or poor developed areas. The next step is to inspire people and teach them its significance and resourcefulness, and only then can this digital divide be controlled before it spirals out of reach.

This chapter has critically examined the digital divide from different researchers' points of view, as well as the initiatives taken up by the government of India to reach out to the masses. The time and place of working practices have also seen a significant transformation due to digital

technologies. Many conventional enterprises and methods of operation have failed as a result of digital technologies. It is, therefore, necessary to understand the technological advancements taking place to better grasp the changes happening and the reason behind it.

The chapter talks about how digital divide research and the development of information and communication technology (ICT) research has continuously moved from access to use to a better comprehension of intended outcomes. Digital inequalities threaten society in a period where communities are quickly moving toward a digital platform. For example, day-to-day activities like paying dues, applying for jobs online, occupations, education, medical services, shopping online, and such are supposed to be completed electronically. Hence, bridging a digital divide is basic for maintainable digitalized social orders. The findings of these literature approaches can give a foundation for additional research and a reason for specialists to situate themselves and position their work. From the survey of 150 respondents, some of the findings relating to the digital divide, even among daily internet users concerning the utilization of health information, will be discussed in the following chapter.

Chapter 5

Seeking Virtual Health Information: Understanding the Perceptions of Youth in Hyderabad

Introduction

Seeking virtual health information has become one of the latest trends, even among the average Indian. However, the focus should be on context-oriented components connected with the individual's financial state and the prevailing well-being condition. As a consequence, the focus of the behavioral healthcare services consumption study is on identifying the most appropriate elements (both individual and environmental) that may influence the healthcare services provider's decision. The frameworks proposed to make sense of the healthcare services usage by an individual from the behavioral aspect. The hypothesis of “Engaging Consumers in Health and Healthcare in Communities” (ECHC) by Mittler, J. N., Grant R Martsolf, Shannon J Telenko, and Dennis P Scanlon (March 2013) addresses a concentric circle structure that shows that individuals, groups, and organizations will influence one another at any given point in time, but not necessarily in a linear manner. The chapter will concentrate on the data analysis obtained from 150 respondents using a survey questionnaire, interviews, and case-study approaches.

Medical anthropology is a branch of anthropology that investigates the connection between health, illness, and culture. Health ideas and practices vary among cultures and are influenced by economic, historical, political, and religious variables. Medical anthropologists employ anthropological theory and methodologies to generate intriguing facts about how different social groups worldwide experience, decipher and answer inquiries about health, disease/illness, and wellness. Below are some of the questions medical anthropologist seeks to answer; Some significant considerations arise, such as how a particular culture characterizes health or sickness. What does a diagnostic or disease condition mean in different cultures? What roles do doctors, medical practitioners, shamans, and alternative health practitioners play? Why do some populations have better or poorer health outcomes or have a higher incidence of specific diseases? What exactly is the relationship between health, happiness, and stress? In what ways are certain conditions condemned or even glorified in different cultural contexts? Furthermore,

medical anthropologists investigate the factors that influence or are influenced by the spread of sickness/illness and are particularly interested in issues of inequity, power, and health.

Perceptions of Youth on Online Health Information

The section aims to provide the analysis of data collected from the study area in Hyderabad to understand the perspectives of the youth concerning online health information. The study was conducted using a purposive snow-balling sampling method constituting 81 (54%) male and 69 (46%) female educated respondents. Thus, the total sampling size is 150 respondents. The analysis are as follows:

Perceptions of Respondents on Reliability, Satisfaction, and Bias towards Online Health Information

The analysis of the responses from 150 respondents shows a trend where they depend on online health information. However, the user neither entirely depends upon nor is fully satisfied with the online health information. The information provided in Table 5 gives a detailed statistical picture of the same.

Table No. 5: Reliability, Satisfaction, and Bias of Online Health Information

Frequency*	Reliability		Satisfaction		Bias	
	Respondents	Percent	Respondents	Percent	Respondents	Percent
Always	17	11.3%	37	24.7%	6	4%
Sometimes	84	56%	67	44.7%	56	37.3%
Rarely	29	19.3%	26	17.3%	23	15.3%
Do Not Know	17	11.3%	10	6.6%	47	31.3%
No	3	2%	10	6.6%	18	12%
Total	150	100%	150	100%	150	100%

**Note: The categories given in the 'frequency' columns in Tables wherever mentioned were defined as the following: Always – more than 90 percent frequency; Sometimes – 50 – 90 percent frequency; Rarely – less than 50 percent but not Zero percent; Do Not Know - either do not want to give a response or they do not have knowledge about it; No – Zero percent frequency.*

The reasons why the respondents could not fully rely on and satisfy with the health information available online were two main reasons. One, the abundance of online information, which is often causes the user in a way that they feel like the information is incomplete or inadequate. It feels like there is more to explore. For instance, one of the respondents shared his experience browsing for online health information for his diet plan; he said that he felt like there was more to read/know even after an hour-long extensive reading on the subject. He opined that it is just because there is almost never-ending information available online on the subject.

Likewise, one of the respondents, Rello, a philosophy Ph.D. student residing on the University of Hyderabad campus, said *one of the health challenges that I came across, though not really faced in that sense of the term, is with regards to food habits and health. But one that I have faced is cold and viral fever which can be said to be seasonal. So, depending on the nature and seriousness of the problems, I refer to the internet if it goes beyond the normal or usual modes in which I take precautions or treat myself. For example, if it is just a common cold, I do not find the need to refer to the internet but take proper care myself. But during a couple of occasions when the fever lasted longer, and rashes appeared on my body, I did refer to the internet to do more research on what symptoms were about. However, for proper diagnosis and treatment, I did not end with whatever the internet provided. I went ahead to the university health facility and outside for proper treatment from physicians. And yes, I do check the internet once in a while, even when I am not faced with any health issues, to stay healthy and aware of health (and hygiene). Internet does play a critical role in promoting awareness.*

Two, according to the opinion of another respondent, online information cannot rely upon every single time we go for it. This is because there is plenty of information available online, which makes it more and more complex to make a decision. Most importantly, there is contrasting and juxtaposing information on the same topic. The respondent cited the example of dengue fever and viral fever, which have similar symptoms but require different treatments not only in terms of the medicine but also the diet process. So, it becomes challenging for a user to decide which piece of information is authentic and which one is not.

Similar trends were shown when the responses of the 150 surveyed respondents were analyzed concerning satisfaction with the online health information. The majority of them opined/expressed that the information available on the internet is informative, but people are often not completely satisfied or convinced. However, a significant percentage of respondents were opined that they are always satisfied with the information. The detailed statistical data is given in Table 5.

However, when it comes to the bias of online health information, the surveyed population is more on the side of saying it is not biased most of the time. Only a small percentage of the respondents said that online information is always subjective. This is concerning about food consumption culture and obesity. Here, one of the female respondents, Ramee, a research scholar, says that *the information given about reducing weight through a certain diet, such as the Keto diet or consumption of certain tea or a combination of honey and other ingredients such as ginger and lemon, could help balance weight. The information here works mostly as product placements and often conceals certain health hazards related to such practices.* The detailed statistical analysis of the opinions of the respondents is given in Table 5.

Here it can be summarized that there is a certain degree of concordance between satisfaction and reliability. The informativeness of certain content on a medical issue increases the satisfaction level and the reliability of the source information, which is the internet content. Compared to the view that information available online is biased, the view that internet sources are satisfactory and reliable is more pronounced, if not overwhelming. What influences the respondent's judgment is their fine sense of judgment since they benefit from education, which enables them to distinguish between which content or source is reliable. However, this does not mean that their knowledge is equivalent to that of the medical professional, and this is also indicative of instances where people are carried away by certain information which are not normatively true. On the flip side, this contributes to the formation of the perception that internet sources mostly provide biased content.

Perceptions of Respondents towards Internet as a Learning Tool / Networking Tool

With the easy accessibility of the internet, people are using it as a source of information. To classify the internet simply as a source of information would be an oversimplification. For the purpose of the study, the internet is classified as a learning tool and networking tool. Here learning tool is used in the context of education, skills development, information gathering, and the like. With regard to networking, it is used in terms of connecting both social and professional relationships. The respondents' responses to these two classifications generated many diverse opinions. The statistical analysis of the opinions collected from respondents is given in Table 6.

Table No. 6: Perceptions of Respondents on Internet as a Learning / Networking Tool

Frequency	Total Responses			
	As Learning Tool		As Networking Tool	
	Yes	Percent	Yes	Percent
Always	36	24%	39	26%
Moderately	72	48%	71	47.3%
Sometimes	21	14%	25	16.7%
Rarely	12	8%	9	6%
No	9	6%	6	4%
Total	150	100%	150	100%

Concerning the internet as a learning source, the response inclines toward the dependence on the internet. We see that the internet is the major source of learning for 24% of respondents, and another 48% of the respondent use the internet on a regular basis. And the percentage of people who uses the internet now and then is about 28% only. The reason cited for the lack of internet use as a source of education is given as the preference for conventional methods of learning and sometimes the unreliability of the source material and the absence of interaction with an instructor for clarification. With regard to networking tools, the figures are almost identical. The active and moderate users dominate the percentages of people who rely on the internet for communication tasks. And only about 25% of people either do not rely on or use the internet to expand their networking horizons. The active users cite the internet as a global connectivity tool;

on the contrary, the not active users cite unwanted dissemination of their details, although they do not deny the relevance of the internet.

Choices of Websites

The frequency with which people use the internet also reflects their preferred sources and the reasons behind their engagement. Here the percentages are also close to the table above in 4.2, with the active and moderate users dominating the percentages. The people who use the internet on a regular basis have certain websites through which they draw information. They have preferred websites because they find the content reliable to keep them informed. However, they also look at contents that come up as suggested readings. The occasional users generally take up contents that are shown by the search machine. In this instance, one of the female respondents, Tiela, a private employee, said, *I do not have any major health issues, but at times I do have pains in my body, and if the pains are new, which I have never experienced, then the first thing before I consult a doctor is to check the related issues, the causes, and the symptoms on the internet.*

Likewise, another female respondent Mery, a B.Tech student, said, *'the health challenges that I'm currently facing are blur vision, migraine pain, and back pain. I usually handle them by putting eye drops for blurry vision, mediocre for migraine pain but only when it is extremely painful, and a light massage for backaches. I have not referred to any internet source for health-related issues, but yes, I do read articles on the internet from authentic sites related to my ailments, sometimes for awareness of its symptoms, effects, and cure. If there is anything I can do, sitting at the pleasures of my comfortable home, I do try them out, but over the years, through personal experiences, most of it has proven ineffective. Only in common cases, I have been cured up to a certain degree. For instance, giving acute pressure on the palm, feet, backbone, and so on have proven short-term effectiveness.* Here internet websites are typically used for the sake of necessity. The detailed statistics of opinions are given in Table 7.

Table No. 7: Frequently Visited Website & Important to Keep Updated

Frequency	Total Responses
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	Frequently Visited is Reliable		Important to Keep Updated	
	Yes	Percent	Yes	Percent
Always	21	14%	58	38.7%
Moderate	63	42%	57	38.6%
Sometimes	25	16.7%	20	13.3%
Rarely	28	18.7%	7	4.7%
No	13	8.7%	7	4.7%
Total	150	100%	150	100%

Perceptions on Visiting the Websites Operated by Health Organizations and Suitability of Health Information.

From the above two analyses, what can be noticed is that about 60-70% of the people either actively or moderately use the internet. People generally use it for productive purposes or to enhance one's knowledge. But the striking response from the people who use the internet was the lack of engagement with health-related websites. The majority of respondents acknowledged that they do not visit websites operated by health organizations for health-related online information. Still, most of the surveyed respondents expressed that they are concerned about relevant health information. For example, one of the male respondents, Lany, a Life Science Ph.D. student, said, *I usually type symptoms that I'm suffering in google and read whichever article appears first and fits with the same symptoms that I'm experiencing and likewise to see if there is a home remedy to prevent or cure such illness.*

Table No. 8: Visiting Websites Operated by Health Organizations & Concerned about Suitable Health Information

Frequency	Total Responses			
	Visiting Websites Operated by Health Organizations		Concerned about Health Info. Suitability	
	Yes	Percent	Yes	Percent
Always	9	6%	20	13%

Moderate	41	27.3%	69	46%
Sometimes	33	22%	27	18%
Rarely	37	24.7%	17	11.3%
No	30	20%	16	10.7%
Total	150	100%	150	100%

It is clear from Table 8 that the majority of respondents do not visit the websites operated by health organizations, although they are concerned about pertinent health information. Roughly 34% of respondents utilize the internet for health purposes queries against the 70% who use the internet regularly. One of the male respondents, Raju, an IMA⁶ student, said *whatever I type in, the search engine pops up immediately, which does not distinguish between reliable website links or proxy websites. Hence it is difficult to pinpoint whether the said website is operated by the healthcare provider or vice-versa*. This instantly raises a few quick questions; Are respondents aware of the websites operated by health organizations? Are respondents not liking the information provided by websites operated by health organizations? Is there better health information available on the websites in which non-health organizations do not operate? These questions can be investigated further to know more about the health information offered by different websites. However, the present attempt is confined only to understanding the preferences and perceptions of the respondents.

Opinions on Online Information with Reference to Difficulty, Amount of Information, Credibility, Privacy, and Safety.

For minor illnesses, people depend on self-medication. For specific infections or sudden development, the internet's vastness is where people are fed with a lot of information. The majority of the respondents feel that online information is challenging to comprehend most of the time. One of the male respondents, Aron, a private employee, said *stress and poor sleeping habits are the two most common problems I face as a private employee. It makes my day unproductive, affects my work, and deprives me of my mental and physical health. Initially, to deal with it, I started researching on the internet, YouTube, and so on, but it did not help me*

⁶ IMA- Integrated Master degree of Arts

much since different health experts have different opinions due to an excessive amount of information where one cannot make reliable information. So, I decided to go for a different alternative which was staying connected with my friends (for laughs especially), family, and loved ones by sharing my problems which have, in fact, helped me a lot to overcome my stress actually and also helped me to find a sense of belongingness and self-worth too. Apart from that, I also do exercise to deal with my poor sleeping habits. Whenever I face some common sickness like headache and vomiting, I usually go for doctors' consultation and their prescribed medication. I do not usually read health-related issues even for awareness, although that is equally important. Similarly, the majority of the respondents opined that there is overwhelming information available. The statistical data of the opinion of the respondents are given in Table 9.

Table No. 9: Perceptions on Difficulty and Amount of Information

Frequency	Total Responses			
	Online Info. Difficult to Understand		Overwhelming Info	
	Yes	Percent	Yes	Percent
Always Treatment	17	11%	36	24%
Moderate Treatment	65	43.3%	75	50%
Sometimes new disease	29	19.3%	24	16%
Rarely check symptom	21	14%	8	5.3%
No reference to internet	18	12%	7	4.7%
Total	150	100%	150	100%

From Table 9 few points can be derived. One, the difficult level of understanding of health information available on websites can be attributed in two ways; either the information which is available on those websites is complex to comprehend, or the understanding level of the respondent could be poor, or the information available may be more accessible on some website when compared to others, and the respondents only explored those websites which have provided complex information.

Two, overwhelmingly available information often leads to confusion. This is possibly due to the variation in terms of information provided on different websites on the same topic. Take an example from the four top websites people often use for health-related information, such as www.mayoclinic.org, www.webmd.com, www.healthline.com, and www.medicinenet.com. a search on specific diseases like diabetes gives a varied number of options and treatment processes which cause confusion and overloading of information. If a user accessed information provided on different websites about subject ‘A’, then there can be multiple possibilities how the user may end up with the accessed information; first, the user may come across websites that provide information easier to comprehend, and the websites which provide information difficult to comprehend. Further, the user may also come across websites that provide information only covering a few aspects of the subject while the other websites provide covering more or fewer aspects of the same issue which actually leads to confusion for the user in deciding which information is credible, authentic and reliable. The above description given was based on the data presented between Tables 4.1 and 4.5 reflects on the same.

Nevertheless, when it comes to credibility, personal privacy, and safety, there is little evidence that supports that there is any relation between the difficulties of the information. Table 10 presents the statistical data of 150 surveyed respondents about credibility, personal privacy, and safety.

Table No. 10: Perceptions on Credibility, Personal Privacy, and Safety

Frequency*	Credibility		Personal Privacy		Self-Treatment is Life-Threatening	
	Respondents	Percent	Respondents	Percent	Respondents	Percent
Always	17	11.3%	26	17.4%	25	16.7%
Sometimes	84	56%	64	42.7%	56	37.3%
Rarely	29	19.3%	24	16%	22	14.7%
Do Not Know	17	11.3%	18	12%	26	17.3%
No	3	2%	18	12%	21	14%
Total	150	100%	150	100%	150	100%

From Table 10, it is clear that the majority of the respondents acknowledge that the information that they accessed on different websites is credible at the same time; they highly care about their personal privacy. Simultaneously, most of the surveyed respondents do believe that self-treatment is life-threatening. In this instance, one of the female private employees, said, *I had tummy pain for several days, sometimes very severe, and so I googled the search engine on my phone, which reads the possible symptoms for my tummy pain is due to indigestion or gastric problems. However, the pain did not recede; hence I approached the doctor and found that I'm pregnant. After that, I stopped depending on the internet for health information.* The data of the surveyed population also shows that there are also several cases where they think that the websites, they access for health information are secure concerning personal privacy and may give them reliable guidance to make decisions on health-related matters.

Diversity, Digital Gap, and Patterns of Use of Online Health Information

The study tried to cover as much diversity as possible while collecting respondents' opinions as Indian society is basically a widely diversified one. The 150 respondents covered under the survey for the present study come from different sections of society (which includes occupation, education, gender, income and those who use internet in a daily basis). As far as the gender of the respondents is concerned, there are 81 male respondents and 69 female respondents, which includes both working employees and students are covered. Table 11 provides detailed statistical data on the occupational diversity of the respondents.

Table No. 11: Categories of Respondents

Categories of Respondents	No of Respondents			
	Male	Female	Total	Percentage
Students	20	41	61	40.6%
Government Employees	13	6	19	12.6%
Private Employee	43	22	60	46.8%
Total	81	69	150	100%

Due to the occupational diversity among the respondents, as shown in Table 11, the usage of the internet also diversified. The internet's utilization among the respondents is given in Table 12.

Table No. 12: Usage of the Internet among Respondents

Usage	No. of Respondents				Total	Percentage
	Yes	%	No	%		
Software	123	82%	27	18%	150	100%
Describe Word	126	84%	24	16%	150	100%
Advanced Learning	113	75%	37	24.7%	150	100%
Emails	137	91.3%	13	8.7%	150	100%
Download Materials	135	90%	15	10%	150	100%
Browsing	150	100%	0	0	150	100%

From Table 12, it is apparent that all the respondents, across the occupational diversity, are educated and well aware of how to use the internet. Further, a clear majority, i.e., more than 75% of respondents, are actively engaged across the mentioned internet usage categories, and only on average, 15% are not actively using across internet usage categories. This does not mean that the average 15% surveyed population is consistently not using the internet in all the mentioned categories, and it means that they are using it based on their need and requirements. Therefore, it can be stated that no considerable level of digital divide among the surveyed respondents was identified in this case.

Further, the respondents were asked whether or not they own/use certain items/facilities in order to measure and understand the digital divide among them. Table 13 gives the statistical data about the possession of computers and use of the internet across 150 respondents.

Table No. 13: Possession / Use of Computer and Internet among Respondents

Particulars	Computer		Internet Use	
	No. of Respondents	Percentage	No. of Respondents	Percentage

Yes	138	92%	139	92.6%
No	12	8%	11	7.4%
Total	150	100%	150	100%

It is understood from Table 13 that only a negligible percentage of respondents neither possess computers nor use the internet. These respondents (95% of students) find the possession of computer non-relevant since they can access or acquire information through the library computers and mobile cellphones platforms. However, one can also see financial problems coming into play due to the inability to purchase one's computer at their disposal. A highly considerable percent of respondents has computers, and they do use the internet almost every day. This shows that the digital divide among the surveyed respondents is mainly absent or minimal in possession of computers and using the internet.

Further, the total internet usage experience among the majority of the surveyed respondents is a considerably long period; the subtleties of the equivalent are presented in Table 13 (a).

Table No. 13 (a): Total Experience of Internet Usage

Duration in Years	Men	Women	Total	Percentage
Less than a Year	6	3	9	6%
1-5 Years	4	7	11	7.3%
More than 5 Years	71	59	130	86.7%
Total	81	69	150	100%

More than 80% of the respondents had been using the internet for more than five years at the time of the survey conducted. However, the total hours they spend on the internet in a week varies; the subtleties of the equivalent are presented in Table 13 (b).

Table No. 13 (b) Total Hours of Internet Usage in a Week

Hours	No. of Respondents	Percentage
1 – 5Hours	6	4.0%

6 – 10Hours	17	11.3%
11 – 15Hours	10	6.7%
16 – 20Hours	19	12.7%
21 – 25 Hours	20	13.3%
26 – 30 Hours	13	8.7%
31 – 35 Hours	20	13.3%
36and above Hours	45	30%
Total	150	100%

More than 60% of the respondents acknowledged that they are spending more than 15 hours a week on the internet. On average, if counted, every respondent, around 4 hours in a day, is spending on the internet which is a significant usage of the internet. However, the main concern in this context is finding out how much time an average internet user spends accessing health information. Table 13 (c) gives the respondents' total time spent on online health information.

Table No. 13 (c) Total time spent on Health information in a Week

Total time Spent on Health info	No. of Respondents	Percentage
Less than an Hour	60	40%
1 – 5 Hours	69	46%
6 – 10 Hours	9	6%
11 – 15 Hours	7	4.7%
16 – 20 Hours	5	3.3%
Total	150	100%

The majority of the respondents acknowledged that they are spending more than an hour and up to 5 hours accessing online health information in a week. However, almost an equal percentage of the respondents acknowledged that they spend significantly less time, less than one hour a week, accessing online health information. In juxtaposition to it, around 24% of the respondent are spending more than 5 hours and up to 20 hours on online health information in a week.

Therefore, it can be stated that, on average, a respondent is spending 3-5 hours on online health information in a week.

It is already known from the analysis based on data given in Table 13 (b) that an average internet user spends around 20 hours on the internet in a week. Whereas, it is known from Table 13 (c) that, on average, a user is spending 3-5 hours on online health information in a week. Based on this, it can be further stated that an average internet user is spending around 15-20% of the total time spent on internet usage, which is a significant amount of time to spend on a specific aspect.

This shows that the average internet user is spending a significant amount of time accessing relevant health-related information on the internet, which further indicates that internet users do care about their health and are willing to spend some time to browse, access, research, and understand certain health-related information based on their needs.

The above analysis would leave one with an immediate question that what actually motivates people to seek health information from the internet, where 80% of the total 150 respondents say its due to time constraints, availability at any given point of time, cost-effective, privacy, emotional support, no discrimination, no barriers, and distance.

With regards to the utilization of online health information, the majority of the respondents acknowledged that they use online health information to make health-related choices and make health-related decisions. Further, the trend of using online health-related information is similar across mentioned genders. The statistical data about the same is presented in Table 14.

Table No. 14: Use of Online Health information

Gender	Total Respondents					Total
	Always	Sometimes	Rarely	Cannot say	No	
Male	13	34	13	8	13	81
Female	15	39	9	3	3	69
Total	28	73	22	11	16	150

The respondents have also acknowledged that the usage of online health information is helpful for them to know what to do and what not to do in certain health conditions. The information changes their perception of a health condition in a positive way. One of the male respondents, Leer, an IMA student, said, *as a student, I personally do not feel free to visit the doctor nor tell my problems parents when we are usually away from home. So, most of the time, I end up referring to the internet, which has many benefits. Being a student, sometimes we run short of money to visit expensive hospitals, so the internet has been so much beneficial in cutting down the costs of treatment. Internet is also very convenient for busy people; it reduces time as we can consult the internet within a blink of a second and resolve our issue and problem in the next second.*

Likewise, another male respondent, Ajay, a private employee, said, *health challenges are minor in the sense of pressure during the peak season of our business. But I do refer to the internet to seek certain information if I fall sick. One such instance was when I woke up with a severe headache. I previously had a head injury while playing and had a concussion. My immediate fear was whether this headache was part of the concussion I had some days back. I did read up on the internet related to concussion-related issues, especially after the event. Following that, I visited the doctor my office referred me to and underwent an MRI based on the suggestion. The result was nothing serious nor related to the previous concussion case.*

Accordingly, the information is helpful in making changes in their lifestyle. For example, making modifications/changes in eating habits shared by one of the male respondent's, Amigo, a Plant science Ph.D. student, said *I am dependent on the internet if I develop some unusual pain or health issues. Often, I would check if the problem that I have is related to my food habits. As a researcher, I spend most of my time in the lab and even late at night, so I compromise on the food I eat. At times I have had bad bowel movements for days. If my condition does not worsen, I go for the medicine accessible in any drug store. For which I rely again on the internet to check the content of the medicine just to see if it will be suitable for me. And also, to recuperate my health from the ailment, I look for proper diet suggestions on the internet. I also follow preventive measures as per I get information from the internet.* Table 15 shows the statistics of the responses of the respondents.

Table No. 15: Use of Online Health info for Different Health Choices and Decisions

Frequency	Dos and Don'ts		Make Changes in Lifestyle		Changes in Eating Habits		Make Changes in Prescriptions	
	Men	Women	Male	Female	Male	Female	Male	Female
Always	15	15	5	4	4	3	4	3
Sometimes	33	32	31	36	31	31	30	23
Rarely	14	12	20	10	10	16	16	19
Do not Know	9	0	13	10	11	7	7	5
No	10	7	12	9	25	12	24	19
Total	81	69	81	69	81	69	81	69

It can clearly be seen from Table 15 that the majority of the respondents acknowledged that online health information is helpful in making the right decisions based on 'Dos and Don'ts', further positively influencing them to change their perceptions and lifestyle, and food habits. On the other hand, a considerable number of respondents, though not the majority, acknowledged that online health information is not helpful for them with respect to mentioned categories. One of the male respondents, Akai, a private employee, said *I am able to cope with my work culture in normal circumstances, but now and then, we have Black Friday and Cyber Monday. If they come, these two days are very stressful and tough to balance because we end up working about 16 hours. So, the week schedule kind of gets messed up. I would not put it entirely on the work, but I do have headaches and stomach aches. I read up on the internet because I have symptoms, especially with my stomach, that cannot be ignored. But it did not help, and I did develop an ulcer. But once it got worst, I immediately rushed to Apollo hospital and did an endoscopy. The case was such that I could not rely on the internet. It was, in a sense, an emergency, and my company covered for treatment cost.* One considerable point over here is that in both the cases, i.e., among those who acknowledged that online health information is helpful and among those who acknowledged that online health information is not beneficial, similar trends are shown among both men and women respondents.

When it comes to the method of use of online health information, most of the respondents acknowledged that it is handy to use. However, they do not comprehend the information by

themselves; instead, they cross-check it with information available on other similar websites to make a meaningful and informed decision. Likewise, those who replied that they rarely use the internet or none at all can be explained in some situational examples, such as one of the male respondents, Wati⁷, a private employee, who said, *personally, I do not have any health problems. Perhaps one of the reasons why I do not read anything on health either online or elsewhere. I may read like once in two months. As an employee working in an American company, the major task is balancing work life and life outside of work since there is a big-time and space zone difference between India and US. I do feel worked out, but apart from stress, I am fine, and my company gives proper health care coverage, so I am not particularly worried.* The statistical analysis of the same is shown in Table 16.

Table No. 16: Online Health information Method of use

Frequency	Use Online info Handy		Comprehend info by my Own		Evaluate / Verify Online Info	
	Men	Women	Male	Female	Male	Female
Always	9	6	0	1	14	18
Sometimes	39	37	16	11	35	33
Rarely	14	8	28	35	18	8
Do not Know	7	7	12	11	7	3
No	12	11	10	5	7	7
Total	81	69	81	69	81	69

As displayed in Table 16, no tremendous contrasts were found between men and women in the responses concerning the method of use of online health information.

Further, by and large, a significant majority of the respondents do not consult with doctors or people with similar health issues or their friends to discuss neither health issues nor health information they have come across. The statistical data of the responses of the respondent of the same is given in Table 17.

⁷ All the names are changed to protect the privacy and identity of the respondents

Table No. 17: Preference of Consultation to Discuss Online Health Information

Consult	With Doctor	People with Similar Health Issues	With Friends
Yes	26	31	30
No	124	119	120
Total	150	150	150

It is clear from Table 17 that only a small number, around 20% of respondents, were constant in terms of consulting either doctors or people with health issues or with close friends to discuss health issues and health information they have come across. The trends draw us to two quick points. One, the majority of the respondents were either verifying the information as shown in Table 16 by comparing the similar information on the other available websites, or they already know some basic understanding about the issues that help complex understanding matters.

However, the above trends did not go with ‘seeking help while sick.’ The majority of respondents seek help from family members when they are sick, followed by friends. Here the respondents said *when it comes to health problems, especially that sickness or illness, where financial matters, the family members are always approached to seek out the possible ways to find a treatment or find other means of the meeting ends meet*. The trends show that as far as the 150 surveyed respondents were concerned, their family-supporting system is solid and effective, followed by friends. The statistical data of the same is given in Table 18.

Table No. 18: Seeking Help while Sick

Particulars	No. of Respondents	Percent
Family Members	66	66.0
Friends/Relatives	22	22.0
Neighbors	08	08.0
Others	04	04.0
Total	150	100.0

Patterns of Disease and Respondents' Use of Online Health Information

There is also a report of having chronic diseases either among the respondents or among their respective family members (which they are inclined to share since it is intruding into their personal life). The majority of the respondents were outside the impact of the chronic disease. However, the majority of respondents who have a history of chronic diseases were acknowledged that they consult doctors, besides online health information, for better treatment or suggestions. Because of the nature of the disease and illness, privacy comes into play; hence, collecting the depth of information becomes impossible. The statistical data about the same is presented in Table 19.

Table No. 19: Patterns of Disease and Use of Online Information

Yes/ No	Chronic Disease	Chronic Diseases in Family	If so, do you Consult a doctor?
Yes	20	24	13
No	130	126	137
Total	150	150	150

Patterns of Visiting Websites for Health Information

Generally, it is observed that internet usage for acquiring health information is quite different compared to the situation in the context of chronic diseases and acquiring information for other related health problems. In the case of chronic disease, the research shows that the respondents are little or less dependent on the internet and shows more or completely dependent on the doctors. The patterns about the same are shown in Table 20.

Table No. 20: Patterns of Visiting Websites for Health Information

Frequency	Generally Recommended Websites		Reputed Websites		Suggested Websites by Doctor	
	Responses	Percent	Responses	Percent	Responses	Percent
Always	14	9.3%	23	15.3%	16	10.7%

Sometimes	51	34%	55	36.7%	48	32%
Rarely	16	10.7%	22	14.7%	24	16%
Do not Know	13	8.7%	12	8%	21	14%
No	56	37.3%	38	25.3%	41	27.3%
Total	150	100%	150	100%	150	100%

Table 20 shows that though most of the respondents go after popular, recommended, and suggested websites for accessing health information, a considerable number of respondents do not visit such websites for accessing health information. Here, the respondents share that the choice to visit any popular websites is taken after a recommendation from friends, family members, and doctors; besides, they rarely browse websites unfamiliar to them to extract health information. If it is generalized, this gives the impression that online health information seekers are two types; one, those who go after the popular and suggested websites: and two, those who explore suitable websites for health information on their own.

Correlation of internet with different variables

The correlation matrix, which shows the correlation coefficient for age and internet usage, shows a perfect correlation between the two variables, signifying that they are dependent (see table 21).

Table No. 21: Correlations of Age and Internet Use

		Age	Internet Use
Age	Pearson Correlation	1	.043
	Sig. (2-tailed)		.626
	N	150	130
Spending Time on Internet	Pearson Correlation	.043	1
	Sig. (2-tailed)	.626	
	N	130	130

The correlation variables between gender, usage of the internet for health information, and decision based on internet information (table no. 22) show significant variables implying that health information found on the internet does not necessarily influence the respondents/consumers to depend on the internet for the decision-making process solely

Table No. 22: Correlations of Gender, Internet health Information & Decisions

		Gender	Internet on Health Information	Decision Based on Internet Information
Gender	Pearson Correlation	1	-.165	-.174*
	Sig. (2-tailed)		.094	.034
	N	150	104	150
Internet on Health Information	Pearson Correlation	-.165	1	-.003
	Sig. (2-tailed)	.094		.977
	N	104	104	104
Decision Based on Internet Information	Pearson Correlation	-.174*	-.003	1
	Sig. (2-tailed)	.034	.977	
	N	150	104	150

*. Correlation is significant at the 0.05 level (2-tailed).

The correlation variation between; gender, usage of the internet for health information, and use of the internet for general information clearly shows variables gender has a clear influence on the usage of the internet for health information. Similarly, the usage of the internet shows a clear dependency on the income of the respondents (table no.23).

Table No. 23: Correlations of Health, General Purpose, Income and Gender

		Internet on Health Information	Internet on General Information	Total House Hold Income	Gender
Internet on Health Information	Pearson Correlation	1	.447**	.181	-.165

	Sig. (2-tailed)		.000	.066	.094
	N	104	104	104	104
Internet on General Information	Pearson Correlation	.447**	1	.095	-.029
	Sig. (2-tailed)	.000		.300	.754
	N	104	122	122	122
Total House Hold Income	Pearson Correlation	.181	.095	1	-.224**
	Sig. (2-tailed)	.066	.300		.006
	N	104	122	150	150
Gender	Pearson Correlation	-.165	-.029	-.224**	1
	Sig. (2-tailed)	.094	.754	.006	
	N	104	122	150	150

** . Correlation is significant at the 0.01 level (2-tailed).

Conclusions

From the above data analysis, a few points can be drawn to arrive at some understanding of the people's perceptions on seeking virtual information mainly related to health. The issues are as the following; A large section of the respondents has shown positivity towards the reliability and satisfaction of online health information. The reasons could be multiple for their positivity, which needs further intensive research to unpack the ground realities. The study also shows that the overwhelming majority of the respondents acknowledged that they consider the internet as a learning tool as well as a networking tool as there is a huge possibility to explore and learn/get informed about much useful stuff, especially related to health. The respondents considering it as a learning tool make sense because they have reliability and satisfaction with what the internet is offering with reference to health in the first place. Though the respondents showed positivity toward the available health information provided by certain health-related websites, they did not confine their enthusiasm to just that. They are open to exploring more in order to cross-check the already available information and learn more. They are not restricted to visiting popular websites for information but also explore alternative websites for cross-checking. This means that a large

majority of users have the habit of taking a second opinion as far as health issues and online health information is concerned.

The study highlights that the respondents highly care about their privacy but also show positivity towards online health information, which basically tells that the surveyed population thinks that websites they access for health information are secure concerning the personal privacy and provide reliable guidance to make decisions on health-related matters. The study also shows that the respondents were not interested in discussing with a doctor, people with similar health issues, or friends. But they preferred to cross-check the information by themselves by exploring more information that is available online. This situation, in a way, tells two things. One, the presence of health information online encourages and empowers the user to explore until they are satisfied and convinced. Two, it gives privacy from making health issues public as online health information emerges as a potential option besides consulting doctors, experienced persons, friends, and family. The data shows that the respondents inevitably depend on family and friends for help in the case of illness or sickness.

Everything comes at a cost, and the study shows that there is a digital divide existing (in terms of possession and accessibility of computers and usage of the internet) despite wide diversity among the surveyed populations. Though the observation is accurate in the context of the given surveyed population, more research in this direction can bring in stable and more reliable findings. However, it should be noted that the studied population is considered from the technologically happening localities. The findings may vary drastically as the survey moves farther to the technologically not happening places or localities. It is also to be noted that the surveyed respondents are spending a significant percentage of time on seeing online health information from the total time spent on internet usage. This shows that internet users are well aware of their health. One more observation is that the online health information usage trend did not show considerable gender discrimination between men and women. Besides, seeking online information not only reduces the difficulties which may cause when seeking health information offline but also works in a way that the gender gap is reduced while seeking health information online. In spite of the overwhelmingly positive response of internet social media in personal health decisions and choices making, there is no direct evidence of the process and dynamics

through which health information seekers are influenced. In light of these findings, it is noted that one should presume the above data in regard to health information sought cannot be universally applied to all regions.

Based on the functional approach to culture, Malinowski, Bronislaw K (2002) said cultural institutions exist to meet the needs of individuals or society as a whole. Malinowski outlines three categories of societal demands in his posthumously published work, 'Scientific Theory of Culture' (1944), which are primary or basic biological needs, instrumental needs or derived needs, and integrative needs. He counts sex and nutrition as primary requirements. These are met by cultural institutions such as marriage, family, and kinship. Instrumental needs encompass institutions such as economic, educational, legal, and political institutions that aid in meeting primary needs. He defines integrative needs as those that assist society in integrating (cohering or uniting) and include knowledge, religion, magic, art, morals, and values. The need theory provides a framework for a functional investigation of the relationship between biological, psychological, and cultural factors.

In simple terms, the methods for meeting human wants are cultural characteristics or cultural institutions. As we humans have a variety of needs, including social, economic, religious, biological, physical, and mental ones. In the process had, constructed social, religious, economic, and political organizations to meet these requirements. All of these requirements are interconnected in some manner since they are tied to mankind as a whole. Therefore, seeking online health information can be seen as a form of human need which has impacted people socially, culturally, religiously, and politically around the globe. Thus, from the anthropological perspective, the present study qualifies as an anthropological study since it involves human needs and changes in behavior patterns.

The findings of the study coincide with what Mittler, Jessica N., Grant R Martsolf, Shannon J Telenko, and Dennis P Scanlon (March 2013) said that the consumers/individuals move or take actions independently for their own health and well-being. The findings also show how the majority of the respondents gather information health information from the internet for their healthcare. The data shows that consumers approach the internet for the quick treatment process,

financial problems, time, and to reduce medical expenses. The study indicates that the respondents are more or less aware of their health conditions before accessing the internet for information gathering and making health decisions and choices accordingly. However, the study did agree that an individual's level of preparedness is strongly linked to behavior change and that their level of behavior may alter over time, which is corroborated by the case studies.

Therefore, to conclude, based on the analysis of the responses of the surveyed population, the perception of an average user towards seeking online health information can be interpreted as Nicola Bulled (2011), suggested that these people seek health information online to gain greater control over their health care process, and thus, what can be said about the user here is that – a conscious and informed attempt to make meaningful health decision without surrendering privacy and without spending much.

Chapter 6

Doctor-Patient Relationship in the Age of the Internet

Introduction

The Twenty-first Century has rushed medical care into a period of modernization due to advances in medical technology and the digitalization of almost everything we use in daily life. One can see a huge jump in the healthcare department, where health information has become a frequently sought topic on the internet. Our world lives and healthcare delivery are becoming increasingly simple and complex due to the growth of information and communication technology (3rd Annual report, 2003). Many kinds of research and features of the doctor-patient relationship have been the subject of focused study by mainstream researchers and insightful reflection by lay authors and patient support associations. A significant collection of scientific literature summarizes that doctors who research and keep updated with their surrounding environment enhance their viability. Interestingly, patients rely on a steadily developing form of mass communication and articles which advise them on taking care of their health and, in turn, help them to interact with their respective health professionals effectively.

The internet is changing how patients get medical information and interact with doctors, their families, and even strangers. Shapiro, Joseph (Oct. 2007), based on his research from the ‘Pew Internet and American Life Project’ (2000), explains that people with disabilities and chronic conditions are some of the most genuine consumers of health information websites. Fox, Susannah (Oct. 2006) found a big part of those online research is carried out for the benefit of another person. For instance, when somebody becomes ill, individuals are not simply bringing random food or flowers. Fox (ibid) says that it is not because the patient cannot carry out their research, but it is the loved ones who encompass them who can do that examination for their benefit. As each critical part of the health care delivery system make progress toward accomplishing viable and proficient help and quality outcomes, this intricacy has frequently resulted in conflicting requirements, requests, and expectations (McMullan, Miriam 2006). However, the healthcare system structure founded on the medical profession’s primacy

guarantees that patients are reliant upon medical care professionals for most clinical therapies and administrations (Hardey, Michael 2001).

Due to an explosion of health information accessible on the internet has been the impetus for the doctor-patient relationship's seismic shift. This growth does not show signs of halting down but tends to grow faster day by day. For example, entering 'health' in a generic web search engine like Google at present yields over 8,65,00,00,000 (eight billion 600 fifty million as of March 2020). however, these numbers fluctuate, and none are exceptionally precise. These searches may include academic sites, online journals, government sites, hospitals, health-provider institutions sites, and countless other groups or individuals' contributions, i.e., citizens, patients, and health professionals.

This chapter analyses the secondary sources on the doctor-patient relationship. Additionally, it will highlight some case studies from my fieldwork in Hyderabad. This chapter will critically examine how online health information has bought a paradigm shift in doctor-patient relationships among educated students, working professionals, and doctors in Hyderabad. The study will focus on previous studies, the sick and disease/illness concept, and the health care delivery system. The study will also encompass some case studies collected from the field conducted during the pandemic period. The data was collected from selected ten respondents (case studies based on a total of 150 sample respondents were collected with the help of a recorder), including seven doctors (one each from different hospitals, namely, AIG Hospital, Citizens Specialty Hospital, Continental Hospital, Health Center-University of Hyderabad, Kakatiya Hospital, Akash Hospital, City Dental, and Shree Hospital all located in Ranga Reddy district, Telangana), working professionals, and research students, based in the Hitech City area and Gachibowli area in Hyderabad. The respondents comprise of men and women respondents in the age group of 20-60 years old.

A look at the Doctor-Patient Relationship in Typical Settings?

Sociologically, Parsons, Talcott (1951, see David Mechanic, 1980) explain that when patients interact with the doctor, they are obligated to collaborate and trust the doctor as a mentor and helper. He points out that many doctors counterattack the patients' incompetence to present a

clear statement of their illness. Likewise, with the advancement in technology and medicine, doctors can better treat many diseases and ailments. Still, the doctors also wavered to treating patients seeking more skills and amenities than they can deliver.

Parsons (ibid) comes with two kinds of information that he believes would help the doctor better treat the patients; one is the state of the patient (for example, a representation of their symptoms), and the other is the patient's response to their condition. He believes that this information influences the doctor's analysis of the patient. Thus, it must be noted that there is always a pressure of money, time, procedure, and recurrent treatment that affects the quality of treatment. It will also allow the doctor to execute more efficiently within the given context and sceneries of the work environment.

Mechanic, David (Sept. 1, 1980), states that medical actions, be it research, clinical practice, or deterrent work, demand thoughtful social and cultural gravities that directly influence an individual's decision and choices. Medical doctors must consider the salient medical facts and how the social, economic, and cultural factors have molded the patient's motivation and reactions. Mechanic (ibid) observed that doctors tend to preserve a tactical distance from patients who come up short in delineating their physical problems and ask numerous queries. By doing so, the doctor diagnoses the ailments by gauging the patient's condition and responding to the health problem. In this way, the doctors' scientific approach clashes with the patient's opinions and perceptions, consequently failing to bring about the patient's recovery through emotional support, encouragement, and suggestion. Mechanics (ibid) cited an example, in the case of the anxious patient with numerous social complications and the distressed emotional disparity with an array of body problems approaches doctor for their issues. In this stance, the doctor comes up short of distinguishing the situation, and an advanced restorative assessment is conducted.

Mechanic (ibid) illustrates that even though the doctor's approach to the patient's health issues may be scientifically accurate, the patient's expectations were not met since the doctor failed to appreciate its expectations and socio-cultural stereotypes. He further points out that features like time limits, number of patients, and allocation need for completion force the doctor to

implement several tactics and ways, which may not deliver quality services but permit working more effectively within the given framework and settings of their work.

Mechanic (ibid) says that the patient's failure to follow medical guidance is a frequent issue faced by the doctor while administering health care. He explains that a hierarchy is usually designed when a patient visits a doctor, limiting the helping condition's structure than in informal contacts, where friends, relatives, and neighbors may provide help. The doctor's interest in the patient's affliction and complaints also plays an essential role in the treatment process. Mechanic (ibid) further mentions that the availability and usage of the support facilities, and other conceivable alternate facilities, depends on the comparative user-friendliness for the person. The greater the barriers to a specific facility, the more likelihood of seeking other sources of assistance will be approached. These barriers include the cost of treatment, effort, time, and privacy.

Mechanic (ibid) opines that the doctor-patient relationship's success is primarily attributable to the typical orientation structure. Like how doctors from particular cultural groups perform better in their cultural groups, the patient and doctor share the same characteristics to express themselves more precisely and better understand between them. Mechanic (ibid) opined that the doctor, in the course of the treatment or diagnosis of the disease, usually does not consider social values; instead, they employ several valuation procedures, such as the history of patients' grievances and their development.

Mechanic (ibid) pointed out that one of the most decisive factors affecting the doctor's evaluation and response to the patient is the social designation of the physician's role in society. He added that the doctor's action depends on the scientific answers and professional ethics, the community's expectations, and the obligation assigned to them. Explains that doctors are called upon to deal with countless forms of distress that may necessitate skills and directions discrete to their scientific expertise. Likewise, patients' doctor visits are characterized by some problems, which may diverge substantially with each individual.

Mechanic (ibid) also explains that each individual tries to manage their health problems and difficulties contrarily, and seeking medical support is one of the numerous possibilities for managing distress. Whether a person views the doctor as an appropriate collaborator will entirely depend on diverse factors such as cultural background and social standings, personal characteristics, accessibility of the doctor, perception on illness, and financial costs associated with the alternative approaches. He expresses how a person's ability to deal with problems, be it physical, mental, or social-cultural, depends on how an individual defines the health problems, identifies the causes, determines the alternative treatment, and utilizes the abundant resources needed for the alternative treatment. However, such concepts and knowledge will differ with different individuals, which also encompass cultural complexities in interpreting health problems, setting various conditions to cope with the disease, and recognizing the remedies that are acknowledged as appropriate.

Mechanic (ibid) describes 'illness behavior' as the study that examines processes affecting how pain and symptoms are defined and socially characterized and considering the degree to which help is sought and the variations in life after treatment. Illness behavior, by its nature, requires an understanding of those who seek health care, the choice of path undertaken before approaching health professionals, and their responses to illness or ailment in general. Talks on types of illness behavior patterns, where on the one hand, are seen as a product of social and cultural conditioning. On the other, it may be seen as part of a more extensive adapting process or an attempt to make the challenging situation more challenging and adaptable for the individual facing difficulties.

Mechanic (ibid) collected data from 1300 students at two American universities to prove his theory and found that Jewish students reported higher illness behavior than Protestants or Catholics. Mechanic (ibid) found that income is an essential factor in illness behavior reports and help-seeking behavior since higher income is represented by Jewish students than Catholic or Protestant students.

Mechanic (ibid), with the data collected, explains how several reasons determine how people's approach differs widely regarding help-seeking behavior for health problems. It includes trying

out some remedies, discussing the health problems with neighbors, friends, and family, and seeking advice from others on whether to visit a doctor or by associating the symptoms and diagnoses made by friends and acquaintances.

Mechanic (ibid) believes their proficiency and clinical knowledge primarily shape the doctor's views on the ailment. Though the social-cultural understanding of the ailment preconceptions patient's assessments, it does not mean that the doctor is incompetent to perform their exclusive standpoint in the situation. Mechanic (ibid) stresses that the doctor, in the course of the treatment or diagnosis of the disease, usually does not contemplate social values; instead, they employ numerous assessment procedures such as the history of patients' complaints and their development. Mechanic (ibid) talks about the role of doctors, who are anticipated to execute duty in their social capacity, to administer to patients in any given condition. For example, managing a chronically ill patient after the diagnostics assessment, the doctor must oversee the patient over time in the recovery process. Here, the doctor performs their duty by accustoming the patient's social condition and understanding the illness consequences for the patient and their family members. The failure to understand this social context of ailment or disease may affect the patient's social welfare situation.

The social characteristics of medical practice right through history have been a component of the doctor's responsibility. However, in this modern era, due to the proliferation of technical medical knowledge, doctors have taken cognizance by helping them focus on what they have to do and perform well. He points out that there is always a question of preferential behavior found familiar in medical practice. The doctor's social values not only affect how he deals with particular patients but also affect the decision about such fundamental issues as the persistence of life.

Mechanic (ibid) said that these approaches would help us understand how people deal with health problems: how they refuse to accept the definitions of illness that others impose on them. Mechanic stresses that in self-defined illness, as the discussion develops, it becomes clear that the variables affecting the condition of the person himself or others in his social group are surprisingly similar. These variables equally relate to the area of physical illness and diseases.

Mechanic (ibid) points out that it is essential not to forget the character of the perceived symptoms since much of the sick person's behavior is a direct product of the specific symptoms they experience or go through. The supposed momentousness of symptoms will affect how likely a person responds and chooses to seek health care. Since patients' understanding of medical knowledge varies, some may be aware of the latest medical technologies and therapeutic advancements. In contrast, others may not have a basic medical knowledge of their body and have a superficial knowledge of bodily functioning. Mechanic (ibid) stresses that such medical knowledge and understanding differences influence how people substantially recognize, define, and respond to health problems.

What Led to the Rift Between Doctor and Patient Relationship?

Hardy, M (1999) says the internet can change the idea of some service dissemination and create a companion of informed service users who might challenge conventional doctor-patient connections (DPR). Craan, F and D.M. Oleske (2002) find the doctor-patient relationship is changing to a participatory model, in which patients actively participate in their care, asking questions and indicating preferences. Consumers are actively seeking a variability of methods to become more knowledgeable and have more fruitful lives owing to the advances in information and communication technology. Doctors or Specialists and other health professionals traditionally act as gatekeepers for medicines, administrations, treatment, diagnosis, and, in certain circumstances as, social benefits. Without a doubt, this is a critical part of the 'sick role' that makes patients dependent on doctors.

Diaz, Joseph A et al. (March 2002) said doctor-patient interactions are set to transform, and medical practitioners will confront a new challenge as individuals get access to online health information. The patient may just discuss part of these issues with their doctors, or they may use the internet instead of a health care practitioner. Their investigation of 1322 British internet clients found that patients do not consider the internet to be a substitution for health professionals. Their study demonstrated that individuals go online in the wake after meeting with health professionals or doctors to affirm the information and accumulate extra information related to their health. They view doctor-patient relationships as principal to giving and receiving good care, recuperating, and better-expected outcomes.

Eysenbach, Gunther (2001) assessed that, on a worldwide level, of the 278 million internet searches completed every day, generally 12.5 million inquiries are health care related. Eysenbach (ibid) studied malignant growth patients, which showed that most patients search for specific medical conditions after diagnosis and before initiating treatment. His research indicates that cancer patients have two fundamental reasons; patients go to the internet for information since they are disappointed (because they feel the information is inadequate) with the information provided by specialists and reinforce themselves with every information possible. In this manner, the possibility is that internet-informed patients know about their well-being and as they become mindful of the magnitude of information that is out there that they should have received from health professionals. As a result, their relationship changes over time.

Baker, Laurence, et al. (May 2003) study was based on a 2001 survey of exactly 4,700 internet users, find 40% of users were at that point going on the internet to get clinical information. The essential communication in medical services is the one between patient and doctor. That reality is probably going to stay substantial for a long time to come. The doctor-patient relationship is principal to giving and receiving care, recuperating, and further developing results. In this manner, it is fundamental to comprehend what components comprise the relationship and distinguish those that make it possible. As per Anderson, J.G (2004), four fundamental variables add to the modification in the patient's role from a passive beneficiary to an active user of health information. He calls attention to the advances in medicines that have prompted unreasonable expectations from patients. Due to health professionals' highly specialized care, they are often perceived as unfriendly and distant. In like manner, because of time constraints in consultation, patients are more often left with a feeling of discontent and distress with the provided information. And furthermore, doctors/specialists or health experts might fall behind the patient when it comes to expertise in using information technology. Anderson (ibid) believes that these realities necessitate accord among all interested parties where the doctor-patient relationships are the standard to which the whole framework should adjust. Assuming the doctor-patient relationship is to be health care's standard, all groups or parties should figure out the quintessence of that relationship and that the relationship itself should be sound.

Accomplishing those objectives requires clearly articulating patients' and doctors' expectations and then accommodating conflict with those that might occur.

Fox, Susannah (October 2006) says that as online health information becomes more common, the internet changes everyone's role in medicine. Traditionally, doctors were the primary suppliers of health information to patients relating to their prognosis, diagnosis, and expected outcomes (Mcmullan, M 2006, Eysenbach, G., and Thomas L. Diepgen 2001, Craan, F and M. Oleske 2002, Alexander, G. Caleb and John D. Lantos, 2006).

Mcmullan, Mariam (2006) research on the National Cancer Institute in 2005 says the internet has become a critical wellspring of health information and can improve how patients might interpret their ailment and their self-efficacy. Furthermore, it can enable them to make healthy decisions and enables proper communication with the doctor, bringing about more patient-centered interaction between patients and health experts. It has likewise contributed to a change in patients' roles from uninvolved beneficiaries to more dynamic health information consumers. In retort to the internet-informed patient, the doctor-patient relationship can grow in three ways: (I) health professionals-centric relationship with the health professional exercising their expert judgment. (II) a patient-centric relationship where the patient and health professionals work together to acquire and evaluate the online information; (III) the health professionals perceive the patient's quest for information and guide the patient to dependable and precise information. With the ease of access and accessibility of health information on the internet, numerous patients are not generally happy with the specialists' attitude. Patients need to be completely informed and be an essential part of the treatment decision process. In contrast, doctors were hesitant to give up their position as the primary source of medical information. McMullan (ibid) found that patients do not always communicate with a doctor about the information found on the internet since they are nervous about challenging the doctor's decisions. But things have changed in the process. Thus, a shift occurs. Notwithstanding, for this change to occur toward patient-centered communication, health experts genuinely should recognize patients' quest for knowledge, talk about their information, and guide them to dependable and precise health information websites.

What remains ambiguous is whether consumers' internet use will increase the burden on the quality of health services, encourage a patient-centered clinical practice, or promote health experts and practitioners, in the face of difficulties in the status quo.

Why Do Patients Seek the Internet for Health Information Instead of Doctors?

Today, consumers can easily access information through mass communications, self-support groups, and, specifically, the internet. The expected course of active and engaged health education is currently being enhanced by an anarchical course of unrestrained patient data recovery. Without precedent for the historical backdrop of medication, consumers have comparable access to the understanding fundamentals of medicines/treatments and are profoundly exploiting it.

Eysenbach, G and Thomas L. Diepgen (2001) studied the motivations of patients seeking information and advice online. They found that the patients turned to the internet with questions rather than talking to the doctors because of some of the reasons such as ineffective treatments, lack of trust, uncomfortable discussing their problems, limited information, time constraints, or forgetting to ask their doctor during their visit. In like manner, it has been the traditional obligation of the specialist to coordinate the two sorts of information in the individual collaboration with the patient, i.e., to give patients insights concerning their circumstances and to introduce suitable outward information on accessible conceivable outcomes custom fitted for the patient.

Wager, Karen A et al. (2005) also believe that the typical patient's visit with a doctor is often seen as too brief to exchange sufficient information. Results in patients not fully understanding their ailment, or treatment, not recognizing the value of following the treatment and the dangers of not complying, and not understanding how criticism should be shared with their benefactor. They emphasize that this can lead to misdiagnosed, under-diagnosed, or non-compliant with their doctor's prescriptions. These issues impetuses the growth of consumers' self-management of their health by seeking their medical problems and therapies through the internet. Ultimately, they feel that the solutions to the inquiries presented above will unfurl in each doctor-patient encounter's privacy, diversity, and uniqueness.

Dominant financial powers impact doctor-patient relationships. Straightforwardly or in a roundabout way, spiraling expenses immerse all medical services exchanges. They impact when and where patients access medical care, their healthcare services, and how they relay to their doctors. As far as it matters for them, doctors feel overpowered by rising medical malpractices, the cost of new medical technology, and limitations on compensation.

Expected Role of the Doctor

DiMatteo, M. Robin (1998) conducted a study to understand public perceptions of doctors' roles and the expectation of people from physicians by using a random sampling of respondents. DiMatteo (ibid) found three factors: communication, diagnosis and treatment, and ethical conduct, playing a crucial role in the doctor-patient relationship. Out of these, he found communication to be one of the vital skills for doctors; numerous vital implications of these findings are that doctors are most deficient in communication skills and cold-heartedness toward treatment expenses for patients. DiMatteo (ibid) explains that over the years, studies have consistently shown that the best clinical results happen when patients are completely educated and involved with decision-making. With the arrival of the new era of managed care, trust in the doctor-patient relationship is eroded. Building trust is an important task in such an environment, given the focal role of confidence in the doctor-patient relationship.

Communication, responsiveness, and thoughtfulness regarding cost are significant to patients however tend not to be exceptionally normal for their doctors. DiMatteo (ibid) observes that doctor-patient communication is sometimes so short that a portion of the patients leave the doctor's office not understanding everything they are told, what they should do, or how to deal with themselves. Doctors frequently utilize clinical terms that patients don't have the foggiest idea, and patients might be too intimidated and need adequate expertise to verbalize their inquiries. DiMatteo (ibid) concluded that for an effective treatment, a collaborative discussion between the patient and the concerned doctor is critical, taking into account the patient's physical findings and their expectations, outcome expectations, level of acceptance of risk, and costs related to the treatment.

Eysenbach, Gunther and Thomas L. Diepgen (2001) state that accessing two categories of any health information is the expected behavior of patients, specialists, or doctors to reach a decision. (1) Patient-related data refers to the individual patient and case (diagnosis, pathology, individual risk factors, and the like) (2) General information about the external clinical evidence (for instance, the viability of various interventions for a given disease, and the like).

Harrington, Jane, et al. (2004) says the importance of the doctor-patient relationship in the health care process has been laid out, with various researches showing strong connections between the quality of communication and patient fulfillment, adherence, and clinical results. Further, perceiving the significance of doctor-patient communication has prompted the formal instructing of communication skills, which is a fundamental part of clinical education and is presently an indispensable part of most clinical educational programs. Harrington et al. bring up that albeit coordinated endeavors at conduct change have been directed at health care experts, taking into account just the specialist's contribution to the discussion has the outcome of disregarding 50% of the relationship. Their investigation discovered that the patient's commitment to the consultation is additionally connected with positive treatment results.

Like many researchers before him, Klein, Richard (2007) agrees that communication is a core element of eHealth initiatives. Nonconcurrent healthcare communications, or the interpersonal computer-mediated communication among doctors and their patients, comprise a fundamental area of assessment in figuring out the more astonishing e-health phenomenon. Klein (ibid) employs qualitative and quantitative methods to pursue and explore patient adoption of internet-based patient-physician communication applications to provide a secure environment for routing electronic messages between parties. Klein (ibid) explains how electronic doctor-patient communications have escalated to new challenges for health professionals, remembering powerlessness on the supplier's part to oversee enormous message volumes and an absence of settlement for electronic interactions. Moreover, e-mails lack context, as direct clues present in face-to-face communications do not exist, yielding limitations in diagnosing without physical examination. Moreover, electronic communications comprise a permanent and point-by-point record of interactions and present difficulties concerning confirmation of receipt and comprehension of the content.

Lee, Chul-Joo (2009) studied the connection between health information search on the internet and health professional contact. He addresses endogeneity by investigating the board idea of the information as opposed to utilizing successful variable techniques. The consequences of Lee's (ibid) investigation found that internet use for health information positively affects doctors or health professionals. Lee (ibid) talks about two opposing theories found in medical sociology related to technological advancement and doctor-patient relationships. One belief is that dispersing health knowledge formerly accessible only to doctors since technological advancement has reduced the doctors' command over their specific field. The other hypothesis expresses that notwithstanding individuals' access to the doctors' information base, the information gap between the overall population of health experts actually exists since new proof consistently arises and is at first accessible to medical experts. Moreover, health, disease, and clinical information incorporate vagueness and errors. Hence, individuals depend on doctors to interpret and apply health information. As a result, increasing access to the health information on the internet may increase the frequency with which health professionals communicate with consumers (as consumers are now more aware of their health problems and are able to communicate properly about their health problems).

Shukla, Ajay Kumar et al. (2010) emphasizes the need to have good communication skills are fundamental for doctors to lay out a decent doctor-patient relationship. Shukla et al. (ibid) stress that the content, structure, and function of the communication between doctor and patient have received moderate attention as well as been overlooked from the scientific inquiry. Therefore, most clinical experts have had less proper preparation in communication abilities. There is a growing popularity among patients who wants patient-centered doctors (who invest time and energy in listening to the patient). With the growth of commercialization in medication, healthcare services research on doctor-patient relationships has turned into a significant area of interest for clinical scientists and administrators. Thus, numerous undergraduate and postgraduate clinical education and training programs have made attaining good communication skills a central prerequisite.

Shukla et al. (ibid) raises the question of why to emphasize good doctor-patient communication. Studies have shown that the doctor's tactic toward his patients, his ability to deliver and regard

the patients' interests, the essential of significant data and the declaration of compassion, and the improvement of patient trust are the critical determinants of good agreement with clinical treatments. Moreover, preparing the doctors to further improve their communication skills could be practical as it increments consistency, improving patients' overall health since good doctor-patient communication has positively impacted several health outcomes in previous studies. Their study sought to evaluate the impact of communication skills training on the improvement and process of care connected to patients' emotional difficulties, as well as improvement in physicians' communication skills, which was shown to be accompanied by a lessening in patients' emotional discomfort. Their investigation of 21 randomized controlled preliminaries and insightful investigations on the impacts of doctor-patient communication on patient health results was found to be associated with better health results with time. Good doctor-patient communication is related to good mental and physical health, good diagnosis, and improved control of persistent sicknesses that additionally incorporate great guidelines for blood glucose, blood pressure, and pain control. Furthermore, to the extent that diminished usage of health care services, it was shown that patients, who saw that their treatment had been patient-centered, got fewer appointments and diagnostic evaluations in the coming months.

Shukla et al. (ibid) explains that much accentuation has been placed on the significance of good communication and effective doctor-patient relationships. Doctors who are satisfied with their work can likewise be an imperative determinant for a decent doctor-patient relationship since doctors who are more satisfied might be better ready to address a patient's anxiety. As physicians, one must listen in with two ears, emblematically passing one ear on to gather biomedical and the other to acknowledge psychosocial information. They also stress how medical instruction emphasizes only the biomedical aspect, making medical students and physicians look at patients' problems with a biomedical ear and, in this way, neglect the social aspects of the patient. Listening requires the concurrent intake of biomedical, mental, and social information. Priorities should then be set with respect to both evaluation and the management of this data. Objectives ought to follow the SMART guideline, i.e., objectives ought to be S (Specific), M (Measurable), A (Achievable), R (Relevant), and T (Time-related).

Shukla et al. (ibid) explain that transcultural awareness is essential in a successful doctor-patient relationship. Appropriate eye contact with the patient, suitability of hand signals, physical

contact between gender (e.g., shaking hands), and social or cultural beliefs encompassing the sickness are some of the vital perspectives. Shukla et al. (ibid) reasoned that good doctor-patient communication is significant and has multiple effects on various variables of health outcomes. The impacts consolidated better health results, higher adjustment to the restorative course of treatment in patients, higher patient and clinician endorsement, and negligible risk. Albeit clinical education has, as of late, begun to stress the significance of good communication between doctor and patient, and institutions have begun to include the educating of communication skills for some undergrad and postgraduate projects, it is still in its outset stage in India. With the growing claims of medical malpractice for doctors, the enhancement in the volume of inquiries and criticism by the administrative bodies, and the growth in the commercialization in medication, good doctor-patient communication is becoming much more critical. Researching in this field might help teachers, clinicians, and health care providers' overseers better grasp the doctor-patient relationship and communication unique to one way of life, environment, and social settings.

Dependence on Doctors

The doctor and the patient's relationship are always a matter of discussion due to the intervention of the ever-growing popularity of information and communication technology. In the context of the taken area under study and conditions for the selection of respondents, the data can just be taken as a form of research and not as a concrete conclusion. However, the data shows a variable even among the educated respondents, clearly showing the impact of modern technology. The data shows that the majority of surveyed respondents were consulting doctors online. The trend is similar across the mentioned gender, i.e., men and women. Still, at the same time, 39.3% of the surveyed respondents portray that people's complete dependence on the doctor is slowly moving away, and they only tend to visit the doctor whenever necessary. The statistical data about the same is presented in Table 24.

Table No. 24: Gender-wise Trends of Consulting Doctor Online

Frequency	Total	Percent	Gender of the Respondent			
			Male	Percent	Female	Percent

Always	19	12.7%	10	52.6%	9	47.3%
Sometimes	53	35.3%	24	45.2%	29	54.7%
Rarely	23	15.3%	11	47.8%	12	52.2%
Do not Know	21	14%	15	71.4%	6	28.6%
No	34	22.7%	21	61.7%	13	39.3%
Total	150	100%	81	54%	69	46%

Students, Working Professionals, and Doctors' Perceptions of the Doctor-Patient Relationship from their Viewpoint

The primary goal of doctor-patient communication, a complex clinical activity, is to exchange medical knowledge in order to further the understanding of diagnosis, therapy, and particular disorders. The level of communication between a doctor and a patient has an impact on their relationship. The traditional doctor-patient relationship was one in which doctors made choices and patients followed them. However, the emergence of the internet and its vast amount of healthcare information has completely transformed the scene. Furthermore, because of the rapid expansion and widespread usage of medical websites, the pattern of online health information seekers' access to health information is shifting from passive recipients to active service seekers. In this regard, the internet has become more significant in many facets of life since the Coronavirus Disease (COVID-19) epidemic. The COVID-19 pandemic has had a significantly positive effect on how e-health is used. Every day, people search for their health problems or symptoms on the internet, self-diagnose, and learn about new treatment choices or better methods to manage their diseases. In the same mindset, the internet has enabled healthcare practitioners to have access to the most recent medical research and therapies, as well as tools to help them continue their education, all with the click of a mouse or simple touch to their electronic gadgets.

Many of anthropology's core concepts are being used and expanded by health anthropologists in an effort to comprehend what sickness/illness is, how victims, their social networks, and healers perceive, directly experience, and respond to it, and how health-related beliefs and behaviors fit within and are molded by encompassing social and cultural systems and environmental settings.

(Baer, H A et al 2013). Knowing that new thoughts and new bits of knowledge would arise by conducting an interview with a number of respondents (selected from 150 respondents based on their interviews and viewpoints) and five doctors in a neutral setting to characterize the doctor-patient relationship in the 21st century. A list of questions was prepared for the respondents, including students, research scholars, working professionals, and doctors (questions can be found in Annexure-II) concerning the subject matter, i.e., their perceptions on the doctor-patient relationship due to the influence of the internet on our very way of life and healthcare.

Below are some studies where the respondents (postgraduate students, research scholars, and working professionals) responded with their perceptions of the internet's influence on the doctor-patient relationship:

Case Studies: Students, Working Professionals' Perspective

Tiano (working professional in the IT sector) said the internet has made my life easier and simpler and has also made me lazy. I am involved with it every day. It starts to play its own chores from the moment I open my eyes in the morning (alarm app) and ends with it at night when I go to sleep engaged in activities like YouTube, Spotify, WhatsApp, and the like.

Before 2012 my healthy relationship with the health care industry was not so easy. I hardly visited the doctors, but doctors were the only help available for any major sickness if the home remedies could not help in treatment. But with the coming of the internet, I was more conscious of the medicine (prescribed by the doctor) that I was consuming because I started checking on the internet about the contents of the medicines which I was consuming to cure my ill health. Checking the side effects of it and getting free guidance from reputed websites and articles. The reason for the changes in the relationship is that the information available on the internet is priceless (provided that the source is genuine).

So far, I can say that the internet has helped me find health information quickly at a convenient time when it comes to minor illnesses like colds or body pain. Still, it has not yet affected my relationship with the doctor besides cross-checking the provided medicine. Regarding any

major illness, I usually go to the doctor and never thought of cross-checking their authority on the disease or ailments.

Ravi (Ph.D. research scholar at the University of Hyderabad) said accessibility to the internet has dramatically comforted my life and constitutes an integral part of my daily activities. I do not have any major health concerns; thus, by association with doctors or other medical professionals, I am limited to the occasional fever and such. However, the pandemic outbreak and the subsequent lockdown, in my opinion, have had a major impact on the mental health of many, including mine. I have, however, never consulted a doctor for that mental health problem.

The internet has become an integral part of my life in a way that mobile applications such as calorie trackers and Fitbit watches have greatly made one aware of his/her health information and enable them to adopt necessary measures for their well-being. Regarding me, I have only limited myself to occasionally checking for symptoms and natural home medications for my ailments on the internet.

Tom (Ph.D. research scholar at the University of Hyderabad) said the internet is an integral part of my life now. Without the internet, it is difficult to get anything done. It has become a necessity. On the questions about his relationship with the doctor, he said; honestly, I have not visited a doctor in a long time, as I have not had any major health issues. But, now that I have access to the internet, I get lots of information from the net regarding medicines and other minor symptoms related that I come across here and there. I follow certain doctors on YouTube, where I get lots of information about health and diets. And yes, the internet certainly has a significant impact on healthcare, now that we have different apps where we can put in our personalized health and diet information. We are able to connect to doctors through it. Thus, I think it might impact my relationship with the doctor if I happen to visit in the near future.

Tim (a postgraduate student studying at the University of Hyderabad) said the internet is part of his life. In fact, I am dependent on the internet for everything from groceries to educational information. I have never had a severe illness, so I barely visited hospitals. But with the coming

of the internet, I have often read an article on health-related information to keep myself in good health condition. My area of interest, especially when it comes to health, is diet.

Since I have subscribed to specific news portals that churn out articles on health issues, I find it very informative. Also, I have often ordered medicines online for minor health issues. I can not say if the internet has greatly changed my health perspective, but it has definitely helped keep my body fit and healthy. From my viewpoint, the internet is surely changing the doctor-patient relationship because of its cost, privacy, efficacy, ease to use, time, an abundance of information, and availability at any given time.

Niu (working professional) said the internet is a matrix of information, identity, and connectivity. I am dependent on the internet for social life to entertainment. I do not have any personal or family doctor, so the only relation is to visit a doctor when one is not well. Internet helps in search-match symptoms, but it does not affect my relationship with the doctor (where I visit them). The introduction of an online application for doctor appointments or medical stores may be impactful; however, it does not apply to me. On a personal level, most hospitals and doctors have business-oriented practices.

Jill (assistant professor at the University of Hyderabad) said I think the internet is very helpful as it acts as a source of information. I spend about two to three hours on the internet a day. I visited a doctor for small problems before 2012, and after the internet arrival, I browsed for my symptoms and checked myself. It has definitely changed my relationship with the doctor since I do not have to depend on the doctor for small health problems as one can get information from the internet anytime. Last but not least, the internet has changed how I approach my health problems and daily activities.

Doctors' Perspective

Anupam, 32 years as a health professional working at the University of Hyderabad, said the internet is an integral part without which one cannot survive, where it has our wants and needs, which has become a must. She said her relationship with the patients would never change concerning the doctor-patient relationship. I have a constant connection, I care for my patients,

and we are professionals in our approach. So, it will remain the same and will never change. I am used to the daily routine of explaining in detail the health problems or disease to the patients, I take my time to explain whatever their doubts are, and it is constantly that way, and I will continue to do it that way. I think patients are now more aware of their health problems because they read health information online but still have many questions to ask on approaching the doctor. Here, it tends to be positive or negative, contingent upon the particular doctor, which I have never thought of negatively. I think patients have every right to be well-informed and ask whatever doubts they have. After all, it is like a product where one cannot buy the car blindly. Similarly, one cannot just go to a doctor and simply ask questions. Trust has to be built between the patient and the doctor; the rest is up to them. So, my relationship with the patient has never changed from the beginning and will continue to do so. Anupama said,

“In my case, I have not yet recommended any online referral to my patients because every disease is a specialized field, and therefore I cannot recommend them. But yes, online referrals are available, which somewhat changed some patients’ attitudes, but overall, it does not conflict with my treatment process. Because I know the right procedure and the end, it is up to the patient to accept their diagnosis or vice. Regarding biased information, almost all information is biased because the problem with medicine, especially allopathic medicine, is that everything is recorded. For instance, the common side effects to the rarest side effects of the medicine are recorded. For example, a patient approached me with a bowel movement, and I prescribed him ‘metrogen’, a very common drug that works very well for bowel treatment. The patient went back home, googled the search engines, and found that his prescribed medicine had carcinogenic side effects. On seeing this, he rushed back to me again, questioning why I had prescribed him a carcinogenic medicine that causes cancer. So here, the internet is not meant for general average consumers where one gets biased information and gets hyped in the process, causing unnecessary anxiety to the patients if they are not adequately informed. Therefore, to help ordinary people, hospitals give leaflets to create awareness”.

Timothy, 15 years as a health professional working in Kakatiya hospital, said there is nothing that is not impacted by the internet, and due to the impact of COVID-19, telemedicine has played a major role in subsidizing the consumers’ anxiety. During that time, I have to deal with 10-15

patients through WhatsApp at a time or a video, where the patient shows their medical report, and I prescribe them accordingly. In these ways, the internet has helped immensely, and the foundation is always the internet, so the internet is a very positive development.

There are many cases where patients insist that the treatment, I prescribed is totally opposite of what is mentioned on the internet, so how is it possible? These questions arise now and then but, in the end, with a careful explanation of the procedure, the patient does change their opinions and attitudes. In the end, it is up to the consumers to follow the doctors' advice or not since the doctor always do their best to help their patients. Ultimately communication is the best way to build up the relationship between the patient and the doctor. There are instances where even the best medicine available for the treatment becomes useless if the doctors do not have the patient's trust, so the real test is if a doctor is a thorough professional, it does not matter whether they are deep inside the forest or in government or the corporate hospital one, relationship with the patient has to be caring, build trust and be honest in case they cannot help patients.

Anil, gynecologist, 16 years as a health professional working in the Continental hospital. It has been so long that I cannot remember the number of patients that I have treated. I use the internet daily for entertainment and nowadays for study purposes as well. Besides, I also search and see videos relating to surgery and other related areas. In regards to the patient and the doctor's relationship, I do not have any problem with the patient using the internet because the people are not that much educated in this particular location. Likewise, there are sometimes when patients come with the information, they found online without understanding much of the content of it, or in some cases, even if they understand the information, there is no problem between them. So far, I have not come across any patient who confidently approaches with the information they found online, and even if such cases happen, they can convince the patient with the right information by understanding their problems and conditions and carefully explaining it to them. Sometimes people may come with conflicting ideas about their disease and pains, for instance, chest pain; however, symptoms vary from person to person. Therefore, people should understand that not every chest pain is related to stroke or cardiac arrest, but it may be related to severe chronic gastritis. Thus, it is where the internet fails to provide consumers with accurate information but instead shows common or general problems of chest pain.

Some websites are reliable to the consumers, such as the science website (meditube), which is useful for their awareness but should not take as the final answer. There are also cases where patients turn up with their diagnosis process and treatment; however, it is always mandatory to stick to the medical guidelines for the disease treatment process and not swaying to the patient's assumptions. First, we will start with conservative management and then proceed with further investigation/ diagnosis if necessary. So far, I have not promoted any internet websites or video calls since diseases can only be diagnosed through face-to-face interaction, and also the images (sent by patients) may clinically be the same, but it is important to follow the procedure to ensure proper treatment. The internet has not and will not have a financial impact on the doctor because consumers can not entirely rely upon the internet continuously (maximum 2-3 days), after which they will approach the doctor for further treatment. There is no complete treatment with the information solely based on the internet.

Rita, a Gastroenterologist for 15 years working in AIG hospital, said patients visit the doctor only after experiencing severe health problems where the symptoms were apparent and developed for an extended period. This shows negligence or dependence on the information source, which is inaccurate due to its massive variance in the symptoms the patients might face when it comes to the internal digestive system. Thus, my suggestion is never to trust the information on the internet entirely due to its volume and bias. So far, the internet might have some positive effects, especially for educated people, but the same cannot be said for the masses. Therefore, I'm sure that no matter how much information on the internet is controlled, the relationship between doctors and patients will remain the same. In conclusion, the internet is a good platform to create awareness, and one should not entirely depend on it, especially when it comes to internal body health problems.

Ram, 12 years as a health professional working in Citizen Hospital, said that patients are expected to be online at this age. However, it is limited in the sense very few know the benefits of the internet. Most internet users consume the internet for mass media consumption or social networking. In India, we have low-health literacy, which proved to be a huge problem during the pandemic period, and as such internet played a huge part in solving some of the constraints (like no-contact video conferencing and the like). The internet probably did affect the relationship

between doctor and patient initially during the Covid period, and with the passage of time, it has made somewhat more manageable in some ways to take care of patients. Since many of the patients are armed with lots of good information about what I'm likely to talk about, it has made my job almost easier, as they have done the background job that used to be the physician team to do. Sometimes, it's challenging as it is easy to find misinformation online unless one is an expert or has done sophisticated research and whether the particular piece of information is relevant to their health conditions and whether it is taken out of context or not. I think the positive outweighs the negatives, so I'm really happy patients are doing it.

Researches has also shown that the internet is a great source of comfort for patients and has a therapeutic effect on the part of their healthcare process. For instance, patients tend to find great comfort in interacting with other patients suffering from similar symptoms, also called peer-to-peer reviews. It is easy these days; everything is pretty much free if you have an internet connection and fully unlock its potential, especially for healthcare. It has changed the face of medicine of how patients research their own treatment and ask about their medical problems with the help of specific articles. Patients are able to take a more proactive approach to their medical issues. However, the downside is researching their medical problems because of what part of the information is accurate or vice-versa. Thus, it is the job of health professionals to make patients more comfortable with their decision-making process in their healthcare.

Thus, we can say that consumers have become more or less aware of their health problems and conditions from the subject under study. The study shows that the respondents have adequate knowledge and skills to retrieve health information from the internet at any given time, whether for themselves, their friends, or their family. The study shows that mass media consumption has contributed to peoples' familiarity with all kinds of health problems. Unlike in the old traditional systems where people were completely dependent on doctors for everything starting from health information, health problems, diets, choice of outcomes, and diseases, with a vague knowledge of what we were told. Based on these facts, we can somehow conclude that be it educated, or the common mass of people, information and communication technology has brought about changes and has many positive effects on our health care but has not yet affected the relationship between the doctor and the patient, especially in the case of the respondents under the study.

The takeaway is that anthropology is thus as much a study of what people are becoming as it is a study of what technologies are becoming because it may involve the study of both usage and consequence. The early focus of anthropology on custom and tradition stands in stark contrast to how quickly things are changing today. In addition, these might be equally evocative of enduring anthropological issues like the origins of normativity. The importance of lengthy ethnographic investigations that are prepared to take into account the complexity and contradictions that are inherent to an assessment of our new digital worlds is further supported by the speed of change (Miller, Daniel 2018).

Conclusion

The doctor-patient relationship is the very core of medical care conveyance. It penetrates every component that we talk about in this research. In its closeness and individualized nature, it is unique among proficient connections. At its great, the doctor-patient relationship gives patients access to clinical care and can accelerate the healing treatment process. In the logical domain, mounting proof exhibits that the viability of the doctor-patient relationship directly connects with positive health results.

It is quite evident that discussing the quality of online health information is largely pointless. The studies demonstrate the advantages consumers can receive from online health information. The question of what role health providers should play in equipping consumers with decision-making tools remains, given the abundance of reliable and thoroughly reviewed health information sites that are currently available for free and were established by the government and nongovernment health organizations. Therefore, it is necessary for health professionals to be aware of how frequently clients/patients use the internet as a source of health information, and in the internet era, the majority of consumers will inevitably access online health information. It would be sensible to educate consumers about reliable information websites and the best technique to seek reliable health information rather than worrying that they would acquire incorrect information without the necessary advice. Some of the precautions include; checking whether the information provided is sponsored, which will indicate bias if it is funded. Second, the information provided must be from experts or professionals in the specific field. The third is to check if the information is evidence-based. It is always recommended that online information not be taken as

the final say and follow the proper medical procedure prescribed by health professionals. Thus, providing consumers with reliable information sources is just as crucial as guiding them during face-to-face consultations.

Primarily, a result is the consequence of a cycle. A decent medical care result might be resolved conversely by various individuals who may not share a comparative point of view. The prevalent concordance among doctors and patients is that the notion of their relationship matters; the good the relationship, the more better the outcomes. This interpretation requires a common perspective of what those results can and ought to be. Studies have over and over again shown that patients and doctors communicate that we both need exactly the same things. However, they do accept that something often was lost in translation in their respective parts of providing and receiving care. Therefore, good communication is crucial between physicians and patients, where both can express views on what constitutes a good outcome is indispensable. Thus, the doctor-patient relationship requires a foundation of shared liabilities that incorporate; trust, compassion, respect, and honest and transparent communication. This recuperating relationship often includes companions, relatives, patient supporters, and other medical service experts. Affiliation works best when doctors recognize and completely coordinate these people's roles in the patient's treatment process. However, there are also numerous barriers in connection to the healing process leaving aside the aspects of time, money, place, and privacy are set aside, such as the absence of capacity to communicate efficiently, lack of trust between the patient and the doctor, lack of suitable coordination of care, nonattendance of doctor support, lawful and social barriers adhered to the patient, and patient's previous experiences.

The next chapter will focus on the summary and conclusion of the research.

Chapter 7

Summary and Conclusion

Undoubtedly, the internet has changed how we live, and its transformation is felt in all aspects of human activity, ranging from production to consumption. However, unlike the Industrial Revolution that preceded the information and communication technology revolution, this revolution is constantly evolving and mutating. On the one hand, we have increasing computing power, and on the other hand, the evolution of artificial intelligence, or AI as it is popularly known, has become a keyword for understanding change. While the industrial revolution became static and did not witness any incremental change for many decades, the ICT revolution does not rest. It is this vastly expanding ICT technology fueled by the rise of cheap computing power and large-scale hardware penetration that has created an ecosystem of internet users who are ready to be wooed as customers for a variety of industries. The medical industry did not make an immediate head start but also did not lag behind and entered the service sector through medical care mediated by the internet. In this connection, Hyderabad, one of the original metros that were designated to be the torchbearer of the ICT revolution in India, with the high-tech city as the main center connected with a network of hospitals to usher in this new trend which forms the subject of study of this thesis. This thesis, therefore, tries to understand the impact of the internet and medical healthcare, the digital divide it brought, and its effect on the doctor-patient relationship and tries to study the efficacy of internet-based information.

The central focus of the thesis is, therefore, to understand the new delivery system of medicine and the transformation of medicine through the mediation of the internet and how effective this delivery system is. Proceeding from this thesis opposes another related question of the efficacy of the doctor-patient relationship in the type of treatment that has dispensed with the traditional face-to-face treatment and physical examination but rather relying on the digital reports. The transformation of a physical encounter to a digital one mediated through the internet in real-time in Hyderabad from the immediate context.

Summary

The thesis is divided into seven chapters; Chapter 1 Introduction, Chapter-2 Methodology of the Study, Chapter-3 Review of Literature, Chapter-4 The Gap of Digital Divide in India, Chapter-5 Seeking Virtual Health Information: Understanding the Perceptions of public, Chapter-6 Doctor-patient Relationship, and Chapter-7 Summary and Conclusion followed by a Bibliography and Annexures. The chapters are divided into many considerations beginning with the introduction chapter that lays out the plan of the thesis, along with the organization of material, the layout of the different chapters and the general plan of the thesis, and the sub-themes which have led to dramatic division on which the chapters are organized. We begin this chapter by understanding the transformative role of the internet and the speed at which this transformation is heading. This chapter begins with a brief note on the internet revolution and how it has reorganized many aspects of production, consumption, family life, work and leisure, and, more importantly, the way we communicate.

In 1975, Alvin Toffler, in his book *Future Shock*, started to talk about this debate and later elaborated in another book titled the 3rd wave. What was implemented was that all human beings were hunter-gatherers, and the 1st wave of the agricultural wave that swept the planet Earth 10,000 years ago but proceeded slowly. Following this was the 2nd wave of the industrial wave that transformed how we produced goods 300 years ago. From the nineteen fifties onwards, there was a disruption in the economy understood by growth in ICT and how such phenomena were circulating in the world. These are exemplified by low-cost air travel, large-scale employment in the service sector, the rise of contraception, advanced medical devices, and breakthroughs, all of which transform the economy and society. Therefore, the argument was that the frames of reference used to understand the new society had to be relevant to the new context. While this debate was raging on in America, Indian society was largely agrarian and industrial, and many things changed after the liberalization policy inaugurated by the former press Prime Minister Narasimha Rao. Following this, we had an influx of global players in the Indian market who also ventured into production and transformed the production of goods and services. Most of these players did not enter the industrial estates but invested in the new knowledge clusters. Throughout the world, more money was made in the knowledge clusters than in the industrial estates or in the agrarian sector. This signaled the rise of a new form of production that was

based on information. One of the key components of this is becoming the internet which is connected to people through various nodes and not from a top-down or bottom-up approach but rather through a seamless web.

This seamless web-the internet is robust enough and has never failed till today, and communications have not been disrupted though there have only been locally stopped for short periods. Therefore, internet failure is a distant possibility for the description of communication, and the obvious is that it is a reliable mode of communication in real time. It is this factor and also the capacity to broadcast, combine and recombine data in the form of text, image, and video along with sound in different formats that has made it effective for its adoption in healthcare. Another important aspect is that the increased speed of the internet and the massive computing power means that data can be processed, and many conclusions based on this data can be arrived at, making the internet powerful. Since the internet of the fourth generation can also be accessed on mobile phones and is increased speeds, Hyderabad has, in a large way, adopted this, and the hospitals and medical practitioners are also very familiar with this ecosystem and have been trained on many platforms related to this. We, therefore, find the adoption of internet-based health care in many cases prompting the researcher to embark on this topic based on the fact that this is not a one-off syndrome but is a general trend.

Other aspects that have been dealt with in this chapter discuss the influence of the internet on the global economy as well as how the microelectronics revolution has given a new face to capitalism by reducing costs in communication and production. Since this thesis deals with the human element, it can qualify as an anthropological study. Like sociology, which studies single institutions and focuses its attention there, anthropological study focuses on multiple institutions and embraces medical pluralism. Therefore, this approach takes them toward the direction of understanding health and illness from a broader perspective. Medical anthropology is characterized by its practical focus and extensive ethnography and participant observation method to understand the complexities of health, illness, and healthcare. This thesis also focuses on several topics, including the above-mentioned and how the internet has become a source of information that is cited by different medical researchers.

A major departure and a landmark moment in internet healthcare were witnessed following the emergence of HIV/AIDS and worldwide awareness; the institutional, financial, and political architecture of international health was changed, culminating in a powerful global health movement led by anthropologists who are also medical activists. This movement has made Anthropology in global health has become one of anthropology's most significant empirical and theoretical topics today. There is very little research on the internet's influence on health-related decisions and choices, especially in relation to Hyderabad among the literate and tech-savvy youth mostly in the age group of 20-60 years old, with regards to internet utilization for acquiring health information. Therefore, I have critically examined the implications of the internet, particularly internet usage for obtaining health information, the critical aspects influencing their internet health information selections and decision-making process, the digital divide brought about by this technological development, and the factors affecting their doctor-patient relationships, and the digital divide brought about by this technological development in this thesis.

The major objectives of the study attempt to understand the pattern of how the educated and techno-savvy youth in Hyderabad uses the internet for seeking health information. Who is most likely to access the internet and why? The study's first research question is to examine relevant and critical factors influencing how people access the internet for health information.

The internet is a wealth of information for consumers suffering from present diseases or those suffering from the negative effects of a disability (Madden, M and S. Fox, 2006). Consumers use this health information subsequent to examining it with their doctors, considering everything. Wagner, T.H. et al. (2005) said individuals who are continually ill would undoubtedly go to the internet for health information. Goldner, M (2006) separates the frequency with which healthy and sick persons utilize the internet for health-related objectives. Besides, Madden, M and Susannah Fox (2006) suggest that users who are fundamental guardians or have loved ones who are ill or impaired furthermore will undoubtedly go to the internet to satisfy their information doubts. The study found several pertinent and significant variables that are connected with and predictive of access to sites for health information. These factors were identified as ease of access, cost, privacy, availability, no discrimination, flexibility, detailed information, time, abuse

of authority, at our own comfort time and place, internet self-efficacy, socio-demographic variables (gender, age, health status, ethnicity, and insurance) and outcome expectancies. The data collected from Hyderabad shows that health information seekers utilize online health information to satisfy specific necessities, like education, doubts about health information, support, and the like. The data gathered from the respondents shows that 'ease of information' is found to be a major factor motivating people to access online health information. In such a manner, Rains, S.A (2008) suggests that consumers or health information seekers turn to internet sites to supplement the information they receive from their physicians or other medical care providers.

While looking for information online is a common online activity, it is not one in which many respondents spend a lot of time. In contrast, only 130 of the total 150 respondents access internet health information, and only on average, 15% are not actively using across internet usage categories. This does not mean that the average 15% surveyed population is consistently not using the internet in all the mentioned categories, and it means that they are using it based on their need and requirements. Likewise, 40% of the respondents spend less than an hour per week seeking health-related material, while the remaining 46% spend between 1 and 4 hours per week. One argument for reduced internet usage might be that health information seekers are looking for solutions to specific issues and would typically search for online information on a need-to-know basis rather than as a normal practice. According to Fox, S., and L. Raine (2000), health seekers would frequently opt for internet health information particular to ailments rather than broad health-related themes.

To Understand the Impact of Digital Divide on Healthcare Delivery

I have critically examined the digital divide from different researchers' points of view, as well as the initiatives which are taken up by the government of India to reach out to the masses. It is essential to ensure your target audience has access to relevant technologies. As the internet grows and opens the way for a rising number of possibilities, it has also opened up double deception potential. The conceivable outcomes are boundless, both in the idealistic and the undeveloped territory, particularly while traditional establishments, for example, legal systems, take some time to reach numerous new turns of events. While multiple technical enhancements

and government policies have been carried out to handle a portion of the above issues, those interventions take time, requiring an educated user base. The study found that the digital divide can largely be attributed to numerous factors such as gender, age, occupation, education, costs, income, cognitive skills, computing experience, language, people's response to the type of resources and facilities available online, social background, or traditional hierarchies, people's objective, geography, and cultural preferences, the narrow scope of goals, lack of desire to utilize the available facilities, and limited access; which acts as a deterrent and thereby creating the divide. From the literature reviews, it is observed that studies around the globe have also shown that country growth depends on the availability of information and communication technology and will provide an unprecedented opportunity to meet vital development goals. Digital inequalities threaten society in a period where communities are quickly moving toward a digital platform. For example, day-to-day activities like paying dues, applying for jobs online, occupations, education, medical services, shopping online, and such are supposed to be completed electronically. Hence, bridging a digital divide is basic for maintainable digitalized social orders.

To Critically Examine the Doctor-Patient Relationship

Several studies have over and over again shown that patients and doctors communicate that we both need exactly the same things. However, they do accept that something often was lost in translation in their respective parts of providing and receiving care. Good communication is a crucial factor between physicians and patients, where both can express views on what constitutes a good outcome is indispensable. Thus, the doctor-patient relationship requires a foundation of shared liabilities that incorporate; trust, compassion, respect, and honest and transparent communication. This recuperating relationship often includes companions, relatives, patient supporters, and other medical service experts.

The data analysis of this study shows that the respondents have become more or less aware of their health problems and conditions. The study shows that the respondents have adequate knowledge and skills to retrieve health information from the internet at any given time, whether for themselves, their friends, or their family. The study shows that mass media consumption has contributed to peoples' familiarity with all kinds of health problems. Unlike in the old traditional

systems where people were completely dependent on doctors for everything starting from health information, health problems, diets, choice of outcomes, and diseases, with a vague knowledge of what we were told. Based on these facts, we can somehow conclude that be it educated or the common mass of people, information and communication technology has brought about changes and has many positive effects on our health care but has not yet affected relationships between doctors and the patient, especially in the case of the respondents in the study.

Significance of the Research

The data collected reveals that the internet has created awareness among the educated youth and how to properly utilize the information on the internet. Secondly, it will help the institutions, administrations, social scientists, doctors, and parents to the growing issues and adaptability of the internet and how it can be accessed appropriately, utilized, and built as a bridge created by these technological advancements. Last but not least, this research findings will help researchers in the near future to develop better theories and conduct extensive fieldwork in this area. The internet provides health information accessible to everyone, and many people are dependent on online sources rather than consult doctors.

Therefore the 1st chapter ends with the conclusion by arguing the need for internet healthcare research and makes a case for the same. The 2nd chapter is primarily based on the approaches and methodology of the study and defines the target group and the geographical location that is Hyderabad. There is a detailed discussion on tools and techniques of data collection and field sites that was selected after a pilot study. It is a basis of this pilot study that the field site and the numbers were arrived at based on the consideration that the data has to be robust for future generalizations. Based on this preliminary pilot study, the research design and sampling designs were conceived, and then the researchers embarked on the data and the following are the tools of the data collection; interviews, case studies, observations, and survey methods. They were primarily obtained by a participant observation and the like. The secondary sources include articles from various journals, books (although there is a scarcity of books on this topic), Census reports, websites, YouTube, an online newspaper, magazines, and unpublished documents. Thus, outlining the detailed methodology of the study.

The 3rd chapter begins with a review of the literature and starts with the immediate context, that is, the use of the internet for health information. There is a detailed discussion on how variables such as age, gender, and quality of online information vary over time. There is also a detailed study of both primary and secondary literature. The literature review is done on the works by renowned scholars and authors like; Craan and Oleske (2002), Norris (2001), Cline and Haynes (2001), Fox (2000, 2006, 2008, 2011), Keniston and Kumar (2003), Cotten and Gupta (2004), Dutta and Bergman (2004, 2005), Madden and Fox (2006), Rogers (2001, 2003), Livingstone (2003, 20004, 2007, 2011), Rains (2008, 2009), and DiMatteo (1998). All of them elaborated on the same idea that the internet is bringing immense changes, especially in the field of health information and the health care system. At the same time, they talk about the impending changes and challenges it brings and how to cope with this digital platform. With the help of the literature review, the theoretical and empirical basis is prepared and keeping in mind, the crucial factors that directly or indirectly influence the variables in health-information-seeking behavior are noted. As mentioned by many scholars and researchers, the critical factors include age, occupation, education, gender, socio-economic status, language, computer skills, internet experience, health status, knowledge of the disease, apparent risks associated with the disease, and how different individuals utilize the online content. This chapter, therefore, argues that the different variables associated with lifelike education and gender and the like are also important determinants in how different individuals utilize online content and how their choices are conditioned by the larger social and economic variables and the immediate and the larger context in which they are placed.

The next chapter is titled the gap of digital divide in India and gives a brief overview of the digital divide situation in the world, how the penetration of the internet and communication has been uneven on one side and on another side, and how many governments and other institutions are trying to bridge this gap. This is therefore created a class of digital haves and have-nots, and it intersects with gender class and other inequalities that are already present in society, compounded by the use of computers that, in many cases, have deepened this divide. The digital divide is a matter of serious concern, and keeping this in mind, the government of India has embarked on many schemes to mitigate this problem. This chapter, therefore, argues that Pippa Norris (2001) stated that the phrase digital divide is already a ubiquitous phrase that implies the

breach pertaining to information haves and have-nots, including racial, gender, and socioeconomic divisions. Why this has become a grave concern is a question that one has to consider.

The study exhibits the different ways in which various scholars and researchers depict the digital divide and how it affects it. This chapter, therefore, argues that while internet penetration is increasing digital divide is a reality and is a very important factor that one has to take into account while launching a new program that is associated with the internet and the field survey also confirms the same.

The 5th chapter is, titled ‘seeking virtual health information: understanding the perceptions of youth in Hyderabad,’ is one of the core chapters of the thesis. The frameworks proposed to explain an individual's use of healthcare services from a behavioral standpoint. The theory of “Engaging Consumers in Health and Healthcare in Communities (EHC)” by Jessica N Mittler, Grant R Martsolf, Shannon J Telenko, and Dennis P Scanlon (March 2013) represents a concentric circle structure that shows that individuals, groups, and organizations will influence one another at any given point in time, but not necessarily in a linear manner.

Statistical Analysis

After the data was collected, it was checked for mistakes and put into an SPSS file. Following that, frequency distributions were examined to confirm that the questionnaire data was accurately transcribed and that any missing values were accounted for. The data was now available for further examination. The chapter focuses on the data analysis collected from 150 respondents, constituting 81 (54%) male and 69 (46%) educated female respondents. With the help of a survey questionnaire, interview, and case-study methods, this study found some interesting social realities, as analyzed in the previous chapters.

The study found that the respondents could not fully rely on and satisfy with the health information available online for two main reasons; abundance of information and reliability due to the mass volume of information. The study also found that more than 60% of the respondents were satisfied with the information found online. The study found that 24% of the respondents

use the internet as the primary source of learning, another 48% of the respondent use the internet on a regular basis, and about 25% of the people either do not rely on or use the internet for expanding their networking horizons.

The study found that people who use the internet on a regular basis have certain websites through which they draw information and find the content reliable to keep them informed. The study found the majority of respondents acknowledged that they do not visit websites operated by health organizations for health-related online information since they are not aware of such given websites. Approximately 80% of respondents use the internet for health-related questions. The study found that the majority of the respondents feel that online information is challenging to comprehend most of the time, and it is possibly due to the variation in terms of information provided on different websites on the same topic.

The study found a majority of the surveyed respondents do believe that self-treatment is life-threatening. The study found more than 75% of respondents are actively engaged across the mentioned internet usage categories, and only on average, 15% are not actively using across internet usage categories. The study found more than 80% of the respondents had been using the internet for more than five years at the time of the survey being conducted. More than 60% of the respondents acknowledged spending more than 15 hours a week on the internet. 24% of the respondents spend more than 5 hours on online health information in a week, whereas more than half use internet health information for less than one hour every week. The study found shows that the average internet user is spending a significant amount of time accessing relevant health-related information from the internet, which further indicates that internet users do care about their health and are willing to spend some time browsing, accessing, researching, and understand certain health-related information based on their needs.

What actually motivates people to seek health information from the internet found that 80% of the total 150 respondents said that it is due to time constraints, availability at any given point of time, cost-effectiveness, privacy, emotional support, no discrimination, no barriers, and distance. Majority of the respondents acknowledged that they use online health information to make health-related choices and make health-related decisions. The study finds that those respondents

who utilize internet health information cross-check it with information available on other similar websites to make a meaningful and informed decision. The study finds around 20% of respondents were constant in terms of consulting either doctors or people with health issues or with close friends to discuss health issues and health information they have come across. The research data shows that the majority of surveyed respondents were consulting doctors online when it comes to consulting doctors online. The data also shows more than 40% (seen in chapter 5 Table 19) of the surveyed respondents portray that people's complete dependence on the doctor is slowly moving away, and they only tend to visit the doctor unless necessary. The study finds that most respondents with a history of chronic diseases acknowledged that they consult doctors, besides online health information, for better treatment or suggestions. The research data shows most of the respondents go after popular, recommended, and suggested websites for accessing health information. In contrast, a considerable number of respondents do not visit such websites to access health information.

The broad conclusions of this chapter are that most people have pressed on the doctor and do not visit the internet or use it for chronic diseases. Most people use the internet because they are already connected to the network and therefore have a very high degree of familiarity and, more importantly, time to deal with the internet. This familiarity and ease of use also lead them to maximize time, and therefore, one of the determinants of using the internet for purchasing medicine is for ordinary diseases primarily cited due to lack of time. Further cost efficiency and, more importantly, the price factor and lack of any discrimination, and the provision of emotional support makes internet medicine a very attractive proposition. The most important factor is the distance that is reduced on account of internet medicine because there is no constraint on travel. Overall, this chapter argues that the penetration of internet medicine has been uneven but is showing an upward trend and is largely motivated by factors of accessibility and reliability only for minor diseases and is conditioned by the time factor and cost factor.

The next chapter is titled the 'doctor-patient relationship in the age of the internet' to understand how this very important relationship has been transformed by the role of the internet. The study found that the patients turned to the internet with their questions rather than talking to their physicians because of some of the reasons such as the frustration of failed or ineffective

treatments, lack of trust in their doctor's competency, uncomfortable discussing their problems with their doctors, adequate information provided by the doctors, time constraints, or forgotten to ask their doctor during their visit. This new method of communication has transformed the doctor-patient relationship in many ways. Primarily among them is the cost factor that has led the patients to approach doctors who are far away. Along with the cost factor, the distance factor is also very important, which is totally irrelevant in the case of internet medicine. This chapter deepens into the case studies to portray the changing relationships and how consumers and health professionals perceive it during the pandemic and daily life activities.

The final chapter is titled the conclusion and summarizes the main findings of the thesis. Some of the main findings of the thesis reveals that one witnessed a fundamental shift in approach to treatment with the introduction of computers and the internet both from the side of the doctors and patients. While the digital divide is still a very important aspect that has brought about uneven connectivity, it also reveals the other forms of stratification in society that are based on income, gender, and access to computers and Wi-Fi are replicated in the digital divide. Further, distance has ceased to matter, and the cost is also significantly reduced, prompting many people to migrate to computer and internet-based medicine, which is also transforming the nature of the doctor-patient relationships in many ways. Most of the patients are unable to communicate properly and are unable to elicit different types of information from the doctor. Many Indian researchers: researching this topic from the same perspective have also confirmed the changes in the doctor-patient relationship. One may therefore say that the intervention of the internet in enabling consumers to purchase medicine independently has brought about a very important shift, but it will still be much to be desired, and Hyderabad is one of the few places where this shift can be empirically verified. The transformation can be explained both by the role of individual actors and institutions that form the backbone for the infrastructure of the ICT, but this has also been uneven. Overall, the experience of ICT has been a positive transformation for the consumers/internet users, in upwards of 70% positivity in the case of the respondents taken under the study

Conclusion

When conducting online research, an anthropologist faces various challenges. It demands a thorough theoretical engagement with the technologies of digital information, semiotics, and their link to social and material realities. Many fundamental methodological tenets, including ‘fieldwork’ and ‘participant observation,’ need to be redefined. Finally, studying the internet necessitates that the analyst engages in self-reflection when researching politics that are near to home and includes understanding it. Although the fundamental concepts of anthropology, ‘the field’ and ‘culture’ are in flux, ethnographic approaches to emerging fields of media, technology, and science, demonstrate a persistent anthropological focus on embodied contexts of practice and daily life (Miller, Daniel 2018).

Traditional holistic ethnography, which tries to comprehend how people interact with everything that affects their lives, is a fundamental part of anthropology. We continue to focus on the larger context of people's non-digital lives in order to understand how they interact with digital technologies, as nobody lives entirely online. Due to the fact that they are generic ethnographies of populations, the focus will also be on the digital culture forms that have spread widely.

While accessing online health information may be considered information collection, consuming online health information may be considered information management, a mental and open interaction in which health information seekers assess and understand the data they obtain from online sources (Brashers, D.E, D. J. Goldsmith and E. Hsieh, 2002). Notwithstanding the actual retrieval of information, the study additionally took a look at the mindset of online health information seekers. Health information seekers share their desire to talk about health information with their doctors, friends, family, and loved ones, and in the process, take time to comprehend the data they collected and consider what the ramifications could be. More than 80% of respondents showed the utilization of online health information, exhibiting a high cognitive degree of use. This conclusion is consistent with the prevailing rhetoric of health consumers, in which internet users are now active participants in their health-related choices and decisions rather than passive consumers.

T. Lewis (2006) discusses the growth of empowered and informed persons who consider health-related choices and decisions in their life. Direct-to-consumer advertising (DTCA) is an example of how pharmaceutical companies and healthcare organizations seek to influence people's perceptions of their own health. A study conducted by Polen, H. H., N. M. Khanfar and K. A. Clauson (2009) uncovered that over a portion of the studied respondents accepted that DTCA on television had given customers more control over their health management. While further research is needed to determine the benefits of such communication on consumers, it does imply that therapies and information that portray health information seekers as partners rather than patients may be key in effectively communicating healthy messages. These concepts should be taken into account in future research and practice.

The internet has become a ubiquitous medium for health and well-being. The number of digital health interventions available has grown exponentially in recent years. From the popular fitness trackers on one's cellphone to virtual reality training programs for back pain and chronic disease management, the digital space is full of resources that promise to improve one's physical and mental well-being.

While the internet offers an unprecedented number of tools for improving health and well-being, it is important to acknowledge that the technology itself is not a cure for illness and should not be viewed as a replacement for conventional health care. When used appropriately, however, the internet can complement traditional medicine and improve access to health information and services. For example, digital tools can be used to help manage chronic conditions like diabetes and high blood pressure, provide support for mental health conditions like anxiety and depression, and promote physical activity and healthy eating habits. There are also numerous online programs that help individuals quit smoking and manage chronic pain, improve sleep habits, manage diabetes, and even lose weight. As technology continues to advance, the number of resources available will continue to grow. It is crucial to make wise choices when selecting online resources to ensure they are credible and trustworthy. It is also important to note that some digital health interventions may not be appropriate for specific populations or may not produce the desired results. Working with a physician or qualified health professional before adopting any new health-related practices is essential to ensure you are getting the appropriate

advice and treatment. It is also important to stay informed about the potential risks of using digital tools and follow the recommended usage guidelines. These measures will help minimize potential risks and ensure that you get the most out of the online health tools available.

Digital health technology is here to stay. New apps and websites offering an array of tools and services are constantly being developed, and it can be challenging to sort through them all to find the information that is relevant to you. While some online programs can be effective in improving health and well-being, others may not be as effective and may not be safe to use.

All these lead to the argument that internet health information seekers have become more of their health condition, making them ‘informed’ consumers. What makes an ‘informed’ consumer? Finding reputable and comprehensible information is the first step in navigating the multitude of information. Considering that certain websites might not be reliable or might not offer the most recent or generally recognized medical information. The second step is to look for specific websites or videos created for particular diseases or illnesses. The third step is to understand the drugs prescribed to you. Ask for detailed instructions on how to take the medication and any potential side effects without hesitation. Should it be taken before bed or first thing in the morning? Whether with or without food? The efficacy of the medication may vary depending on these ostensibly minor aspects. The more knowledgeable one is as a consumer, the more authority one has as a part of their healthcare. Likewise, the ideal quality of life is possible when you and your family comprehend a diagnosis and how to take care of themselves. One may use this knowledge to apply to make better healthcare decisions and choices by obtaining reliable and timely health information, reading and comprehending it, and, in the process, making them better-informed consumers.

The findings of this study might be especially critical considering the discussion about rules to control online health information content. There is a developing feeling among researchers that contends that guideline for online health information is important to safeguard against deception and that general society ought to have certain rules provided by public organizations (Eaton, L 2002). In any case, with the exception of health information for vulnerable populations (HIV/AIDS and cancer patients, for example), the question that arises is how much public assets

should be used for managing general health information content, assuming that health information seekers are aware of the importance of taking the information they find online with a grain of salt. As a result, the most critical responsibility for health communicators is ensuring that awareness and education become a priority for health practitioners and users of online health information.

In India, the total health expenditure (THE) has remained between 1.2%-1.6% (from 2008-2020) of its gross domestic product (GDP), a small fraction of the World Health Organization's (WHO) moderate recommendation of 6.5% of GDP for underdeveloped nations. Even more concerning is the fact that public health expenditure (PHE), which is the state contribution over time, has risen from 0.9% of GDP in 2015-16 to 1.8% of GDP in 2020-21 (Statista, 2022), hovering near to that of the world's worst five countries (Demands for grants 2021-2022). These numbers clearly show that, even in highly developed nations where the ordinary citizen's ability to support his/her own health services freely is extremely high, the state considers funding healthcare to be a critical component of government. Surprisingly, the state in India has implicitly abdicated this duty on the specious grounds that we cannot afford the sector's resources (Chowdhury, Javid 2015). Therefore, to improve health problems across the country, the government must take the initiative further to increase the budget for the health infrastructure in India.

All in all, essentially expanding internet access is probably not going to diminish variations in medical services and in medical services interactions that contribute to disparities. Internet use, alongside different variables involving social class (i.e., education and income), may essentially duplicate benefits for certain patients during clinical interactions. Thus, the researcher's challenge is to identify and doctors to utilize communication strategies to address the relating problems to which the internet contributes to diminishing health care disparities.

Closing Thoughts

The internet appeals to the younger generation by allowing them private and anonymous access to information resources on sensitive topics such as HIV/AIDS. With the proliferation of internet health information, the importance of having access to trustworthy and reliable information cannot be stressed. The lack of clear rules for health content providers, the lack of set indicators

to assist and guide health information seekers toward reliable material, and the potential risks of inaccurate or misleading information for vulnerable groups all make it difficult to ensure universal access to credible online health information. Users, on the other hand, may be aware of what constitutes reliable information or how to determine if the information provided to them is from a legitimate source, and they may routinely share that knowledge within their own network. According to the findings of this study, health information searchers who use websites that are widely regarded as credible report being wary about the source of information and the writers of the websites they visit. Furthermore, they provide and get recommendations of genuine and dependable health-related websites from family and friends.

In addition to queries regarding improved access, health professionals, educators, and providers must examine the following key issues: Does increasing access to internet health information benefit health information searchers in general? Is some information preferable than no information? What effect could information at any point over-burden or falsehood have on the general health scenario, especially considering increasing health costs and costly preventive tests? Furthermore, which role will medical services providers at any point play in guaranteeing harmony between online health information seekers and health professionals?

Way forward

Healthcare must be a collaborative effort between healthcare professionals, health information seekers, and educators for an effective public health system to function, with individual self-care plans combining an information stream comprised of a discussion between health officials and patients/consumers.

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Annexure

Annexure – I: Interview Schedule - I

Role of Internet in Health Decision and Health Choices

Dear Sir/Madam,

I am Vikhepu. V., pursuing my PhD degree in the Department of Anthropology, University of Hyderabad. The broad area of my research is 'Health and Internet' in India, particularly in Hyderabad, for which the particular questions have been formulated to aid me in my research. This questionnaire aims to ascertain the pattern and purpose of internet usage for Health-related issues. **Your personal details will be confidential.** I hope you will help me in this brief survey.

Sincerely,
Vikhepu. V
Research scholar
Department of Anthropology,
University of Hyderabad

- What does the internet mean to you?
- Do you find it helpful?
- Have you ever used the internet to collect health information related?
- How often do you use it?
- Has the internet helped in any way concerning your health decision and health choices?
- Can you relate how the internet has helped you?
- Do you think the internet has changed your way of thinking regarding health?
- Do you find yourself more aware of your health and health problems than before?
- Can you narrate how your life has changed due to the internet?

What are the health challenges that a student, cooperative worker or government employee faces in their day to day working environment?

Annexure – II: Interview Schedule – II

Role of Internet in Health Decision and Health Choices

Dear Sir/Madam,

I am Vikhepu. V., pursuing my PhD degree in the Department of Anthropology, University of Hyderabad. The broad area of my research is 'Health and Internet' in India, particularly in Hyderabad, for which the particular questions have been formulated to aid me in my research. This questionnaire aims to ascertain the pattern and purpose of internet usage for Health-related issues. **Your personal details will be confidential.** I hope you will help me in this brief survey.

Sincerely,
Vikhepu. V
Research scholar
Department of Anthropology,
University of Hyderabad

Doctor-Patient Relationship-Doctor

1. Can you please tell me about your professions and for how long you have been into the job?
2. How many patients have you treated so far (approximately?)
3. What is your view about the internet and how far are you involved with the internet in daily life activities and in your professions?
4. How is your relationship with the patients before and after COVID-19, and with the coming of the internet?
5. Is there any changes in relations, if so what might be the reasons for the change?
6. What plans or procedure do you come up to deals with this change?
7. How often do the patients come up with their online recommendation? Does it conflict your treatment process?
8. Have you ever used the internet for health promotion? If yes, how often and vice versa?
9. Do you think the internet has significantly reduced your business since people can access health information easily at any given point of time?
10. Do you have any exciting story to share in an encounter between you and your patient

Doctor-Patient Relationship- Working professionals and research scholars

1. Can you please tell me about yourself.
2. What is your view about the internet and how far are you involved with the internet in daily life activities?
3. How is your relationship with your doctor before and after COVID-19 with the coming of the internet. Are there any changes in relations, if so, what might be the reasons for the change?
4. Do you think the internet has significantly helped in accessing your health information and more in control of your body?
5. Have you been recommended to any websites or links by the doctor?
6. Do you have any exciting story to share in an encounter between you and your doctor

Annexure – III: Interview Schedule – III

Role of Internet in Health Decision and Health Choices

Dear respondent,

I am Vikhepu. V., pursuing my Ph.D degree in the Department of Anthropology, University of Hyderabad. The broad area of my research is 'Health and Internet' in India, particularly in Hyderabad, for which the particular questions have been formulated to aid me in my research. The objective of this questionnaire is to ascertain the pattern and purpose of Internet usage for Health-related issues. **Your personal details will be confidential.** I hope you will help me in this brief survey.

Sincerely,
Vikhepu. V
Research scholar
Department of Anthropology,
University of Hyderabad

Section – (A) Personal Details

1. Please enter your details below

Name: _____
Age: _____ Gender: _____
Marital status: _____
Occupation: _____
Current address: _____
E-Mail/Phone: _____

2. What is your education level?

- a) Less than high school
- b) High school or higher secondary
- c) College or technical school
- d) Post graduate
- e) University degree (such as M.phil, Ph.D and Medical/Engineering)

3. What is your current employment status?

- a) Not employed
- b) Employed
- c) Self – employed

4. What is your total household income (yearly)?

- a) Less than 100,000
- b) 10,0000 to 24,9999

- c) 25,0000 to 49,0000
- d) 50,0000 to 74,9999
- e) 75,0000 to 100,0000

Section – (B) Internet usage

1. Do you currently have a personal computer in your home? (Yes) (No)

2. Can you please mention your computer skills?
 - a) I can understand terms/words related to Internet hardware and software. (Yes) (No)
 - b) I can describe words and terms related to the Internet and gather data and information on the Internet. (Yes) (No)
 - c) I am comfortable learning advanced skills within specific Internet programs. (Yes) (No)
 - d) I am confident in sending e-mails and receiving information on the internet. (Yes) (No)
 - e) I can comfortably download material from the Internet (e.g. buy movies, songs, pictures for private/academic use, etc.). (Yes) (No)

3. Have you ever used Internet? (Yes)(No)

4. How long have you been using Internet?
 - a) 1 – 3 weeks
 - b) 1 – 6 months
 - c) 1- 3 years
 - d) 5 years or more

5. In a week, about how much time do you actively use the internet from home/school/work?
 - a) Overall internet use _____
 - b) For general information _____
 - c) For health Information _____
 - d) Communicating with others _____
 - e) Others _____

6. In a typical week, how many hours do you spend on the computers browsing Internet for gathering health information?
 - a) 31 hours or more
 - b) 21 to 30 hours
 - c) 11 to 20 hours
 - d) 5 to 10 hours
 - e) 1 to 4 hours

7. In general how much has internet affected in getting health care information?
 - a) Made it much more difficult
 - b) Made it somewhat more difficult
 - c) Has not affected it
 - d) Made it somewhat easier
 - e) Made it much easier

- f) None (Please mention)_____
8. Have you ever tried communicating someone about physical health or mental health through internet?
- With a doctor or other health care professionals: (Yes) (No)
 - With other people with similar health care issues: (Yes) (No)
 - With anonymous, why: _____
9. Have you tried consulting a physician or fellow friends for health problems through internet?
- If Yes, why _____
 - If No, why _____
10. During sickness, which group of people do you seek help from?
- Family members
 - Neighbours
 - Friends
 - Relatives
 - Others
11. Have you ever suffered from a chronic disease or disability?
- If Yes (when) _____
 - No
12. Did any of your family members suffer from a chronic disease or disability and did you collect health information from the internet?
- If Yes, why _____
 - If No, why _____
13. List three websites that you visit most frequently to obtain online health information in a descending order?
- _____
 - _____
 - _____

Section – (C) Internet and You

Please tick your answer to the following statements:

- I would like to spend time determining the significance of online health information before making health-related decisions?
 - Yes, always
 - Yes, sometimes
 - Yes, rarely
 - Do not know/can't say
 - No

2. I would like to spend time on information retrieved from the Internet before making health-related decisions?
 - a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No

3. I would like to frequently go back to the Internet for follow-up information on health-related issues?
 - a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No

4. I would like to discuss information found online with my doctor/healthcare provider?
 - a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No

5. I would like to discuss information found online with family and friends?
 - a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No

6. I would like to save/store/print health-related information found in the internet?
 - a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No

7. I would like to get information found on the internet for the betterment of my health to prevent health related disease/risks?
 - a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No

8. I would like to get information found on the Internet as it helps me understand better what I can and cannot handle on my own as far as my health is concerned?
- a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No
9. After getting information found in the internet I have made few changes in my life?
- a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No
10. With the help of internet I got the additional information about health related information such as family history, demographic profile and personal needs?
- a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No
11. Due to impact of internet I have changed my eating habits?
- a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No
12. Due to internet I have made few changes to my prescription (such as vitamin, proteins) and also physical exercises?
- a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No
13. With the help of internet I get medical information promptly when needed?
- a) Yes, always
 - b) Yes, sometimes
 - c) Do not know/can't say
 - d) Yes, rarely
 - e) No

14. With the help of internet I can comprehend health related information at my own time?
- a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No
15. With the help of internet I can evaluate a variety of health related information from different sources?
- a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No
16. With the help of internet I can now save money and other resources by self treating minor injuries?
- a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No
17. With the help of internet I can get different viewpoints of people in similar health related problems?
- a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No
18. With the help of internet I can supplement information I got from doctor or healthcare providers?
- a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No
19. With the help of internet I can get a preliminary online diagnosis through self – diagnostic applications found online?
- a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No

20. With the help of internet I now feel more self-secure and sufficient about my health and body?

- a) Yes, always
- b) Yes, sometimes
- c) Yes, rarely
- d) Do not know/can't say
- e) No

21. With the help of internet I feel more relieved in regards to the health related problems?

- a) Yes, always
- b) Yes, sometimes
- c) Yes, rarely
- d) Do not know/can't say
- e) No

22. With the help of internet I feel prepared to discuss with the doctors/healthcare provider in regards to my health?

- a) Yes, always
- b) Yes, sometimes
- c) Yes, rarely
- d) Do not know/can't say
- e) No

23. With the help of internet I can now offer support, help and advice other people in similar health problems?

- a) Yes, always
- b) Yes, sometimes
- c) Yes, rarely
- d) Do not know/can't say
- e) No

24. With the help of internet I now feel better prepared to deal with family, relatives and friends in health related problems?

- a) Yes, always
- b) Yes, sometimes
- c) Yes, rarely
- d) Do not know/can't say
- e) No

Section (D) – Reliability

Has the internet helped you in any way?

1. I become overwhelmed with the information concerning about my health?

- a) Yes, always
- b) Yes, sometimes
- c) Yes, rarely

- d) Do not know/can't say
- e) No

2. I get concerned about personal privacy protection of my health related information?

- a) Yes, always
- b) Yes, sometimes
- c) Yes, rarely
- d) Do not know/can't say
- e) No

3. I think self treatment might lead to a life – threatening situation?

- a) Yes, always
- b) Yes, sometimes
- c) Yes, rarely
- d) Do not know/can't say
- e) No

4. I think understanding the online health information is difficult with its large amount/volume of information?

- a) Yes, always
- b) Yes, sometimes
- c) Yes, rarely
- d) Do not know/can't say
- e) No

5. I am concerned about how online health information fits with my specific health condition?

- a) Yes, always
- b) Yes, sometimes
- c) Yes, rarely
- d) Do not know/can't say
- e) No

6. I think the information related to the health information is biased?

- a) Yes, always
- b) Yes, sometimes
- c) Yes, rarely
- d) Do not know/can't say
- e) No

7. At present I am satisfied with the use of internet as an information tool for gathering health related information?

- a) Yes, always
- b) Yes, sometimes
- c) Yes, rarely
- d) Do not know/can't say
- e) No

Section – (E) Ensuring reliability

1. I visit only those websites which is recommended by my families and friends?
 - a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No

2. I only visit those websites which belongs to the reputed health organizations?
 - a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No

3. I only visit those websites which is recommended by my doctor/healthcare provider?
 - a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No

4. I rarely check the websites sponsored by health organizations because of their biased interests?
 - a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No

5. I believe it is important to keep updated about health information and its source?
 - a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No

6. I believe the information about the health is reliable particularly on those websites which I frequently visit?
 - a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No

7. I am satisfied with use of internet as an information tool for acquiring health related information?
- a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No
8. I am satisfied with the use of internet as a learning tool for health related information?
- a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No
9. I am satisfied with the use of internet as a networking tool and source of health information?
- a) Yes, always
 - b) Yes, sometimes
 - c) Yes, rarely
 - d) Do not know/can't say
 - e) No

Annexure – IV: SPSS Data Table Excel Orientation



ROLE OF INTERNET IN HEALTH DECISIONS AND HEALTH CHOICES

by Vikhepu V

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Role of Internet in Health Decisions and Health Choices

Chapter 1

Introduction

Background

The technological revolution has drastically changed the way we live in the twenty-first century. In particular, internet use is increasingly growing in scope, and people from across the globe depend on it. It is seen that considerably greater than half (69.0%) of the world's population have access the internet across the countries in 2022 (internetworldstats, 30th June 2022). It is mainly because of the internet's various utilities, including news, entertainment, financial transactions, businesses, conferences and webinars, and so on. When it comes to health and healthcare, the internet is gradually becoming a necessary tool. It is progressively becoming a habit for people to browse the internet and access health-related information before booking an appointment or meeting a doctor, unlike the old days when people used to depend on health professionals and practitioners for all health-related needs. The increasing access to health-related information online made users somewhat independent from health practitioners (where more than 60% out of 150 respondents are dependent on the internet). This phenomenon, in return, influenced people's attitudes towards health management at an individual and institutional level. This study is about the 'Role of internet in health decisions and health choices'; thus, a researcher has to come up with a set of questions about when changes are taking place in society. In this context, some of the utmost significant questions are: (1) What are the patterns of internet usage for healthcare purposes? (2) How the internet utilization has brought about changes in health management both at an individual level as well as at the institutional level? (3) what are the socio-economic impacts of internet usage for health management? The present research is aimed to unpack these realities by providing cases from the field.

In the present context, people regard the rise of digital technology as a form of global speeding up, a rapid and unrelenting storm of the unexpected. Anthropology is, thus, entrusted with

incorporating and comprehending this digital world (the digital world refers to the availability and use of digital tools for digital gadgets, internet communication, , smart devices, and other smart technology). It provides us with a discipline that is more evenly matched or well-rounded and equally interested in the full range of human experience (Miller, Daniel 2018 in Digital Anthropology).

This leads us back to traditional holistic ethnography, a key element of anthropology, where we attempt to comprehend how individuals react to everything that has an impact on their life. We continue to focus on the larger context of people's non-digital lives in order to understand how they interact with digital technologies, as nobody lives entirely online. The focus will also be on those aspects of digital culture that have spread throughout society more widely, such as social media and cellphones, since they are general ethnographies of populations. Anthropology has maintained its comprehensive methodology and is no longer just a talking point in discussions about the benefits and drawbacks of digital technology. Since it places new technologies in a much broader cultural and social framework, it is, therefore, the discipline most likely to understand the inherent paradoxes and complexities that come to light when considering their use and effects more broadly (Miller, Daniel 2018 in Digital Anthropology).

Therefore, to characterize ⁴⁷ the internet primarily as a source of information would be a misrepresentation. The internet is categorized as a learning tool and a networking tool for the purposes of this study. Here learning tool is used in the context of education, skills development, information gathering, and the like. With regard to networking, it is used in terms of connecting both social and professional relationships. The respondents' responses to these two classifications generated many diverse opinions concerning life and health decisions.

Before going any further, it is proper to contextualize the study in terms of subject matter, geographical location, and the period of the study. This will not only reveal the scope of the research but also allow it to be more focused. In this direction, the subsequent sections will discuss the following aspects.

- Why studying the internet is important?

- What makes the present study an anthropological one?
- Have the research attempts already been made in this direction?
- Description of the study area.

Why Studying the Internet is Important?

The internet has become a necessary tool and progressively becoming a daily habitat in our daily life. The internet is a massive 'network of computers' that spans the globe (Millman, Andrew et al. 1995). The term "internet refers to the electronic network of networks that links people and information through computers and other digital devices, allowing person-to-person communication and information retrieval" (DiMaggio, P. et al. 2001; p.307). Theodosiou, Louise, and Jonathan Green (2003) describe the internet as a "network of networks that links computers throughout the world and addresses and defines the passage of information from one place to another." They also explain that "to understand the progress that is being made in rationalizing the information available on the internet, it is necessary to understand the difference between the internet and the World Wide Web" (p.387). Whereas, for Levy, Judith A and Rita Strombeck (Dec. 2002), the internet is a technology that is seen as a technology that will have an impact on all spheres of our life and will bring a new era or new cultural order called 'informational and knowledge society.'

Schwimmer, Brian said, "the internet is a vast and expanding computer network that has the potential to provide substantial resources for the anthropological scholarship with unprecedented rapidity and economy. It promises or perhaps threatens to transform the character of academic work. However, there has been little use or consideration of this new technology within anthropology beyond a small computer-literate group partially isolated from colleagues within a separate sphere of communication" (June 1996; p.561).

In the 1990s, the internet became the main thrust for the development of the world economy, and the hypothesis of 'the new economy' was very famous. The inescapable of the internet and the advancement of 'Information and Communication Technology' (ICT) ventures have essentially changed the design of the world economy (Ed. Kagami, Mitsuhiro et al., 2003). As a

communication platform, the internet has enabled us to access vast interdisciplinary research fields in all areas, especially related to social and cultural change, the main topic in anthropological theory. It is also a well-known reality that the internet is not a structured system but a place connecting millions of computers across the globe, bringing us closer to one another with a click of a mouse or by using a touch screen.

How this is nonlinear and a hypertext medium. The internet is seen as a significant innovation that came into existence in the late 20th century, and ever since its discovery, the world has become different. The level of internet diffusion, though, is not uniform across the globe, as one can see the rapid pace of its growth in the industrialized nations, while it is slower in developing countries. Keeping aside the differences in the rate of internet diffusion, we can find many studies have been focused on its growth. However, there is also a need to research or study to fill these gaps, to understand and determine the value of the internet for consumers (Morton, F.S, 2006).

Like any other form of 'Mass Media,' the internet is fast-paced, competitive in nature, and has become an important medium for commercialization (Cassell, M.M et al. 2010). In the present world, telecommunications (communication over a distance by cable, telegraph, telephone, or broadcasting) have progressed in such a way that it seems like distances are non-existent, making the world into one global village (Freidman, T.L, 2005). Looking back, a doctor could diagnose and treat a patient via face-to-face meetings. Still, today it can be done from a distance, which comes in the form of telephone, video calls, or video conferences, including (GoogleMeet, Zoom, Twitter, Skype, Cisco, and the like) and also by showing the results of a blood sample, and body screening (Health action, Jan. 2009). One can see how information and communication technology have been colonized by capitalism. Thus, the internet bridged the social gap and social distancing and solved all our problems in a blink of an eye with a mere pinch of social, economic, or financial assistance, especially during this COVID pandemic. It's a high risk for people (especially those who did not get vaccinated) to visit the hospital due to the ongoing pandemic. Hence, people prefer to consult doctors by using ICT.

Researchers have argued over time about interactivity (interactivity is the correspondence cycle that happens among people and PC programming) as the critical aspect of the internet, which has become an assertive communication for health information in a span of a few years. These interactivity capabilities to disseminate and relay the correct information quickly made the internet even more reliable in processing and promoting health information for consumers. Thus, making the internet even more popular in this present era (Ardevol, Elisenda 2005). This growth can be attributed to the developed and developing countries around the world adapting to the new technology and absorbing it into our everyday life (Bass, S.B et al. 2006). In his research, Zhang, Y (2007) discovered that the number of individuals who utilize various subcategories such as the World Wide Web (WWW), telnet, and use-net, collectively called 'internet,' is undoubtedly incredible. The internet has made it possible for us to effectively complete various tasks in a given second/minute and has made its presence ubiquitous, and its growth is never-ending. Currently, scientists are collaborating with corporations or private industries to build robots to replace human beings and serve as front liners in health care. Many ethical questions arise in such a time like this when new scientific ideas and practices emerge in our contemporary society.

Presently, we can find several terminologies regarding the internet serving as a communication tool, some of which are Nursing Informatics, Clinical Informatics, Telehealth, Telemedicine, Information and Communication Technology (ICT), Consumer Health Informatics, Telecare, Cyberculture, and wellbeing.

Eysenbach, Gunther (2001) uses the phrase 'e-health' refers to the application of cutting-edge information and communication technologies to enhance health and healthcare. Trends of people flocking towards the internet and its impact on society give rise to a new culture called 'Cyber Culture' (the social condition achieved by the boundless utilization of PC networks for correspondence, amusement, and business). Ardevol, Elisenda (2005) say cyberculture has become one of the essential topics for research that tries to study and understand the internet as a correspondence innovation, as another social setting, and as another imaginative and cooperative instrument.

Information is vital for effective health care delivery. Today, with the click of the mouse or touching a screen on a tablet, iWatch, phone, or laptop, we can gather information on anything we need. The internet is revolutionizing our lives. The whole medical world is networking via the internet. In no other field has the internet proved its high performance better than in the medical field, where time is a critical factor and the correct information at the right time can be a subject of life and mortality. The internet is both a media and a distributing channel. It offers the possibility of one solution for information, communication, and transaction (Health Action Jan.2009). In this connection, Fiona Scott Morton says, “consumers take time to learn how to use any new technology, so the way people are consuming the internet changes over time. New consumers are continually discovering the internet, so the mix of skills and demands among users is changing. Also, in order for the internet to become useful to ordinary consumers, complementary innovations had to take place, such as in the area of business models. This innovation has been occurring at a great pace, so there are now many businesses designed to sell products, services, or information that people want to buy or access online” (2006; p.69). The internet has thus established itself as a must in our present condition, where almost everything, including social, political, and economic, is entirely dependent on its availability.

How the Present Study is an Anthropological One? And How is it Different From the Mass Media Studies approach

Medical anthropology has undergone various changes starting from the start; however, its applied center continues as before. Its strategies and objectives have extended since its presentation was pushed by W.H. R Rivers and the Torres Straits Expedition of 1899. After their work, there is a demand for ethnographic studies, emphasizing collaborative research between indigenous and biomedical practitioners (Glazier, S.D et al. 2010).

Due to the industry's dependency on modern technology, its impact can be seen in the profound cultural changes around the world, especially in the developing world, where modern health and medical practices have had the most significant changes (Lieban, R.W 1973). Anthropologists have perceived that all social orders have numerous here and there inconsistent thoughts in regarding to disease, relieving, and well-being, going from predominantly local systems (like

core shamanism which is also known as traditional religious beliefs) to scientific methods (like biomedicine) (Glazier, S.D et al., 2010).

In the early time, anthropologists exploring healthcare and disease zeroed in on the connections that social frameworks have with associations, institutional practices, power structures, and the epistemological underpinning of clinical information. Additionally, they have investigated the social degrees of well-being and sickness according to ethnographic viewpoints. Similarly, anthropological ways to deal with medical services shift from those of other social researchers in a few regards. Like how sociologists frequently concentrate on a solitary foundation, medical anthropologists concentrate on different establishments and embrace clinical pluralism (Baer, Singer, and Susser, 2003; see in Glazier, Stephen D., and Mary J. Hallin, 2010, pp. 925). Likewise, anthropologists take a gander at wellbeing and disease according to a more extensive viewpoint, for example, topical and similar articles to address subjects as different as bioethics, clinical pluralism, shamanism, vagrancy, nourishment, social separation, maturing, breastfeeding, inoculation, genital mutilation, liquor use and chronic drug use, cholera, culture-bound conditions, stress, diabetes, loose bowels, HIV/AIDS research, mental impediment, intestinal sickness, tobacco use and misuse, unexpected newborn child demise disorder (SIDS), and tuberculosis.

All social orders share normal misgivings to personal satisfaction, evaluation of human existence, and the accepted adequacy and inadequacy of their own clinical practices. Along these lines, in this specific situation, medical anthropologists have extended their fields of study to consolidate unpredictable social, rational, strict, political, moral, and financial issues like organ transfers (Lock, 2001; see Glazier and Hallin, 2010, pp.926).

The medical anthropology field is described by its viable concentration and utilization of broad ethnography and member perception strategy to see better the intricacies of well-being, sickness, and medical services. Medical anthropologists likewise analyze how individuals make sense of and treat illnesses and how individuals adjust to changing conditions (Glazier, S.D et al. 2010). As Helman, Cecil G. (2001) keenly noticed, it is hard to isolate a general public's medical care framework from parts of their religion, governmental issues, or financial matters. The

inconsistent division of medical services areas into well-known, society, and expert is unreasonable and unacceptable. Like other social researchers, Helman (ibid) frames an assortment of help-chasing ways of behaving that, he advocates, will inescapably prompt what he called 'medical care pluralism'. He accurately battles that while one arrangement of medical care might raise over all others inside a predetermined society (and that structure might be kept up with entirely by the general set of laws), it can't be separated from elective recuperating methods or other cultural establishments (2001; see in Glazier and Hallin, 2010, pp. 929).

My field of research falls under basic 'Critical Medical Anthropology'(CMA), which features the designs of force and dissimilarity in medical care frameworks and broadens the extent of medical anthropological studies to incorporate more extensive causes and determinants of human direction and ways of behaving, as they connect with wellbeing and sickness (Singer and Baer, 2007; see Glazier and Hallin, 2010, pp.929). It likewise incorporates a basic comprehension of well-being and disease by concentrating completely on the upward joins, including people to territorial, public and worldwide powers. Critical medical anthropology additionally looks at principal social designs of well-being and sickness according to designs of force and divergence in medical services frameworks. It shows how these prevailing frameworks reinforce social variations and how savagery, poverty, and the apprehension about fierceness connect with illness. The 21st-century medical anthropologists have accordingly become less disparaging of biomedicine and are currently giving significance to the development of overall admittance to medical services.

1 Studies on the Internet's Growth as a Source of Information

Coulter, Angela (1998) agrees with the internet technology potential, which is proliferating in almost every discipline, including that distance education and online learning as well. Adding on, she said that "more and more instructors have taken advantage of online learning flexibility, have utilized e-learning as a mechanism, have made their teaching materials available in the internet, and have made a new segment of higher education for those who were unable to attend traditional courses on campus" (1998; p.263). This explosion of internet usage is transforming the access and delivery of health information and plays a major role in the consumer's health decision-making, health-seeking behavior, and health policy (Health Action, Jan.2009).

Schwimmer, Brian (1996) concurs that the web has made additional opportunities for correspondence, distribution, and guidance because of its productivity, adaptability, and accessibility. In any case, all the while, it has imperiled a developing group of electronic writing because of its low expenses and creation and upkeep. Cassel, Michael M. et al. (1998) fitly portray the internet as a new 'hybrid channel' for comparative advantages. They describe these advantages in ways where the internet is a medium between individuals and promotes social support groups not bounded by time and space. Likewise, messages or emails can be stored privately and used per the user's need, and it also helps in real-time video conferencing from a distance. Cassel and colleagues (ibid) are convinced that what makes the internet predominantly salient is its ability to merge the broad achievement of mass media channels with the convincing abilities of interpersonal channels.

Eysenbach, Gunther et al. (1998) fall in line with other thinkers and researchers and thus conclude that the internet's speed and intelligence have made it an unrivalled source of health information. Eysenbach and colleagues (ibid) say the internet, as a "source of information at our fingertips with health information, has transformed the approach in seeking health information and has completely changed consumer decision-making process, particularly within the health care industry" (1998; pp. 1496).

Shepperd, Shasha et al. (Sept.1999) also agree that the internet plays a significant role in acquiring health information online. Benigeri, M. and P. Pluye (2000) suggest that the reason for the growth of healthcare information on the internet is due to the continuous development of medical information websites. Still, they supplemented it by saying that it should be noted that most of these websites were meant for health professionals in the early days. However, more and more websites are coming up that directly address consumer needs by providing them with the necessary information for their healthcare, health problems, and prevention. Further, they add to this, saying consumers can now access scientific evidence and educational materials and get online doctors, chat rooms, online counseling, and support groups. Parker, Michael and J. A. Muir Gray (2001) also agree and say that the internet's popularity is because of its role in healthcare practice, which can be explained in the form of an increasing number of health-related websites as consumers seek health information to supplement the information they get from

traditional sources, local doctors, doctors, and friends or family members. ¹⁵ Cline, R.J.W and K.M. Haynes 2001; Mittman, Robert and Mary Cain, 2001; Murray, Elizabeth et al., 2003, share a dream that web conveniences which are promptly accessible, assist in interacting with specialists, buying medication, support gatherings, social change programs, get data on medical issues, and convey different undertakings pertinent to the well-being of the health management.

Berland, v et al. (2001) agrees on the ever-increasing popularity of the internet as the dominant source of information for consumers. Penson, Richard T. et al. (2002) also agrees with them, adding that the internet, especially broadband services, has significantly improved and created the perfect platform for consumers to better health care services and management. Levy, J.A and Rita Strombeck (2002) find that the internet has established itself as a primary form of communication linking millions of people worldwide in the last two decades. These sources might incorporate different media like TV, radio, films, papers, and magazines, which continually besiege us with data straightforwardly or by implication about our current society.

Richard T. Penson et al. (2002) believe that before the internet became a major resource for the distribution of medical information, patients or consumers had limited options. Thus, they had to collect health information from library stacks full of medical journals or simply trust the doctor's opinions. Penson and colleagues stress the coming of the internet, which brings along infinite information for any given problems patients can now easily access and retrieve this information at any given point in time. This information can be accessed within seconds and dispersed to a large audience located within different geographical boundaries, which has dramatically altered the health delivery system and the practice of medicine.

¹⁴ According to Craan, F and D.M. Oleske (2002), the internet is a reputable healthcare information source for health promotion and preventive medicine. Theodosiou, L and J. Green (2003) also observe that lay people can quickly obtain up-to-date health information in their own space at any given time. Looking at the present situation around the globe, the usage of computers involving the internet has become a common way of life. In their studies of women's internet usage, Bowen, Deborah et al. (2003) found that the internet is greatly influencing health communications and health-related decisions. They also found that computer and internet usage

statistics come from different sources, and reliability is questionable. Yet, there is a significant trend of agreement: the extensive diffusion of the internet into our lives. Bowen and colleagues (ibid), in their research, found the internet transforming different forms of communication, starting with online shopping to the creation of new social groups. Through their research, Eysenbach et al., 2004 and Seckin, 2005, found that one of the reasons for the ever-growing popularity of the internet, particularly in the case of discussion groups, is because of people suffering from chronic diseases becoming hands-on-experts in coping with the illness. Thus, the internet becomes a medium for them to share their experiences and precautions.

In line with other researchers, Cotten, Sheila R and Sipi S. Gupta (2004) explain that the internet, which offers a wealth of medical knowledge, can vastly improve an individual's health management. They also talk about the advantages of the internet, which include the possibility of acquiring precise health information and making better health decisions, choosing specific health professionals, chat groups, and medical care. Likewise, Wager, Karen A. et al. (2005) also explain that internet popularity is because "ready access to timely, complete, accurate, legible, and relevant information is critical to health care organizations, providers, and the patients they serve" (2005; pp. 2). Ritterband, Lee M. et al. (2005), in their study on internet usage among Americans, found that 70% of parents with children under 18 years old use the web to seek health information, which has become an everyday activity. They also found that 75% of people between the ages of 15-24 have utilized the net for health information.

In their research on internet relationships with patients, Bass, Sarah B., et al. (2006) found that the 'growth in information and communication technology' has brought a revolution, which has allowed instant and equal access to everyone, something that was not possible before. This development enables individuals to turn out to be more dynamic members in focusing on their well-being and giving them the expected information to make sound judgments and engage in behavior that will improve their quality of life.

Goldner, Melinda (2006) says more information is needed to specify how people use these technologies to comprehend their impact better. Goldner makes sense of an absence of information on whether sick or sound individuals are bound to access the internet, perform well-

being searches, and trade messages with friends, family, and doctors. But he also points out that emerging researchers are beginning to study the impact of the internet on health-related activities.

Fox, Susannah (2006), in her study of internet usage for health information by Americans, found that an estimated 113 million Americans, i.e., 80% of the total population, have accessed the internet for health information purposes. Warner, Dorothy and J. Drew Procaccino (2007) say the internet is the optimum channel for acquiring health information, and people are mostly dependent on it. In India, over 130 million people went online in 2020 and 2021, with approximately 80 million going online in 2020 and 43% (roughly 34 million) going online as a result of the COVID-19 issue (Indiatimes report by Monit Khanna, Nov 2021).

As we all know, the internet has developed into a potent resource for acquiring health information; however, less or little examination has been done on what the internet means for our regular routines. Dependence on the internet is immeasurably increasing on a scale that cannot be measured, including our daily activities, from eating-sleeping habits to everything that revolves around us. We are at a point now where we cannot do anything without help from the internet. Leung, Louis (2008) said this reliance implies our commitment to the internet has become more dynamic than previously. Nonetheless, he said this heavy dependence on the web is frequently underestimated. He focuses on factors such as socioeconomics and expectation worth, or quality ascribes of health information sites influencing internet users, which will aid in reflecting on what well-being information obtained via the internet means for the discernment and closeness with which our lives are implanted. Leung (ibid) believes that the internet's popularity is particularly noteworthy not because of its broad nature but because of its coverage of chronic illnesses. Looking from this point of view, one can argue that it is due to the fact, containing an enormous amount of information. At the same time, it plays as a crucial role for people suffering from chronic illness in terms of privacy, emotional comfort, advice, and an emergency go-to.

Rains, Stephen A. (2008) agrees that the internet is becoming an essential resource for consumers to acquire healthcare information. Rains believe that a considerable portion of

attention is given to the internet and World Wide Web (WWW) due to its flexibility in processing health information at any given point in time. Seckin (2010) makes sense that in excess of 6,000,000 patients and their overseers in the United States utilize the internet to get health information on a typical day. On average, the amount of internet consumed by over 500 million people in India stood at 13,462 megabytes per user per month at the end of 2020 (Statista, 2020). However, the number of individuals in India utilizing the internet for health purposes remains to be documented.

Yasin, Bahar and Hilal Ozen (2011) find the internet's increasing usage in recent years is due to the internet becoming a preferred source of information. It is further being supplemented by researchers who came to the same conclusion. Yasin and Ozen (ibid) talk about the four possible factors that add to the growth of the internet; firstly, health-related websites are readily available as per one need. Secondly, consumers become more aware of their sickness and the necessity to avert complications and are made to depend on self-wellbeing management. Thirdly, high-speed access to the internet has become more common. Fourth, consumers are more experienced with internet usage, and thus, navigating through millions of websites becomes easy.

With the expanding nature of the internet, the obvious outcome is the increased demand for health care information. This development in information and communication technology has pushed the consumer's approach to healthcare services and information at an unstoppable level and, in the process, ensures that the internet is integrated into our daily lives. The ever-growing nature of the internet has opened up a vast array of options for consumers in search or seeking advice for their health-related information. These advances in the field of communication technology have enabled consumers to a variety of channels to choose for their particular needs. For more than 50 years, anthropologists who work in the field of international health have grown in stature as researchers, consultants, and supporters of modernist initiatives in medicine and public health. AIDS and its worldwide awareness altered the institutional, financial, and political architecture of international health in the twentieth century, culminating in a vibrant global health movement led by anthropologists who are also medical activists. Anthropology in global health is now one of the most significant empirical and theoretical topics in anthropology.

Health care technology applications contribute to making it affordable. They can also improve patient safety as well as strengthen the public health care system. Similarly, information available on the computer has contributed significantly to infectious diseases, like HIV/AIDS, and distributing anti-retroviral drugs. It also helps in fast coverage of new diseases, geographical areas of their prevalence, and so on. Endless possibilities and limitless wealth of knowledge provided by the internet have pierced the boundaries and extended beyond local and regional boundaries, providing unique channels to various consumers. Besides, it also provides a higher degree of interactivity, mail exchanges, tailored health messages, ease of use, fast communication, and widespread accessibility, making it ideal for delivering health information more individual and relevant to the consumers (Health Action, Jan.2009). At this point, it is right to acknowledge ³¹ the internet as a major source of health-related information and include all other things that affect our lives directly or indirectly.

What does Internet Popularity do with Health and Health Care Management?

We notice a wide range of approaches which is also due to the new medium called the internet and its interface with health. In this regard, Mittman, R and M. Cain (1999), in their research on ¹ the future of the internet, particularly in health care, medical services have discovered the internet, and the internet has found medical services. They bring up that the patients make online networks that give peer support, data on the most recent investigations, and their accounts and encounters. Besides additionally use the internet for their exploration, latest information, consultations with colleagues, and keeping in touch with their patients.

Benigeri, M. and P. Pluye (2000) explain that there is ever-increasing information on health. It can be attributed to rising medical websites that directly address the population on their specific health problems, self-care, and prevention. Parker, Michael and J.A. Muir Gray (2001) say healthcare and health management are the main reasons for internet popularity. People tend to seek out health-related information and services to supplement their knowledge of disease and illness apart from the knowledge they gain from doctors, local doctors, family, and friends. Eysenbach, Gunther and Thomas L. Diepgen (2001), in their study on the 'role of e-health and consumer health informatics,' say that access to health is a matter of concern for any developing society. Eysenbach and Diepgen (ibid) explain that the patient's or consumer's desire to have

more control of their health and the willingness of doctors or health professionals to meet all the needs of the patients have coincided with the rise and expanding the accessibility of data innovation.

Many of us have updated our health management practices to fit internet use. While the collective knowledge of our physical health is increasing, the presumption is that health maintenance is an individual responsibility. It is not necessarily a favorable outcome of internet-mediated health care because health outcomes are connected to social support and community standards. World Health Organization (WHO) characterizes health as a community issue. Individual health outcomes are as much a product of unique characteristics and behaviors as the physical, social, and economic environment that predict them.

Health and healthcare have evolved over the past thirty years and emerged as an exciting and vital field of study, made possible by human and communication technology's influential and dominant roles in healthcare delivery and health promotion. Management of health falls under the applied area of study as it analyzes the “pragmatic influences of human communication on the provision of health care and the promotion of public health, and also it enhances the quality of health care delivery and health promotion” (Parker, Michael and J.A. Muir Gray, 2001, pp. i33). It is a networked society and therefore requires the internet.

This surge in health-related material on the internet suggests that things are not slowing down. For instance, typing a solitary word ‘health’ in the conventional web search tool yields more than 13,09,00,00,000 pages (thirteen billion nine million as of the December of 2022-Google) about health. Therefore, importance should be given to managing this technology which is transforming health and healthcare, to ensure patients or consumers become knowledgeable decisions, helps doctors and health professionals to be up-to-date with the best treatment and therapy management for their patients, and help administrators to facilitate the systematic course of patients or consumers through an increasingly complex healthcare system.

The most trusted websites at present, which can be obtained through generic search engines include; Mayo Clinic, WebMD, Drugs.com, Medline Plus, Cleveland Clinic, American Diabetes

Association, National Institute of Health, Family Doctor.org, Kids Health, National Health Service, Heart Hub, Fitday, Health.com, Yahoo, Centers for Disease Control and Prevention, Mens Health, Sexeducation.com, and Shape.com. In summary, the studies show that new directions are possible.

Studies on Internet Influences on Healthcare and Management

Klein, Richard (2007) uses the term e-health to refer to the emerging trend in information and communication technology, i.e., the internet, which improves the overall management of health care. Klein (ibid) said the internet as a whole provides easy and open access in regards to health knowledge, disease, medicine, management, and research findings without digging into our pockets. As a result, the consumer's knowledge of health problems has created a rift between the patient and the professionals. Klein (ibid) also points to the growing number of disease groups that act and provide support, advice, and platform to share experiences. He stresses the need for a common ground for health practitioners, local groups, and the government to come together and utilize the internet for the overall benefit of society.

Mittman, Robert and Mary Cain (1999) explain how the internet has made extensive inroads into health care services, delivery, administration, and as a source for consumer health information. They say that it is only possible because it is cost-effective, easy to access, offers an array of health information, and liberates the consumers to a worldwide organization of individuals sharing specific interests. Thomas, Karl W. et al. (1999), in their research on internet evaluation, found that the internet revolution has brought an escalated trend of consumers engaging as active participants in their health care and management, which has resulted in the shift in health information knowledge available to consumers besides the health professionals who were the only source in the beginning. According to Millman, Andrew et al., "there is no shortage of ideas regarding how one can utilize technology to work on clinical practice, give more information to the patients, and upgrade the nature of the accessible information and direction (1995, pp. 441)".

In their research on the health benefits and risks of using the internet as consumers, Levy, Judith A and Rita Strombeck (Dec. 2002) considers the internet to be a substitute source of health information. They observed that people who obtain information from the internet tend to avoid

health professionals. At the same time, they empower themselves upon stumbling on some health professionals they met online. Looking back, one can find a stark contrast with how consumers seek health information entirely depending on traditional health care services and medical centers or doctors. However, the onset of technology in the form of the internet not only provides but has also reduced the barriers to accessing health information and provides a sense of privacy that is sensitive in nature. In this context, we can also focus on the advantages of the internet in terms of health secrecy, empowering the consumers, and giving them back control of their health-related problems. Keeping in mind, the mentioned benefits of the internet, it is safe to assume that seeking health information is an apparent impact of having the internet, which is now deeply rooted in our daily lives.

The changing scenery of healthcare for the consumers is increasingly growing, creating demand for ease and access to health professionals, which are readily available through e-health initiatives. Lewis, Tania (2006) said, “the emergence of RealAge.com and other personalized health websites can be seen as part of a wider trend across the media. From television to the print media, health issues today are increasingly discussed in terms of individual rather than governmental or social responsibility. Reflecting a shift in the language of public health and health promotion more generally, media coverage tends to focus on the notion of the healthy responsible citizen as an essentially self-managing and self-monitoring subject” (2006, pp.521). Lewis also indicates that in this new era of technology, consumers are encouraged to mold their own health care management. Essentially, one should not accept health as something outer to or outside the individual's control, yet all things being equal, one ought to embrace it as a feature of a more extensive connecting of thoughts of the body, self, and way of life. In this association, Lewis (ibid) gave a guide to make sense of, like how we pick the furniture in our home; we ought to have an inquiry about the sort of diet to stick to, sort of activity methods to follow, and sorts of 'unsafe' ways of behaving one decide to enjoy, which she explains are progressively turned into a piece of our more extensive form of life.

Porter, Ann and colleagues (2007) express that doctors should and need to look into this trend and support their patients in seeking out the correct health information from the websites and help them in the decision-making process instead of acting as the only doorway for health

information. Instead, they should act as advisors and partners in the seeking process. In her studies, Rains, Stephen A. (2008) found that the internet has been widely accepted as a valuable prospect tool for obtaining information on health, care, and services.

According to Seckin, Gul (2009), the usage of the internet to access specific health information has risen over time, particularly in the field of chronic illnesses. Not forgetting its capability in health care management, discussion, support groups, messaging, list serves, and chat rooms have emerged as a 'virtual self-health care network' component. Seckin (ibid) explains how our modern society is characterized by how the internet allows for easy access to medical information for non-professionals. It is possible because of the presence of many websites and chat groups, social help groups, and online discussion groups adhered to one specific health problem. All the studies (literature review) agreed that the internet's rise as a medium for health and well-being is well acknowledged and continues to grow infinitely fast. The internet has become a ubiquitous medium for health and wellbeing. The number of digital health interventions available has exploded in recent years. From the popular fitness trackers on your cellphone to virtual reality training programs for back pain and chronic disease management, the digital space is full of resources that promise to improve your physical and mental well-being.

Concerns on Reliability and Quality of Information

In its initial stage, Levy, Judith A., and Rita Strombeck (2002) unequivocally feel that the amount of healthcare-related data and the number of internet clients will continue to increase exponentially. They are concerned with the ever-increasing dependence on the internet, as the younger generation is slowly shifting from the traditional concept of a doctor-patient relationship. But at the same time, though the more youthful era may be going to the internet for well-being-related data, they are not blindly following information found via the internet. This is keeping in mind the biased nature of the internet among trusted sources such as doctors, parents, and schools. Despite the apparent security loopholes and ease of the internet, it is developing as a fundamental wellspring of health data, particularly during this pandemic. Individuals (both youth and aged), everything being equal, relies upon the internet for medical services and information. Levy and Strombeck (ibid) find that the internet is clearly a place for young people to express and explore topics that they cannot share with others. They also found that the information

influences many young people they found online; with this information, young people discuss it with their friends and family members and act accordingly. Further on, Levy and Strombeck (ibid) found that these 'health surfers' said they had changed their lifestyle and behavior with the help of information found online, and one in seven says they have actually visited the doctors on their find.

Dochartaigh, Niall O (2002) expresses that instead of just accepting the internet as the main subject of research study, we must consider and develop a new design of research expertise that addresses the challenges the internet brings. Keeping these in mind, there is a need to revive and reinforce traditional research values such as flexibility, rigor, and skepticism while also developing new approaches which will permit us to make the most favorable use of these resources since an increasing percentage of information being processed by researchers and scholars around the world is channeled through the internet.

Based on their research, Tian, Yan and James D. Robinson (2009) conclude that many individuals, when accessing a website, he/she have some intention in mind. However, this intention tends to deviate as it stems from specific web pages due to the presence of an uncountable number of hyperlinks and interactivity of the internet. They also found that a number of users utilize the internet and, upon stumbling across heaps of health information, consume such information as concrete/relevant data. Thus, Tian and Robinson (ibid) conclude that such decisions will have an important implication on their knowledge of health, attitudes, and behaviors.

Teufel, Martin et al. (2011) explains that in the context of health information and management found online, many studies have solely focused on the validity and reliability of these internet sources, its impacts on the doctor-patient relationship and telemedicine (alludes to the contribution of broadcast communications and virtual innovation to convey medical services beyond customary medical care offices -WHO) web base treatment. At the same time, they lament the absence of the scientists' validation of those health websites which the consumers frequent.

Analysts and researchers across the globe have noticed and encountered that consumers who frequently utilize the internet looking for healthcare information are more assured about their medical problems, are discerning, and can verify vast amounts of information in a given time. But on the other hand, this dependence on the internet dramatically reduces self-efficacy and reliance on doctors and medical practitioners to interpret their health problems (Health Action, Jan 2009, pp.8).

Black, Ashly D et al. (2011) work on the impact of eHealth on the quality and affluence of medical services, and find that eHealth technologies are constantly in progress worldwide, with a significant impact on the economy of the country/nation. In their work, they found England has put 12.8 million dollars into National Program for Information Technology (NPFIT) for the National Health Service (NHS). The United States of America, under the Obama Administration, has invested 38 billion dollars into eHealth projects in health care. They explain that such huge consumption is legitimate on the premise that EHRs (electronic health records), e-prescribing (e-prescribing), and automated decision support systems (CDSSs), and Picture Archiving and Communication Systems (PACS) will help in addressing the problems of reliability and validity in modern health care. While the internet offers an unprecedented number of tools for improving health and well-being, it is important to acknowledge that the technology itself is not a cure for illness and should not be viewed as a replacement for conventional health care. When used appropriately, however, the internet can be a powerful complement to traditional medicine and can improve access to health information and services. For example, chronic illnesses such as diabetes and high blood pressure can benefit from the use of digital technologies, provide support for mental health conditions like anxiety and depression, and promote physical activity and healthy eating habits.

Internet as the site of health-seeking behavior can possibly improve the validity, quality, security, and overall efficiency of healthcare. It additionally works with clinical benefits providers to assemble, store, recuperate and move information electronically and might potentially update the quality in three critical regions of any medical services framework, for example, individual wellbeing, medical care conveyance, and general wellbeing of the people. With the proper introduction of technological applications, the internet can significantly bestow consumers with a

better quality of health, shrink medical blunders, and lessen administrative expenses in health management.

Description of the Study Area

Hyderabad is known as the 'City of Nizams' and the 'City of Pearls.' Hyderabad was founded in 1591 by Mohammed Quli Qutub Shah (GHMC.gov.in, 2021). Hyderabad is divided into nine sectors according to cultural and economic zones such as Central, old city, Western, Northwestern, Northern, Northeastern, Eastern, Southeastern, and Southwestern, with several localities. It is quite possibly one of the most evolved cities in the country. In terms of area, Hyderabad is the sixth biggest metropolitan region in India, covering an area of 217 square kilometers and sitting 500 meters above sea level. Hyderabad is also well-known for its rich culture, history, and architecture, demonstrating its obvious position as a crossroads between North and South India. Her multilingual culture and multi-religion are topographically and socially known (ITU Cybersecurity, 2009). The population of Hyderabad stands at 6,731,790, of which 3,442,696 are male and 3,289,094 are female, with a literacy rate of 83.26%, of which male and female literacy is 87.31% and 79.04 respectively (as of 2011-2022 census), with a projected growth of 2.58% increase in population at the end of 2022.

Today, Hyderabad is popularly known for being the center point of Information Technology, Biotechnology, and Information Technology Enabled Services (ITES) and, in the process, has become the most dynamic city in the world. Most of these companies have established their campuses in the area of Madhapur, Gachibowli, and Hitech, which falls under the Western sector, which consists of Hitech City, Jubilee Hills, and Gachibowli, which comes under Ranga Reddy District of Telangana. Hyderabad is also referred to as the 2nd silicon valley of India and is now home to 500 best Fortune Corporations from all over the world (ITU Cybersecurity, 2009).

Statement of the Research Problem

Studies have shown that informed individuals are being able to access and use useful information online for their medical services, taking care of themselves, and prevent illness. Studies have additionally shown that these informed internet consumers are content with the information they

can obtain there and a half or a greater amount of these healthcare information searchers revealed their discoveries impacted treatment choices and their healthcare decisions.

Thus, the purpose of this research is to critically look at those who ² use the internet to get health information educated and tech-savvy youth (according to the Oxford dictionary, tech-savvy can be defined as ‘having a good knowledge and understanding of modern technology, especially computers) living in Hyderabad City. The question remains as to why there is a need to study the internet’s role in health choices and health decisions among the literate youth? ³⁴ There is very little research on the internet's impact on health-related decisions and choices, especially regarding Hyderabad among the literate and tech-savvy youth ⁴² in the age group of 20-60 years old, in the context ¹⁴ of the internet utilization for acquiring health information. Therefore, I will critically examine the implications of the internet, particularly the internet usage for obtaining health information, significant variables influencing their internet decisions for healthcare information and health decisions, factors affecting their doctor-patient relationships, and the digital gap brought about by this technological development.

Objectives of the Study

1. To understand the pattern of how the educated and techno-savvy youth in Hyderabad uses ² the internet for seeking health information.
2. To investigate the impact of the digital divide on health care delivery
3. To critically examine the doctor-patient relationship

¹⁷ Research Questions

In light of the accessible literature review, the following are research questions outlined and tried in the field.

1. Is the internet helpful for health-related information?
2. Who uses the internet most frequently, and why?
3. Is health information found on the internet changing our daily lives?
4. How can we bridge the gap in this relationship?
5. What is the main reason for the digital divide between people?

6. Is there a relationship between health care delivery and the digital divide?
7. What were the traditional sources of health information before the internet came into our daily lives?
8. Is the change ¹⁹ in the doctor-patient relationship affecting us in any way?

Significance of the Research

The importance of this research has a number of realistic applications. Firstly, the data collected will create awareness among the educated youth and how to utilize the information available on the internet properly. Secondly, it will help the institutions, administrations, social scientists, doctors, and parents to the growing issues and adaptability of the internet and how it can be accessed appropriately, utilized, and built as a bridge created by these technological advancements. Last but not least, the data collected will help researchers in the near future to develop better theories and conduct extensive fieldwork in this area.

The internet provides health information accessible to everyone, and many people are dependent on online sources rather than consult doctors. Therefore, I decided to do empirical research on the impact of the internet by targeting the literate and tech-savvy youth living in Hyderabad City. I have employed a mixed-method in this study, which I will explain threadbare in the following chapter.

Theoretical Framework

Critical medical anthropology (CMA) stance focuses on theoretical conflict and comes up with key questions on the impact of geopolitical and economic structures on the course of health and diseases. Hence, critical medical anthropology studies the way health care is embedded within the dominant and imbalanced social relations that of gender, class, and race. Ultimately, critical medical anthropology aims to contribute to the foundation of the betterment of the health care system as a whole. ³⁸ (Baer, Hans, A. Merrill Singer, and Ida Susser 2003, 2nd edition, *Medical Anthropology and the World System*, Praeger, Westport, London).

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Mittler, Jessica N., Grant R Martsof, Shannon J Telenko, and Dennis P Scanlon (March 2013) studied extensively the multidimensional and fundamental approach brought by consumer engagement in understanding behavior change. They carried out their studies with the help of previous studies by Gruman and colleagues (2009) as the basis of their research framework.

Mittler et al. (ibid) used consumer engagement to unsystematically depict an individual's close-to-home contribution and obligation to their part in healthcare management. Whereas Gruman et al. (ibid) refer the consumer engagement as behaviors to deal with one's medical care by taking part in different choices during the time spent in therapy and lifestyle choices. Gruman et al. (ibid) utilize four categories to explain the individual's approach towards health care and management, such as (1) commitment as individual limit and inspiration, which portray a singular limit and obligation to play a functioning job at his/her own medical care. (2) Engagement as a set of behaviors, (3) self-management behaviors imply the everyday errands a singular does to control and decrease the wellbeing from any sort of infection, (4) shopping behaviors refer to the activities carried out by an individual to be more effective in purchasing of health care, which includes choosing correct information for seeking out the right hospital, health plans and effective treatment options available.

However, they find that these interpretations of consumer engagement by Grumans (ibid) to be contradicting each other. For example, Grumans and colleagues (ibid) employ 'patient' when an individual interacts directly with doctors or physicians on personal health problems, whereas 'consumer' is utilized at the point when an individual pursues choices in acquiring medical care. They come up with a model that alone serves all these consumer engagement behaviors known as the ⁴“Engaging Consumers in Health and Healthcare in Communities” (ECHC) framework to fit the multilevel structure of consumer engagement interpretation.

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The engaging consumers in health and health care in communities (ECHC) addresses a concentric circle structure that shows that people, gatherings, and networks will impact each other at some random moment, yet not really in a direct design. ⁴The engaging consumers in health and health care in communities promote as ‘a particular trademark that impacts an individual's dynamic cycle and moves made to change their way of behaving’. This choice

interaction ⁴ has four categories: (1) remembering one's role in health, and medical care characterizes that an individual should be cognizant, recognize and hold the idea that there is still room to work on one's own well-being and plays a functional role to play and by doing so provides a desire to undertake behaviour modification, which includes the search of information. (2) Gathering information – refers to the individual's effort in pursuing the information related to their health which can vary in the form of browsing the internet, enquiring friends and family, through a newspaper or social media, and through the doctor for their health and wellbeings. (3) Gauging the choices – refers to the understanding, evaluating, also blending of information to check the immediate or aberrant advantages and monetary expenses of commitment replacements. (4) Taking part in healthy, self-administration, medical care experience ways of behaving and shopping ways of behaving - assuming the individual presumes that the advantages of progress abundantly eclipse the expenses, they will be asked to execute and maintain engaged behaviour. As a result, the method demonstrates that an individual's level of preparedness is strongly related to behaviour modification and that their level of behaviour may alter over time.

Mittler et al. (ibid) explain that these four stages of ⁴engaging consumers in health and health care in communities will show that an individual may progress or revert since each individual has different constraints and capabilities that affect their motivation and motivation involvement. For instance, an individual diagnosed with diabetes will have to rethink the responsibility as to how to manage their health and gather disease-related information and management. At the same time, these individuals may not see themselves as 'active shoppers' and may not look for information. However, this cycle is dynamic. An individual might stop at some random point; for example, they may collect information on the potential treatments but do nothing since they find it hard to comprehend, and any further research may deem unnecessary or overshadow the expected benefits. They additionally stress that characteristics like age, orientation, education, character, mental capacities, race, and nationality and factors like health status, income, financial status, self-adequacy, level of self-guideline, emotions, encounters, self-conception, abilities, information, attention to decisions, and convictions and values can incredibly impact the result of the consumer commitment. In this manner, I will utilize Mittler et al. "engaging consumers in health and health care in communities" structure to critically examine the internet's role in health choices and health decisions.

Plan of the Thesis and Organization is Outlined

My thesis begins with an introduction of why this specific research has been chosen for the study. The first chapter focuses on a brief discussion of why it is an anthropological study, the internet as a source of health information, the internet's impact on health and health care information, why there is a need for analysis, a description of the study area, statement of the problem, the objective of the study, research questions, the significance of the research, and theoretical framework and ends with conclusion.

Chapter 2 describes the methodology of the study, which includes sources of data collection, pilot study, field sites, research design, sampling procedure, study area, a sample size of the survey, unit of analysis, fieldwork experiences, tools of data collection, limitations of the research and finally concludes with the conclusion.

Chapter 3 provides an extensive review of literature on the relevant aspects and implications of the internet in health management, the causes of the digital divide, the changing relationships between the doctor and the patient, gender, age, and education, and reliability and validity of the information found online, and conclusion.

Chapter 4 provides a detailed explanation of the definition of the digital divide, its history around the world, and in India, what are the reasons for its occurrence, how we can mend the divide created by information and communication technology, the digital divide in India and Hyderabad, measures, and the chapter ends with the conclusion.

Chapter 5 focuses on the research data and analyzing the perceptions of the educated adults with the help of the SPSS data collected from the total of 150 respondents through a survey questionnaire, scheduled interview, case study and conclude with the conclusion.

Chapter 6 provides a detailed description of changing doctor-patient relationships in the age of internet, causes for the change in the traditional system of acquiring health information, how it affects our society, and some case studies on respondents, including patients and doctors, and their perception of the everchanging relationship due to the internet.

Chapter 7 gives an overview of the study, draws a conclusion, and discusses the implications for further research.

Conclusion

Cassell, Michael M. and his colleagues (2010) explain that to focus solely on the internet's remarkable achievements and its ability to store massive bulk of information and to ignore the internet as just a new and popular mass media is overlooking important features that foreshadow a much greater prospect it brings. As we know, the internet has become a primary source of information for academic articles and books, journals, magazines, and many more, which are free or of little cost. Huge advancements can be seen in health management, improving safety, quality, and costs and growing rapidly, crossing boundaries across the world (Health Action, Jan.2009). Levy and Strombeck (2002) found that the internet does not only offer pioneering ways to guide and disseminate information but is also increasingly becoming an indispensable source for addressing health problems and containment of diseases.

The year 2000 has come and gone; nevertheless, 'Health for All' appears to be miles away. The UN sustainable development goals for health are "ensure healthy lives and promote well-being for all at all ages" (un.org). It has three goals; one to reduce mortality rate, which include maternal mortality, infant mortality, eradicating pandemics (AIDS, tuberculosis, malaria, tropical disease, fighting hepatitis, water-borne diseases, and other communicable diseases), lowering the premature mortality rate, combating drug abuse, ensuring universal access to services for sexual and reproductive health, achieving universal health coverage, and lowering the mortality rate brought on by chemicals, air, soil, and water contamination; which are all projected to achieve by 2030. And one cannot simply deny the reality of progress in the public healthcare sector. Modern technology has enabled us to perform notable actions which would have seemed absolutely impossible only a few years ago. Healthcare professionals are now also up to date with the internet as they need to be in top of their profession since patients are armed to the teeth with help from the internet.

Anyone can have access to unlimited health information. There is no better or inexpensive way than the multi-media services over the internet for continuing medical education. Consultation

between experts, general practitioners, or specialists is no problem. The advice can be given or taken within seconds in real time. The internet is also used as a vast platform for the transaction and exchange of medical equipment. It is also an ideal marketplace for organizing human resources.

The internet has brought forth the web as an essential and enormous source of consumer health information. In this way, the internet helps consumers by providing an alternate source of information regarding sensitive subjects. It also helps improve health outcomes by encouraging us to have a healthier lifestyle as better-informed consumers and helps link people with similar problems. Not forgetting that increased dependence on the internet could also result in terrible decisions and reduce doctor-patient relationships.

Thus, this chapter presents a critical inquiry into internet users' reliance on ⁴⁷online health information, examining the implications of the internet in healthcare, choices, decisions, and the need for further research. To further strengthen my research, I will critically examine the research methodology of the given area under study in the next chapter.

Chapter 2

Methodology of the Study

Introduction

The current study aims to comprehend the effects of the internet on a range of aspects, such as health implications, changes in the doctor-patient relationship, and the digital divide brought by the internet. The research questions mentioned in Chapter -1 will be examined to understand (1) the patterns of internet usage for health management purposes. (2) How the usage of the internet has brought about changes in health management both at an individual level as well as at the institutional level? (3) what are the socio-economic impacts of usage of the internet for health management mentioned aspects? The research and methodology for this purpose are mentioned in the following.

Target Group and Geographical Location of the Study

The main aim of the present study is to critically understand the role of the internet by analyzing the collected field-based qualitative data and available secondary data. The study also focuses on how it can influence the decisions and choices concerning health and health management at an individual and institutional level. It is assumed that mainstream internet users are primarily educated and young. For example, the Pew (The Pew Research Center is a nonpartisan American think tank situated in Washington, D.C. It provides research data on social issues, public opinion, and demographic changes in the United States and throughout the world) Internet and American Life Project investigates the web's effect on networks, such as families, communities, work and home, medical care, civic and political life, education, and day-to-day activities. Fox, Susannah (has produced numbers of researches under Pew project in between 2000-2014) has done numerous extensive works on the internet's influence on health decisions and choices among the different age groups of the American population and found its strong influence, particularly on educated and tech-savvy youth. So, the educated and young people were consciously considered a focused group for the present study.

Likewise, the city of Hyderabad has been chosen based on the wide availability of internet users (as most of the information technology, software companies, engineering, health informatics, bioinformatics, and business district are located in Hyderabad city) and reachability to both target-group as well as to the field area.

Sources of Data Collection

In this study, I have employed ¹⁷ both primary and secondary sources. The primary sources include data collected from individual interviews, case studies, observations, and survey methods. My respondents comprise educated working professionals in various multi-national companies (MNCs) based in the Hi-tech City area and Gachibowli in Hyderabad, including selected postgraduates and research scholars in the University of Hyderabad. I have used both structured and unstructured interview schedules. In most cases, interviews with my respondents were completed in one sitting within 15-20 minutes. They are usually not available for interviews throughout the day except during their lunch break. Hence, I often interviewed them after their lunch hour (12.30 o'clock noon to 2 pm). It was a tedious process as I would go to meet my respondents in their respective private companies and wait for their convenient time. At the time, they were busy and could not give an appointment to meet even during lunch break, and I would return to my university without getting any responses. The secondary sources include articles from various journals, books (although there is a scarcity of books on this topic), Census reports, websites, YouTube, an online newspaper, magazines, and unpublished documents.

²⁶ **Pilot Study**

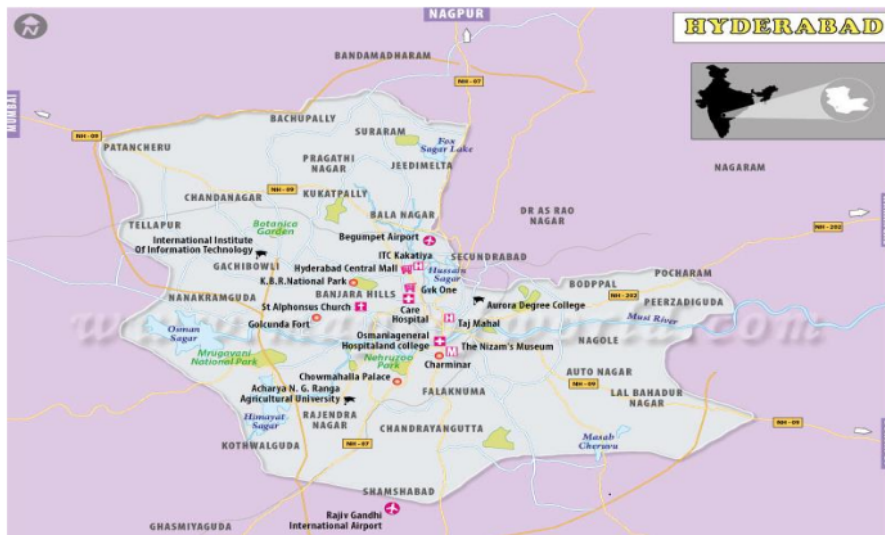
The pilot study was conducted in the month of March 2014 (which lasted for ten days) among the Students at the University of Hyderabad (HCU), where the structured and unstructured questionnaires consisting of 47 questions were distributed to 30 students to check the loopholes, applicability, reliability, and validity of the research questions. After a discussion with my Supervisor and Doctoral Committee Members, revisions were made. A few repetitive questions were removed. A few questions that do not provide flexibility and have less probability/no relevance to produce any change in the data collection were drawn. I want to point out that the 30 respondents who were involved in the pilot study were omitted from the final research

ensuring reliability in the collection of data. Thus, the last 53 questionnaires were prepared based on the outcome of the pilot study, which provides more flexibility to the respondents and is likely to produce a better result for the data collection.

Field Sites

After the pilot study in 2014, a study area or location was identified in Hyderabad City (see Figure -1), which includes the Bank of America Continuum Solutions located in Mind space Madhapur IT Park, Cognizant Technology Solutions Pvt. Ltd. located in DLF Cybercity, Dell International Services India Pvt. Ltd. located in Hi-tech City, Tech Mahindra located in Hi-tech City, Genpact located in DLH Building Gachibowli, and lastly University of Hyderabad located in Gachibowli. The Hi-tech City area in Hyderabad, known as Cyberabad, and the financial district in Gachibowli are considered the hot-spot for multinational companies.

Fig-1: Map of Hyderabad



Source: *Maps of Hyderabad, Govt. of India*

Research Design

This study is exploratory research, and it aims to explore the magnitude of how the internet influences the psyche of youth in the context of their health issues. The study used primary data collection to address the research questions and to understand the importance of internet health implications, uses, and changes it brings about in our daily lives (it is not possible to overlook the transformations between those who grow up in a technologically driven world versus a world without smartphones, tablets, laptops, desktop computers, and social media. Youth of the present age are actively engaged and immersed in modern gadgets or technology. When the need arises to explore something, they type in search engines that give a vast amount of information in a matter of seconds. When they want amusement, imagination is no longer required, as there is an overabundance of entertainment and games at their fingertips). The qualitative method employed here includes that of survey method, case studies, and individual interviews.

The qualitative survey method was employed to collect data and formulate, and answering the research questions. Survey research design offers distinct benefits, it has become ¹one of the most extensively utilized scientific research tools in social science research, notably in policy planning and assessment (Singleton & Straits, 1999). The reason for the utilization of this survey design is that it enables us to examine several factors simultaneously. The survey method has been used for gathering information on internet usage, health-related search information, and demographics.

Based on the outcome of this qualitative survey method, an interview method was extensively utilized to collect in-depth information, which included both open and close-ended questions to obtain qualitative information. The interview method provides us with an option to ask more personal and insecure questions in connection with the respondents' view on health information, search for health information, usage and the reliability of healthcare information accessible on the internet, as well as the influence of the internet on their everyday lives.

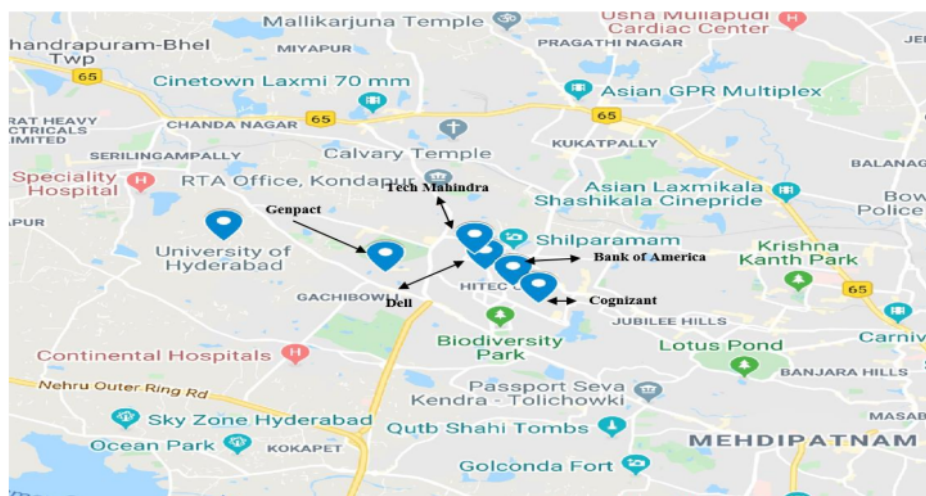
Sampling Plan

The purposive snowballing sampling method was employed in selecting the specific age groups, i.e., between the ages of 20-60 years old. Selection is made on the basis that the person in this age group will be actively engaged with work, study, and engaged with internet in daily life activities for the study. The purposive sampling method, especially non-probability sampling, was applied to save time and money since the subject under study is a vast subject. Besides, a snowballing method was utilized in conditions where I had to choose specific cases to help answer research questions and objectives.

Study Area

Hyderabad has become the capital for techno-savvy IT professionals in India, with an estimated urban population of 6.7 million, boosting a literacy rate (urban areas) of 82.90% (2011, Census report of India) and 83.26% as in 2021 census report. This city attracts people, languages, and religions from all over India. Such diversity makes it an ideal place for research because of its nature for diverse utilization of the web for health-related issues and problems. It is essential to point out that this study aims at the educated working IT (Information Technology) professionals and students pursuing postgraduate and higher studies/research scholars. Further, it is worth mentioning that almost all of the information technology and software companies are clustered together in around Gachibowli (see Fig. 2) and Hi-tech city. They are perceived to use necessary information and communication technology as that of computers, laptops, tablet, iWatch, and smartphones.

Fig-2: Locations of Study Area



Source: *Maps of Hyderabad, Govt. of India*

Sample Size of the Study

Two broad divisions of respondents were interviewed during the fieldwork in Hi-tech City and Gachibowli, Hyderabad. At the beginning of this study, I did not fix any sample size of the respondents since I was not sure how many people would respond positively. I used my personal networks and friends to convince people to be my respondents. Slowly, I managed to collect the data and some case studies from a total of 150 (one hundred and fifty) corporate IT professionals, students, and research scholars from the University of Hyderabad, spanning two years, 2014-2015.

Unit of Analysis

As mentioned above, the unit of analysis of my study is a total of 150 (one hundred and fifty) IT professionals, research scholars, and student respondents, comprising both women and men mainly in the age group of 20-60 years old, who are residing in Hyderabad. I was introduced to my respondents through my friends and personal networks. I shared with them about the objectives of this study, and they were selected as my respondents based on the non-probability purposive sampling method. I often wrote down the answers of my respondents and jotted down field notes, and then transcript them later. After the data was collected, I used the well-known Statistical Package of Social Science (SPSS) software to tabulate the answers and convert them into percentages, tables, correlate, and graphs. Then, I managed to write down the emerging trends of my research findings, and the analysis was made using Anthropological theoretical perspectives.

Fieldwork Experiences

The fieldwork was conducted in Hyderabad, the capital of two states, i.e., Telangana and Andhra Pradesh (Since the proposed new capital of Andhra Pradesh, has not been fully established. The proposed capital AP government has identified 3 capitals i.e. Vizag, Amravati and Vijayawada). The details of the study area will be further discussed in chapter 5. As Srinivas, M.N (1979) said,

"each fieldworker must face his own challenges and experience, his own triumphs and tribulations" (Pp 74). I have also encountered several challenges during my fieldwork.

As a research scholar at the University of Hyderabad and residing in a hostel, transportation was difficult between the Study Area and my hostel. Since I have been studying at the University of Hyderabad for almost twelve years, I can quickly locate my respondents in Hi-tech City and Gachibowli areas.

I started my fieldwork firstly at the Bank of America, a private Company, where 20 respondents between the ages of 20-60 were chosen with the help of my friend Ravi, who was working there and also included in the respondent list. On the day of the fieldwork, i.e., 4th April 2014, I reached the designated place, which is around 1.9 kilometers away from my present location, by noon by the local bus. In the beginning, I introduced myself and briefly informed my respondents about the objectives of this study. The conversations started with topics on sports and went into a wide array of issues which proved helpful in gaining and understanding a little bit about the respondents and further helped in my rapport building. Some respondents were a bit skeptical initially, but they agreed after I distributed the questionnaires to them and assured them of maintaining confidentiality.

My friend happened to be their group leader; thus, all the respondents were eager to help me. Sadly, the interviews had to be done during their lunch break, and my interview schedule was lengthy. And thus, I can only complete a maximum of two interviews in a day. The whole process of collecting data from 20 respondents in this particular field area took one month in April 2014.

My second field area occurred at Cognizant Company which started on 10th May 2014 and ended on 9th June 2014. Similarly, with the help of my friend Kumar, who introduced me to his colleagues, I collected data from 20 respondents. The same procedures were followed to collect data as applied in the first fieldwork. The third fieldwork was conducted in Dell International Company; likewise, data was collected from 20 respondents with the help of friends working there. For the data collection, it took nearly 30 days to complete (employing a purposive

snowballing method). Quickly, I moved on to my next fieldwork viz; Genpact Company, where the same procedure and technique was used to obtain information from 20 respondents. The fifth fieldwork was conducted in Tech Mahindra Company, located in a Hi-tech city, and the same procedure was followed here for the data collection. Lastly, I selected 50 (fifty) respondents from the University of Hyderabad who were doing their Master's and higher studies.

The interviews lasted about 15-20 minutes, depending on the respondents' responses to specific questions (such as questions on case-sensitive issues such as genetic disease, and the like). The study sample consisted of 150 respondents, of which 100 respondents were IT professionals, and the remaining 50 respondents were students and research scholars at the University of Hyderabad (HCU) who are accustomed to or familiar with the internet. All these questions have an option ranging from 2-7 choices, where both open and closed-ended questions are included.

It is also important to mention that the case study was conducted especially during the pandemic period, i.e., 1st, 2nd, and 3rd of Covid-19 (fieldwork was conducted between 19th November 2020 to 20th December 2020, spanning a duration of 31 days) to better understand and capture the significance of the internet role, it played in the doctor-patient relationships. The case study was collected from selected 20 respondents (respondents were chosen from the initial survey data conducted in 2014-2015 based on a total of 150 sample respondents), and seven doctors from different hospitals were collected with the help of a recorder and questions prepared beforehand.

The case study with the doctors was carried out by taking a formal appointment like a regular check-up without informing the hospital's staff about the purpose of the visit. This action was done in order to ensure an appointment (since several attempts had failed to meet the doctor for the sole purpose of conducting an interview). In a face-to-face meeting with the doctor, I carefully explained my situation and the purpose of the visit and requested them to help me out. Some doctors were initially reluctant (after explaining that the interview would not take long), but they agreed, which took 15-30 minutes depending on their schedule. On two other occasions, I got appointments with the help of my friend working there (as a health professional at Continental Hospital and AIG Hospital). These case studies will be reflected in chapter 5-

perceptions of the tech-savvy youth in Hyderabad, and chapter 6- the doctor-patient relationship in the age of the internet in India

Tools of Data Collection

To carry out this research, questionnaires were distributed to the respondents, and in-depth interviews were conducted. While developing the questionnaires, several factors are brought into consideration, such as occupation, age, gender, educational achievement, income, and location, which are very likely to influence the dependence and utilization of the internet as a whole.

Keeping in mind these questions and factors, the questionnaires were isolated into five areas. The principal segment comprises inquiries on respondents' details and covers the demographic information, and has four questions with 4-5 options for the respondents to choose from. The second section consists of questions on internet usage, daily activities, doctor-patient relationship, chronic illness, and websites that the respondents mostly use, particularly for information on health information. There are thirteen questions in these groups, and it also includes both open and close-ended questions. The third section consists of questions on internet implications on health and changes brought about by the digital divide. There are twenty-four questions in total, and the respondents were given five options to choose from each question. The fourth section consists of questions on internet information on reliability and validity and has seven sets of questions with five options to choose from. Lastly, the fifth section consists of questions on internet dependability and its impact and changes in our daily lives. There are nine questions in all, with five options that the respondents can choose to answer.

The questionnaire was again subjugated to test for grammatical and spelling errors, and once the adjustments were made, it was then ready to carry out an interview. The research tools include a ten-page questionnaire comprising fifty-three questions, an interview guide, a mobile phone to keep track of time, a pen and notepad, and a voice recorder which helped the reliability and validity of the said research.

Limitations of the Research Data Collection

1. Conclusions are tentative only due to the nature of the study.
2. The study is exploratory in nature. Hence, it provides valuable insights into the growth and implications of the internet in our daily lives, but the research findings cannot be used to represent the voices and opinions of the total population.
3. The study uses the purposive sampling method and snow-balling method, which has its disadvantages.
4. The study failed to include respondents from diverse backgrounds (such as non-educated, old people and kids, caste, religion, race, unemployed, and the like) and different professions.

Conclusion

This chapter started with the study targeted group and identifying the geographical locations based on the study requirements. The chapter then talks about the sources of data collection in carrying out the fieldwork and shifts to the detailed description of the study area, sampling, unit of analysis needed for the study, fieldwork experiences, tools of data collection, and ending it with the limitations of the study. Thus, outlining the detailed methodology of the study. In the next chapter, the focus will be on an extensive review of the literature.

Chapter 3

Review of the Literature

Introduction

Information and understanding of health and health management are increasingly accessed from the internet in articles, journals, magazines, newspapers, related videos, and books. But to better understand the change in the history of acquiring health information, I will review some of the research findings from the existing literature in the field of the internet as an emergent source of healthcare information. Who uses it, why, its implications on health management, and what are its consequences concerning the digital gap created by information and communication technology? At the same time, a rift occurs in the doctor and patient relationships owing to the ICT growth, particularly the internet. This literature review chapter is structured to examine the critical aspects of internet use pertaining to health information.

This chapter has been coordinated to analyze a few parts of online healthcare information. The chapter starts with a discussion on the practice of the internet in order to seek health information, the digital divide it brings, how it affects doctor and patient relationships, and the nature of online healthcare information. Finally, I wrap up the chapter with a conclusion.

The Internet as a Health Information Source

Craan, Fitzgerald and Denise M. Oleske (2002), in their research on North American internet-based medical information, portray the internet as an amazing wellspring of health information, health promotion, and health management. Internet helps patients participate in their own care. Craan and Oleske (ibid) put forth seven different ways by which consumers utilize the internet. Such as (1) to locate precise information on health problems and treatment, (2) to acquire information on selecting the right specialist, (3) to find new ways of treatment, and (4) to be aware of the causes and diagnoses of a given illness, (5) to know the adverse effects of a prescribed drug, (6) to understand the procedure of an ailment and treatment and, (7) to establish a connection with the support groups. Besides, they found that some of these questions can be

answered by a nonmedical professional, and some questions specifically have to be answered by a physician. Craan and Oleske (ibid), in their research on North America, found there are 181 million internet users, regular users, out of which 54% have looked for health information and accessed at least one of the websites which exist more than 15,000 health-related websites. Craan and Oleske (ibid) give reasons why people turn towards the internet, such as desperation, desire for empowerment, social support, and comfort. Patients may feel that they are not receiving optimal care due to a lack of insurance, anonymity, unanswered questions, and information reliability. The person may actually be looking for medical information for a friend or relative.

Craan and Oleske (ibid) listed twenty top websites which are famous for medical information online and concluded that while searching the internet for medical information, the bottom line involves using common sense. The consumer needs to pay attention to the various criteria mentioned above. Another beneficial practice is to compare websites or write an e-mail to a trusted site's authors because so many sites are related to the particular topic. Craan and Oleske (ibid) give an example of a customer when buying a car. First, the consumer must research what car to purchase; in doing so, the consumer checks many dealerships, then purchases after careful consideration. So, the consumer should not take the information found on the internet at face value. Instead, it is vital to do some further research and pay attention to the criteria of a good or ideal website and make sure the website been used fulfills all or the majority of these criteria. And that one must remember that even though a massive quantity of information is readily accessible on the internet, it will take some time to filter through it to make sure that it is valid and specific to the particular situation. Internet information should be a supplement to visiting a physician, not take its place of it.

Craan and Oleske (ibid) also point out the disadvantages of the internet in the form of privacy, validity and reliability, security, and authorization. They felt that these problems could be dealt with or controlled with these variables: criteria for information, peer-reviewed articles, and government regulation of medical information. The focus of their study is on the usefulness of internet and how it can be utilized, controlled, accessed and recommended.

Cotten, Sheila R and Sipi S. Gupta (2004) concentrated on how individual qualities, health status, and computer and internet utilization influence the healthcare information searcher among grown-ups in the United States. They accept that understanding these elements will assist us with separating better between individuals who utilize the web for health information and the people who do not. Cotten and Gupta (ibid) conjecture that specific qualities of people like orientation, age, race, pay, internet utilization, and health status will assist with recognizing individuals who look for the internet for well-being information and the individuals who do not. They likewise conjecture that individuals with advanced age, lower salaries, minorities, and males are less most likely to use the internet to get health information. They also expect that individuals who utilize the internet more frequently are bound to use the web for well-being and information-gathering purposes than individuals who do less time. In like manner, individuals with appalling medical issues are bound to utilize the internet for seeking health information than the supposed healthy individuals.

Cotten and Gupta (ibid) used data sampling, measures, and analytical design methods to better understand the responsibilities of health-related information seekers, socio-demographic factors, internet haves and have-nots, and computer usage, and the well-being of the individuals under study. Cotten and Gupta (ibid) find that women with a higher education degree report higher internet usage for health information, in the ratio of 31% female internet users to 19% male internet users for health information. Their study points out that individuals aged 40-52 years old with advanced education and higher income tend to report a higher degree of internet usage for health information. Further, this individual who utilizes online health information report better well-being, and 86% of the online group reports good or excellent health status compared to 60% of the offline group. These results are very well augmented with their hypothesis that younger, educated, and higher internet usage for health information report better well-being than offline individuals.

Cotten and Gupta's (ibid) study results suggest age as a key component of segregating ²³online and offline health information seeking and the presence of larger societal inequalities, which is creating a gap as to who can use the internet and vice versa. Cotten and Gupta (ibid) express the requirement for the scientist to notice the essential attributes of online and offline health

information seekers to more readily grasp the individual necessities, accentuate the requirement for progress in the space of healthy quality of information and accessibility, and furthermore comprehend the significant variables that make segregation between the people who seek ⁸ for health information on the internet and those who do not. They further stress the importance of education in having a critical impact on how the internet is utilized or consumed and have proved beneficial to those who knows how to fully utilize and has had positive affect in their health care process.

Madden, Mary and Susannah Fox (2006) look at how users use the internet during sickness, the pattern of internet usage, and how it has affected people in their daily livelihoods and especially in their health care system under 'Pew Internet Project', as on March 2005. They found that the number of consumers looking for internet health information playing a significant role in their life has reached seven million. While in December 2005, they found that one out of five, i.e., 20% of Americans, have interconnected with the internet, which has extraordinarily further developed how they get information on their medical care.

Madden and Fox (ibid) found that those people who said the internet had further developed their way of life multiplied from 16% in March 2001 to 32% in December 2005. Similarly, an expansion in leisure activities and interests moved from 20% in March 2001 to 33% in March 2005, and there was additionally an increment from 24% to 35% among the people who said the internet had worked on their capacity to take care of their personal jobs more productively. Madden and Fox (ibid) saw changes not only in the segment of internet vastness and its helpfulness but also in how the internet is particularly helpful in the field of medical information. Their study found that 36% of internet users of health information (or e-caregivers) said the internet had assisted them with tracking down counsel or support from other people and finding specific unambiguous experts. They also found a ratio of 58%-38% among those who said the internet is an important source.

Madden and Fox (ibid) address the vast array of topics and resources, proving the internet's popularity and dominance among individuals seeking health-related information. This array of resources includes in-depth clinical diagnosis and treatment research, well-qualified opinions,

access to local gatherings or social gatherings, and counsel on treatment and change choices. However, Madden and Fox (ibid) feel many individuals or consumers may not require access to that information at some random time. However, there is plainly a developing populace that believes the internet to be a vital source of information. Their study clearly points to the importance of the internet and its positive impact on those who are aware and consume it accordingly.

Fox, Susannah (2008) carried out her research with the help of the data collected from the Pew Internet Project survey in 2003, 2004, 2006, 2007, and 2008. Using these statistics, she tries to determine why people/consumers ¹ turn to the internet for health information and how it is being processed. From the 'Pew Internet Project' report, she found an estimated 75% to 80% have accessed the internet regarding specific health topics such as diet, drugs, remedies, and alternative treatment between 2003, 2004, and 2006.

Fox (ibid) confirms that health information seeking has become a daily activity for many Americans, particularly those with internet connections. Fox (ibid) points out factors such as educational qualification, income, and age as the strongest factors affecting internet usage. Fox (ibid) stresses that even among these internet users who seek health information, there are people who are actively engaged with online resources when there is a lot at stake. She cites the example of how 75% of patients with chronic diseases acknowledge more usage of the internet for information on their illness or condition than that 48% who do not have a serious health condition.

Based on the findings of her prior research as well as the current study, Fox (ibid) strongly indicates that it is due to the internet conveniences and positive experiences that have drawn in lots of people to utilize the internet for health purposes. She concludes by saying the population of e-patients {Dr. Tom Ferguson (is a senior researcher at Pew internet and American life project) refers to e-patients as a consumer with healthcare concerns who utilize the web as a healthy asset, looking into their illnesses, finding therapy focuses and demanding better consideration, providing different patients with inestimable clinical help and support, and progressively filling in as significant teammates and counsels for their clinicians} have

stabilized, and it is due to the internet that allows individuals to engage more deeply with information and one another.

Fox, Susannah (2011) research is based on the previous findings on the average American's internet usage under the 'Pew Internet Project'. However, in this research, Fox (ibid) focuses on the data collected from 3,001 adults from phone interviews driven by Princeton Survey Research Associates International conducted between August 9, 2010, and September 13, 2010.

Fox (ibid) explains that apart from this, 59% of the U.S. populace access the web for health information. There are cases where one goes online to look for information for the benefit of their family members, friends, and relatives, which accounts for 36%, and only 11% of individuals use it for themselves. Further on, parents with children are bound to assemble health information more than those who are alone and do not have loved ones. She also points out that 55% of internet users are in their age group of 30-40 years old, compared with 42% in the age range of 18-29, 46% of internet users aged between 50-64 years of age, and 36% of internet users aged between 65 years and older.

Fox (ibid) explains why education is the strongest predictor of internet usage; with the help of the data, she shows the difference among adults with various degrees of education. Fox (ibid) saw as 89% of internet users have advanced education, 70% of web clients have a secondary school degree, and 38% have a secondary school education. Of this 38%, just 62% use the internet to collect health-related information.

Based on her previous research, Fox (ibid) expresses how health-seeking information has become perhaps the main subject that internet users rely upon. She says that out of 59% of health information seekers in the total U.S. adult populace, including ladies, non-Hispanic whites, youth, those with more elevated levels of education, and higher earnings, are more likely than other demographic group to use the internet for health information. Fox (ibid) stresses that there are two forces at play when accessing the internet, citing an example when women and men access the internet; women are more likely to use it to acquire health information than their counterparts. These findings are in line with other researchers around the globe, where education,

cognitive skills, and income are the key factors in ¹determining who uses the internet for health information and who does not.

Seckin, Gul (2010), in his study on cyberpatients surfing the medical web, talked about perceived benefits and medical knowledge and examined a comfort test of disease patients who confronted the errand of adapting to a hazardous sickness. Seckin (ibid) found an overwhelming number of respondents, i.e., 80% who have cancer, reported medical websites as very helpful in making their decisions, management, treatment, clinical preliminaries, and late progressions in ongoing consideration. Seckin (ibid) saw practically 70% of respondents' apparent internet-based information as accommodating before they met doctors or health professionals (e.g., what questions to ask and how to interpret bodily experiences boldly). Out of the total sample, Seckin (ibid) found that 58% of respondents have especially involved internet information in their treatment decisions and dynamics of healthcare management. Similarly, 48% of respondents report online data has helped them pursue choices regarding whether to counsel an oncologist when a new side effect is experienced.

With the help of these findings, Seckin (ibid) found that the phenomenon of cyberpatients sharing their medical knowledge on their illness and involvement in decision-making with their doctors is becoming a typical type of clinical collaboration. Seckin (ibid) reports that the respondents did not affect their perceived benefits based on gender, age, education, status, or income. Seckin (ibid) stresses that focusing on how patients use online clinical information and how long they have spent at these websites will be crucial in understanding health decision-making and choices. Seckin (ibid) concludes that as patients utilize medical information found online all the more every now and again, giving additional opportunities to educate themselves has changed the roles and obligations from health consumers to health producers who are educated and engaged with the information. From this perspective, if we look back, an internet connection is not something that is readily available to all people. Still, few privileges (rich, developed country, urban/city, and educated with technical skills), but the rapid pace of development and government efforts in imparting technical skills and knowledge from primary education has made people more aware of their surroundings and what they can learn and extract information without having to go anywhere and at low or no cost and time-saving. Thus, leveling

or making an almost even ground for consumers to engage in healthy decisions making and choices regardless of their age, gender, caste, occupation, and education.

Studies on Digital Gap Created by Information and Communication Technology

The digital gap has become one of the primary subjects of study when discussing about the diffusion of information technology in both developing and developed countries across the globe. The study exhibits the different ways in which various scholars and researchers depict the digital gap and how it affects us. It is necessary to study the digital gap as it affects almost every part of the world, with special interventions being made in developed nations. Many researchers have documented the prevalence and patterns of internet use and the divide it causes. The literature also suggests a number of new measures that have been developed to improve the challenges of a digital divide in the present pretext.

Norris, Pippa (2001), in her study on the digital divide, specifically on civic commitment, information poor, and the internet around the world. She expresses the divide as a natural expression that means the developing gap between information haves and the information poor, which likewise incorporates parts along racial, orientation, and class lines. Norris (ibid) explains why the digital divide is a matter of concern. She explains that individuals with poor information will become more marginalized in a society where fundamental computer abilities have become required for progress, individual headway, a decent profession, educational opportunities, access to informal communities, and open doors for civic engagement. Norris (ibid) further; explains the multidimensional phenomenon of the digital divide which comes with it. This divide may come in the form of age, gender, occupation, education, and social status.

Rogers, Everett (2003), in his study on 'diffusion of innovation,' emphasizes that the digital divide is inevitable, as the growth and diffusion of innovations in information technology are rapidly taking place, which in turn brings social consequences. However, Rogers (ibid) encourages the need for a dynamic program that state and non-profit sectors should take up to reduce this digital divide brought by technological advancements.

Rogers (ibid) states that the social structure has a role to play since introducing innovative technology in a highly stratified society is bound to bring socio-economic disparities. Since diffusion theory conjectures that without effective state intercession, assuming the internet is introduced and follows the anticipated way settled by numerous past advancements, the underlying reception of computerized stages can be anticipated to destroy the current social divisions.

Dynamic drives to even out the state and non-benefit areas' playing fields can expand innovative access. The current social structure likewise assumes a part; developments in exceptionally defined social orders will generally support existing financial variations. The kind of innovation can likewise impact this interaction, for example, the underlying assets expected for access, including monetary speculations and instructive abilities. By and by, the diffusion theory predicts that without effective state mediation, assuming the spread of the internet follows the traditional direction laid out by numerous past advances, then the underlying reception of wired computers can be anticipated to worsen existing social divisions, on the right on time to-middle phases of the S-shaped diffusion curve, and maybe in the more drawn out term also assuming the new innovation produces significant efficiency gains and proceeding with access boundaries.

Loges, William E and Joo-Young Jung (August 2001), in their study on the 'digital divide brought by internet connectedness conducted through a telephone survey', developed a measure to study the digital divide called the 'internet connectedness index' (ICI). It integrates traditional time, history, and setting measures and yet goes past these elements to capture the objectives, activities, and centrality of internet absorption into the regular day-to-day existences of social groups. Loges and Jung (ibid) also explore the digital divide between young and old individuals using an ecological approach (this gives a system to understand what people and their social environment commonly mean for one another across the life expectancy) that considers the objectives, assets, and correspondence environment of the respondents. Loges and Jung (ibid) inspect the overall degree to which youthful and old respondents are probably going to integrate the internet into their day-to-day existences and assist them with arriving at their objectives.

In their study on 'four digital divides,' Keniston, Kenneth and Deepak Kumar (2003) underline the factors bringing about the digital divide, such as economic barriers, lack of access, also the capacity to use the internet among specific segments of the populace. Keniston and Kumar (ibid) explain that these socio-economic internet access disparities are growing exponentially and being found worldwide. Besides these factors, Keniston and Kumar (ibid) observe income playing an active role in creating disparities between the rich and poor; likewise, large cities are areas where there will be an uneven distribution of digital platforms resulting in the chasm between rural and urban areas. Keniston and Kumar (ibid) did their research in India, and from their perspective, the digital divide is widely prevalent in metropolitan or large cities. It can be attributed to the socio-economic, financial, cultural, literacy, age gap, gender, ethnicity, religion, language, technological skills, and diverse groups of people diverging from every part of the country who lives for the sole purpose of meeting their daily needs. This notion is found to be relevant across the other countries found by Livingstone, Sonia and Magdalena Bober (2004), in their research on the digital divide among U.K children between the ages of 9 and 19, discussed the inequalities brought by age, gender, and socio-economic status, which influence the way in which they access the internet.

Studies on the Rift Between Doctor-Patient Relationships Occurring Due to Internet

DiMatteo, M. Robin (1998), in his research on the role of the physician in the emerging healthcare environment, observes that most of the study conducted over the years in relation to health information is mainly done in America. These studies started in the mid-1990s when the 'Pew Health Project' created 17 specialists' capabilities to show a shifting pattern in medical health care in the direction of a more community-based approach.

DiMatteo (ibid) examines what people want from physicians by using a random sampling of respondents and questionnaires to understand the expectation of the people and their perceptions of health professionals. He conducted his research with the help of a nationwide survey of households in the U.S., in which 640 respondents were chosen. In this survey, he found three factors: diagnosis and treatment, communication, and ethical conduct playing a crucial role in the physician-patient relationship. DiMatteo (ibid) identifies the communication factor as an essential skill for health professionals. In his study, there were several implications that show the

lack of communication by health professionals with regard to sensitivity and the cost of treatment for the patients.

DiMatteo (ibid) talks about previous studies, which consistently showed that the best possible medical outcome occurs only when the patients are fully aware and participate in their healthcare decisions with the doctors. DiMatteo (ibid) explains that since the 1970s, many individuals started seeing themselves as consumers and had challenged physician authority. Now with the coming of the managed era, there is further erosion of trust between the doctor and patient relationships. DiMatteo (ibid) stresses the need for an environment to build trust, as it plays a central role in a doctor-patient relationship.

DiMatteo (ibid) explains that the significance of communication, consideration, and aversion to cost is a significant variable that portrays patients' perspectives toward the treatment process. On the contrary, he finds the doctor and patient communication as very poor to the point where a patient has to leave the doctor's office without acquiring any knowledge of their sickness or how to take care of themselves since, in most cases, doctors tend to employ medical terms which the patients are not aware. Therefore, DiMatteo (ibid) stresses doctors' role in this emerging healthcare system. Their role should be collaborative, with outcome preferences, level of risks, costs, and acknowledging the patient's findings and guiding them to the correct path so as to ascertain the positive and effective relationship between the doctor and the patients.

Dimatteo (ibid) concluded that in this modern era, patients want their doctors to be skillful medical professionals who can diagnose and communicate appropriately with them simultaneously. His research clearly shows that communication skills are necessary for effective diagnosis and treatment in doctor-patient relationships. In developing countries like India, with a huge population, doctors are forced to make time for all the possible patients who have visited the clinic. Considering this, the doctors make a particular allocation, like 15 minutes per patient; hence there will be a lack of time for the patients and doctors to have a fruitful conversation. Therefore, considering where time and communication skills are a must and is found to play a significant factor in building doctor-patient relationships.

As per Hardey, Michael (2001), in both health and social services, an accentuation of the consumer, patient, or user with the inferred capacity to make choices in view of information and experience as it comes. Notwithstanding, the internet provides far more than a simple conduit for government and clinical information that it is thought of as alluring for consumers to access. Consumers can consistently go through the divisions between various professions, knowledge, and practices. They can likewise move from being consumers to producers of information by taking part in Usenet newsgroups or discussion channels or by developing their own website pages.

Hardey (ibid) finds that the health professionals' response to public free ⁹ access to the health information on the internet has gone from caution to a kind of hostility. Be that as it may, with a rising number of specialists engaged with the turn of events and upkeep, contents in numerous health-centered websites are primarily controlled by health specialists.

Hardey (ibid) says from the examination of information about internet users, it is clear that the most widely recognized course into health information is through a web search engine. In this manner, it is not surprising that disappointment with the clinical experience and client-centeredness of information and communication technologies is a critical figure empowering individuals to involve the internet for health information and advice. Yet, as we probably are aware, the design of the medical care framework that is established on the power of the medical professionals ensures that patients are reliant upon medical services experts for most clinical therapies and services.

Hardey (ibid) explains how ¹ the internet is a vast repository of health knowledge, guidance, and treatment. As an asset for distributing and utilizing health information, it is basically pluralistic, democratic, ¹ global, and local. Nonetheless, humble thought has been paid to the consumers or lay authors of online health information. However, with the approaching of the internet, the previously closed and exclusive space of Western clinical information is currently open to consumers. He added because of the internet; another worldview arises that mirrors a culture in which guess that specialist knows best, settling on choices for patients without including them

and feeling compromised when patients have access to the elective source of clinical information, which is widespread, in spite of the way that strategy starts going against the norm.

In like manner, the possible proliferation of an information hierarchy system on the internet does not guarantee to imply that it will be developmental in shaping how users recognize, use or produce ¹⁴ health information on the internet. Indeed, ¹⁴ the variability of information and choices are accessible to consumers that describe a post-conventional society where options are not compelled by the status concurred to a predetermined number of 'specialists'.

Hardey (ibid) said it has become more intricate because of the specialist's developing reconfiguration-patient/consumer-health professional relationship. Apparently, logical see parts of the conventional relationship where trust is created by arranging determination and treatment. The inquiry is not one of whether internet health information is genuine but instead the more logical one of how health and ailment are perceived and the types of social connections that come with it. In several cases, the response might be that consumers gain an extraordinary arrangement, while in different cases, the outcomes might be less confidence in clinical care and more inclination towards risk.

He concluded by saying that the study on commercialization in medical services observed that consumers are taking on additional obligations in dealing with their own healthcare and settling on their own choices. Roughly 50% of those surveyed in the study felt that they had as much clinical information on their specific issue as their doctors, as many revealed that they are superb chiefs of their own healthcare.

Diaz, Joseph An et al. (2002) states that the doctor-patient relationship is likely to alter, and medical professionals may encounter new difficulties if consumers acquire ² health information from the internet, share just a fraction of that knowledge with their physicians, or use the internet instead of ² contacting health professionals. Diaz et al. (ibid) call attention to the accessibility of internet ² health information. Overall, few studies have directly examined internet use among patient populations, and no previous findings have focused on a critical analysis of the patient population. Their exploration was to check: 1) assess the number of patients in an internal

medicine private practice who rely on the internet to access medical information., 2) represent the kind of information sought 3) compare people's perceptions of the sort of information available on the internet with those of their health care providers, and 4) determine if individuals who utilize the internet for health information consult their doctors about it.

Their research data shows 59% (out of 269 respondents) of those involving the internet for health information stated that they did not discuss the information with their doctor. Moreover, 11% (20 of 296) of those who use the internet for medical services information said they prefer it over consulting or engaging with their doctors. These respondents utilized the internet for various clinical topics. Be that as it may, contrasted with all respondents, a more prominent rate showed involving the internet for second thought (69% versus 41%) and for information on corresponding or alternative medication (83% versus 41%).

Diaz et al. (ibid.) emphasize how numerous scientists and institutions have evaluated and proposed instruments and policies to help patients and clinicians evaluate the nature of clinical and online health information. Notwithstanding these endeavors, the dependability and legitimacy of the assessment devices are still being questioned. Doctors, nonetheless, can become proactive by really getting to know organizations such as the Health on the Net Foundation (www.HON.ch), the Internet Healthcare Coalition (www.ihealthcoalition.org), and Health Internet Ethics (www.hiethics.org) that are devoted to the nature of health information on the internet. Doctors may be able to best assist their patients by identifying their patients' use of the internet and acting as consultants in locating reliable content. As a part of the clinical history, doctors ought to regularly ask about their patient's utilization of the internet to get clinical data. For patients who are now associated with the internet, medical care professionals ought to be ready to give internet-based health resource suggestions and help patients assess the nature of clinical information accessible on the world wide web. They argue that good communication is necessary for the doctor-patient relationships to grow and building a friendly atmosphere with the patients will produce positive results in their diagnosis and treatment process.

Elizabeth, Murray et al. (2003) said, however the utilization of the internet keeps on multiplying, and its effect on medical services is hazy. The upsides of the internet as a vital source of health

information incorporate easy access to a massive volume of information, simplicity of refreshing information, and the potential for intuitive configurations that promotes understanding and maintenance of information. Online health information might help the patients to be more educated, prompting better health results, more suitable utilization of health administration assets, and a more grounded doctor-patient relationship. In any case, health information on the internet might be misdirecting or confounded, compromising healthy ways of behaving and healthy results or bringing about improper clinical mediations intervention outcomes. Doctors might accede to inappropriate requests, either in light of the fact that refusal is tedious or in light of the fact that they dread refusal would debilitate the doctor-patient relationship. Responding to unseemly patient solicitations might be especially troublesome in overseen care, where patients might accept that doctor refusals might be persuaded by the need to control costs.

Elizabeth et al. (ibid) says the second area of vulnerability is the effect of the internet on health inconsistencies. They had an assessment that the internet could decrease differences assuming health information becomes available to burdened groups. Nonetheless, it could likewise increase the differences if higher financial groups can access health information, recognize precise information from wrong information, and apply it to their own circumstance. At last, it is muddled what online health information will mean for the doctor and patient relationship, the foundation of satisfactory clinical outcomes. Will it work on the relationship as patients become more dynamic partners in their own medical services? Or on the other hand, will doctors experience issues changing as they no longer have special access to clinical information? The evidence to date on these inquiries is insufficient.

Elizabeth et al. (ibid) finds that the surveys of internet use by general society would in general utilize slanted examples, like internet users, patients with certain conditions, or medical care providers. These reviews fail to give populace-based evaluations of internet use, its relationship to financial status, and patient concern about the reliability of online health information. To resolve these issues, one should embrace a huge, a population-based study to determine the public's utilization of the internet for health information; their perspectives about the quality and impact of the data accessible; capacity to evaluate such data; influence on the doctor-patient relationships; and effect on health services usage. Elizabeth et al. (ibid) say their review goes

further by determining how frequently patients collect information from the internet to a doctor and the result coming about because of it. Their study was carried out on 92 people focusing on how Americans arrive at conclusions about medical services and their sentiments about the medical services accessible to them. The study incorporates patient assumptions for taking the information to their doctor, their impression of, and fulfillment with, the resulting discussion, the effect on health services use, and the impact on the doctor-patient relationship. Demographic and financial information, including age, ethnicity, educational achievement, income, health care insurance status, and current health status, were gathered from all respondents.

Their review recommends that patients accept health information on the internet has more sure than unfavorable consequences for the doctor-patient relationship. Patients were bound to report a diminish doctor-patient relationship in the event that the doctor was seen to have bad communication abilities or went about as though their position had been tested, or when they did not get requested mediations. Being in managed care or in distraught groups was not related to a deteriorated doctor-patient relationship in the wake of getting information from the internet. These findings are consistent with patients who believe in doctors to explain the health information they had obtained independently.

Elizabeth et al. concluded that ⁹ the internet has the potential to transform how people access health information, in this manner improving patient fulfillment and cooperation in medical services. Some issues should be addressed before their actual potential as a force for equity and patient well-being can be understood. This way, internet access should be improved for impeded groups. Second, the public necessities to further develop their information search and evaluation abilities. This may be accomplished through a mix of government and private sectors, including instructional guidelines for these skills. Finally, doctors and students need to foster their communication skills to incorporate conversations about online health information brought by patients.

Lee, Chul- Joo (2009), in his research on the role of the internet in a health-knowledge gap between the doctor and the patient, talks about two opposing hypotheses found in medical sociology related to technological advancement and physician-patient contact. The first

hypothesis talks about diffusal of health knowledge previously available only to doctors and now widely available via the internet, which could decrease individuals' reliance on specialists as the primary source of health information. The second hypothesis states that there is still a knowledge gap between the patient and the doctor despite the information found online, which is because of new data continually arises and is most readily accessible to health specialists. Furthermore, health information found online involves a question of reliability and validity; thus, people tend to rely on doctors to diagnose and treat their healthcare. Lee (ibid) tends to endogeneity by investigating the wide idea of the information gathered instead of utilizing instrumental variable techniques. Lee's (ibid) analysis and hypothesis show that the internet positively affects relationships between doctors and patients. Thus, he concluded that this growth in health information on the internet might result in the decline of doctor-patient relationships. Looking at this perspective, one can see there is an enormous amount of information available on the internet; for example, typing a single number or alphabet in a search engine will yield millions of results that may not necessarily relate to it. So, let's look from a health information point of view. A simple headache/stomach pain surfing the internet will give millions of contradictory and disturbing results with no definitive answers. Thus, forcing the patients to visit a doctor at regular intervals.

Studies on Gender, Age and Education in their Search for Health Information

Dutta, Mohan Jyoti and Bergman (2003), in their study on the role of communication, consumer intention in seeking out health information, and variables in health communication, talk about demographic variables that may be related to patients' search for health information. These variables may also be connected with the patient's compliance with searching for additional health information. Dutta and Bergman (ibid) hypothesize three demographic variables: usage, education, and gender, which might significantly impact the patient's search for information. They also try to understand how these variables are connected with the patient's eagerness to look for health-related information other than the doctors.

Dutta and Bergman (ibid) apply the 'knowledge gap theory', which states that the prologue of the new source of health information might lead to a knowledge gap between consumers with rich information and poor information. The applied knowledge theory's driving force is that

information gathered is directly related to the level of education and the patient's eagerness to search for information. Dutta and Bergman (ibid) said that age is relatively linked with consumer search for information in this era of information, which suggests older consumers are likely to look for more information than younger consumers. They supported their hypothesis with the help of five thousand questionnaires collected from the respondents between 18-91 years old, taking 47 as the mean age and a standard deviation of 16.1 years in the USA. These results show age has a distinct effect on the query for information.

Dutta and Bergman's (ibid) third hypothesis talks about the impact of gender, where they explain how earlier studies have reported a significant effect of gender in seeking out health information. Thus, they deploy dichotomous variables to differentiate whether males or females are bound to look for health information. Their data showcases at least a 3.6% (in every age group) difference between male and female counterparts, which clearly shows that gender plays a significant role in the search for information. The second hypothesis on education results shows a clear difference between the segments of the population exhibiting higher education trounces over the less educated in search and participation for information. Thus, Dutta and Bergman (ibid) proved their hypothesis that demographics significantly predict health information behavior.

Reliability and Validity of Information Found Online

Rain, Stephen A (2008) study on ¹ 'seeking health information in the information age' explores internet self-adequacy (alluding to a person's discernments and capacity to achieve general internet-related behavior) through acquiring health information from the World Wide Web. Rains (ibid) likewise look at internet viability as a biased mediator of exogenous factors mirroring an individual's excitement to take action and deal with his/her well-being and experiences utilizing the internet and endogenous factors demonstrating information-seeking behaviors and results. Rains (ibid) speculate that even among people who are excited to procure health information, a feeling of internet viability might convince a person to utilize the internet to generate health information and related well-being outcomes.

Rains (ibid) say the internet and the world wide web have become an essential source of information for individuals seeking health information. And despite this potential offered by the

internet, an individual access to medical information must go through many difficulties to acquire the correct information. Thus, Rains (ibid) stresses the importance of computer hardware and software operation knowledge.

Rains (ibid) state that to fully understand internet self-efficacy's significance, scholars have to understand its role in information-seeking behavior. Since self-efficacy concerns the skills that an individual possesses and what he/she can do with those skills. To answer these questions, Rains (ibid) applies a comprehensive model of health information seeking (CMIS), which predicts that segment and health-related factors impact the insights on the viability of a medium and which influences the media use. Rains (ibid) conducted his survey on 157 respondents from the Southwestern University of America. Rains (ibid) collected his data employing a questionnaire survey method posted online; by carefully selecting respondents who are accustomed to utilizing the web for health information, including individuals who search for information for the sake of others. The data analysis shows that internet adequacy has to some extent, interceded the connection between the respondent's craving and experience of internet perusing and their mentality toward the nature of online health information. Having internet access doesn't ensure that an individual will have a positive involvement in getting the correct information on health since there are a number of challenges, such as knowledge about the computer's ability to acquire the correct information from a multitude of websites when one goes online to obtain health information.

Rains (ibid) research throws light on the importance of internet self-efficacy, which influences web use and, in the process, empowers the patients or consumers. Rains (ibid) stress that the connection between craving for information seeking and internet self-viability is significant in light of the fact that the internet is very appropriate for those persuaded to assume a functioning part in their own medical health care. Thus, he concluded that this self-efficacy could be increased depending on the individual experiences in acquiring health information.

In their work on consumer health information-seeking behavior, Cline, R and K.M Haynes (2001) contend that health experts should be worried about consumers looking for health information on the web. They stress that one ought to consider the expected advantages, blend

quality concerns, identify values for assessing the online information and evaluate the literature. Cline and Haynes (ibid) claimed more than seventy thousand websites are associated with health information and found that fifty million or more people have accessed online health information for their healthcare. One should keep in mind that the internet provides broad access to health information, interactivity, information tailoring, and anonymity; however, it comes with a price, such as unequal access, disorganization of information, technical languages, and lack of stability in information.

Cline and Haynes (ibid) believe that the internet has created a landslide on readily accessible information, leading to massive growth in looking for health information, separating the boundaries of traditional health information-seeking behavior, availability worldwide, and low expenditure cost. Cline and Haynes (ibid) say due to the fluid nature of the internet, health professionals are concerned about the reliability of health information found on the internet. They explain that anyone can develop a website. These websites have become a part of the world's biggest vanity press, permitting any person with admittance to the internet to act as a creator and distributor of material regarding any subject. This intuitive health communication is estimated to influence medical services by supplanting the traditional source of information, medical care, and community assets with online information, discussions, and encouraging social groups.

Cline and Haynes (ibid) say as consumers continue to utilize more and effectively participate in the administration of their medical services, there is a higher chance that this active role will lead to an encounter with health professionals. With the help of the data collected, they saw an increase in interactive health communication, which consumers seek for its ability in dissemination of information, health promotion, social help, and health services capabilities. This has led to increased interaction between health professionals and consumers after the onset of the internet.

Therefore, Cline and Haynes (ibid) want health experts to focus on health information accessible on the web for different reasons, which incorporate extent and variety of purposes, variety of clients, and its suggestion on the medical services; as far as design, medical care connection, and

nature of clinical outcomes. Cline and Haynes (ibid) make sense of the explanations behind ⁹ the growth of online health consumers seeking behavior, which incorporates; the improvement of consumer-oriented medical services models, the information content accessible web-based outperforming the clinicians, savvy and no time requirements, accentuation on taking care of oneself and counteraction, an expansion in the maturing populace who needs steady clinical consideration and necessities, expanded interest in elective ways to deal with medical care, accommodation and secrecy and variety of information in all actuality do add to attractions. Cline and Haynes (ibid) presume that future exploration ⁹ needs to address the internet as a component of the greater health communication system and take advantage by integrating surviving correspondence ideas.

Fox, Susannah (February 1, 2011) research on cell phone use for acquiring health information from the internet found that 85% of American adults own a cell phone. Her past research on the 'Pew Internet Project' consistently shows that wireless forms of the network are more popular among internet users in a wide exhibit of online activities. She found that 83% of remote wireless connections have ²⁹ used the internet to seek health information, contrasted with 70% of internet users who don't have a wireless connection. Fox (ibid) found wireless users have a wide area of interest, outperforming that of bound partners on 13 of the 15 topics consolidated in their survey; the information shows that 48% of wireless ³⁷ users look for health information and health experts on the internet, contrasted with 31% of internet users who do not have a wireless connection.

Fox (ibid) talks about the disparities in access and interest regarding health information search, which can be found in the form of groups. For example, younger adults with wireless connections are more likely to look for health information using their cell phones, unlike older adults. Fox (ibid) collected the data to study how American adults utilize their cell phones have a wireless connection in the search for information; 56% look for specific information on a particular disease and treatment, 44% look for information on health experts, 36% search for information on unambiguous emergency clinics or clinical offices, 33% search for data on health care coverage and doctor help, 29% search for data on food handling, 24% search for data on drug security, 22% search for data on natural health hazards, 19% search for data on pregnancy

and labor, 17% search for data on cognitive decline, and dementia, 16% search for data on clinical trial results, 14% search for data on the best way to oversee persistent agony, 12% search for data on long haul care for an old or different-capable individual, 7% search for data on a different-abled person, and 28% search for data on some other health-related issues. These outcomes show a critical gap in demographic segments with regard to online health information seekers through cell phones.

The dependability of information obtained through the use of the internet is always a matter of concern, containing millions and trillions of information that do not have authentic evidence or studies written anonymously with no credentials. Therefore, the task of retrieving the said problems and solutions becomes impossible. Thus, more effort should be given to promoting authentic and reliable website links and channels to ensure the masses do not consume biased or wrong information.

Conclusion

Anthropology is a scientific discipline that examines society and the trends that have shaped it, as well as the laws they uphold and the traditions that guide how people interact with one another and has also been questioning the many ways we accumulate and disseminate knowledge (Weiner 1995:15). Hence, any changes in the human behavior be it physical, cultural, social, economic is directly associated with the anthropological study. And as such, Anthropology is concerned with comprehending the big picture of a specific group. This entails the observation method in order to document the minutest aspects of people's lives. This involves analyzing the macro-level factors and institutions that affect people and lead them to behave as they might.

The literature review is done on the works by renowned scholars and authors like DiMatteo (1998), Craan and Oleske (2002), Norris (2001), Cline and Haynes (2001), Fox (2000, 2006, 2008, 2011), Keniston and Kumar (2003), Cotten and Gupta (2004), Dutta and Bergman (2004, 2005), Madden and Fox (2006), Rogers (2001, 2003), Livingstone (2003, 20004, 2007, 2011), and Rains (2008, 2009). All of them elaborate on the idea that the internet is bringing immense changes, especially in health information and the health care system. At the same time, they talk about the impending changes and challenges it brings and how to cope with this digital platform.

With the assistance of the literature review, the hypothetical and exact premise is ready, and keeping in mind, the crucial factors that directly or indirectly influence the variables in health-information-seeking behavior are noted. As mentioned by many scholars and researchers, the critical factors include age, occupation, education, gender, socio-economic status, language, computer skills, internet experience, health status, knowledge of the disease, apparent risks associated with the disease, and how different individuals utilize the online content.

We notice lots of gaps in areas that are unworked and also need to work on other areas. So, the literature review points to these areas. Therefore, this study will consider all these factors influencing educated adults in managing their health choices and decisions. The next chapter will highlight the divide brought by the ICT advancements, known as the digital divide.

Chapter 4

The Gap of Digital Divide in India

Introduction

Over the last ten years, there has been a vast development of technology which is undeniably headed for what is popularly known as the 'Information Age' (Shapiro, Andrew L 1999). The information age has not only brought about changes and challenges but the world itself closer. Challenges bring the rapid pace of innovation and social disparity due to the impact of the information age, giving an arrow image shooting straight at its target. As a result, we can see that post-modern societies are currently experiencing a sharp rate of diffusion.

In this context, the information age came in the form of the internet and has become an important focus of research and study because of its socio-economy and financial changes. Yasin, B. and Hilal Ozen (2011) believe that the internet has turned into a famous asset for information and communication but also provides consumers with a wide range of opportunities for learning and undertaking varied activities. Likewise, numerous researchers have shown mounting evidence that the internet is becoming an increasingly important medium, particularly for delivering health information, health education, and health promotion. The implications of these developments for health communications are tremendous. However, consumers access the internet for various purposes and reasons, which has also led to numerous problems such as issues of access and availability of the internet itself, not just the information and changes it leads to. This, in turn, gives rise to the early predictions of a growing disparity among the people, which we have popularly known as the 'digital divide.' Dutta, A. and Rahul Roy (2005) explain that this uneven internet distribution across countries has strengthened social and economic inequalities. These skewed distributions of the internet and other forms of mass communication gave birth to the digital divide.

Countries worldwide have acknowledged that the digital divide is becoming a huge social problem leading to clashes between our cultural and social systems. The disparity can be attributed to our inadequate understanding and skills or limited opportunities to learn about and

exploit these new technologies. Thus, countries worldwide have been trying to reduce the digital gap between the alleged 'information rich and the information poor' (Dutta, A and Rahul Roy, 2005) by focusing on the infrastructure and development facilities, institutions, awareness, and several other forms of factors to bridge created by the digital divide.

Therefore, this chapter will focus on understanding how the digital divide (brought about by the advancements in information and communication technology) is prevalent even among educated consumers, what factors are involved in bridging the gap, and how to overcome such gaps. It is important to state that the chapter is almost entirely based on secondary sources to show how the ICT developments, schemes, projects, and Acts are enforced to bridge the divide created by the ICT revolution.

The chapter has been divided into several sections: it engages with the idea and comprehension of the digital divide, focuses on the broad discussions on some of the researcher's varied approaches and contributions in explaining the digital divide, and furthermore comprehends how with time, the focal point of research has developed. Understanding the digital divide brought about by the internet. An attempt to study several factors (especially the internet role) of the digital divide span across the globe. Focus on discussing the past and present scenarios of the digital divide worldwide. Will discuss the digital divide caused by ICT in India and Hyderabad city. Understanding information technology and schemes implemented to bridge this divide. It deals with reviewing the literature and analyzing the relevant literature on some critical aspects of the digital divide, and the section ends with the discussions and conclusion.

Understanding the Importance of the Study

Anthropological approaches to health and disease have considerably increased and broadened in this fast-paced modern economy, which in this context, tries to understand the changes and implications brought by technology affecting the social, culture, economy, and health as a whole. Likewise, epidemiological studies have also demonstrated how social inequality contributes to health problems regardless of income. In turn, it provides evidence that hierarchy effects can function across vast populaces and not just within distinct groups.

Researchers have shown that the digital divide is multidimensional due to its changing nature and variations brought by technological advancements. This research study explores the micro aspects of the digital divide in the State of Telangana, particularly in Hyderabad city. The main objective is to study the digital divide problem and will attempt to address the difficulties in connecting the digital divide gap. The study likewise endeavors to investigate and recognize the causal variables of the digital divide in Hyderabad city.

What do the Digital Divide Means in the Context of the Internet?

¹⁰ The digital divide may be described as the disparity between individuals who have and do not have access to information and communication technology. It has become a significant subject on academic and political platforms (Shapiro, Andrew L 1999). However, the problem is that even in the academic literature, this point is exceptionally divided, and many research findings are conflicting and vague in the sense that these findings cannot relate to all people around the world. Between the 1990s and 2005, most research studies focused on measuring the divide instead of developing a reliable analytical framework. Likewise, in information systems and development terms, attempts have been made to critically analyze the social-economic effect of information and communication technology (ICT) innovation and its relation to bridging the digital divide, especially in emerging nations (Bertot, J. C, 2003).

Since the mid-1990s, it is apparent that most scholarly works have given the digital divide importance. This subject became a concern of debate at the national and international level as they purposed to bridge the growing issue of societal inequalities. Several schools of thought emerged based on the digital divide interpretation, where researchers and scholars try to address and respond to numerous critical inquiries; for example, what exactly does the digital divide necessarily mean? Who gains and who loses when the digital gap is bridged? What direction will the digital divide be headed in the future? (Kamila, K, 2011).

Researchers assert that one of the most crucial issues of concern in the ever-growing information age has been the ever-growing issue of a digital divide between people who have internet connection and those who do not have (Andrew L. Shapiro 1999; Everett M. Rogers and Pratibha Shukla 2001; DiMaggio et al. 2004; Hargittai 2004; Stephen A. Rains 2008; Zamaria & Fletcher,

2008; Kanchan Kamila 2011). Although earlier research approaches primarily focus on the binary classification (is the undertaking of classifying the components of a set into two gatherings in view of a classification rule) of accessibility. In recent years, a more refined understanding of the digital divide and several conceptualizations of approaching the digital divide research has emerged (DiMaggio & Hargittai, 2001; Van Dijk & Hacker, 2003; Van Dijk, 2006).

Shapiro, A. L (1999) explains that instead of choosing a specific conceptualization, the focus should be on all the factors that appear to be responsible for creating a digital divide. Shapiro (ibid) feels that the digital gap can be classified into three types: social divide, democratic divide, and global divide. A global divide is becoming more evident in which a wide gap is observed between the industrialized and developing nations. Every country has a social divide in the form of accessibility between the rich and poor. What is more, a democratic divide between the people who use/do not utilize the internet to engage, prepare, and participate in open life, even within the online community. Shapiro (ibid) finds that there has been a rise in developing theoretical and empirical literature to examine the mentioned issues. However, there are still complications in knowing how far one can generalize these phenomena more widely unless we understand how technology interacts with one's broader environment governed by each country's social, economic, and political systems.

Rogers, E. M and Pratibha Shukla (2001) define the digital divide as the 'gap between individuals or systems advantaged by the internet and those relatively disadvantaged by the internet'. They said variation in internet users per thousand populations is basically due to the following reasons, (I) absence of monetary assets, (ii) absence of focal station power, media communications, and other frameworks, and (iii) government policies that do not effectively energize or advance web dissemination. They found that those consumers who saw actual access to the internet as liberated from obstacles as far as cost and network are concerned would utilize the internet to find healthcare information more seriously than those who experience actual hindrances to utilizing the web. They also found that consumers who experience such obstructions while obtaining healthcare information from the internet and have trouble

understanding internet-based information content will be less likely to involve with the internet for that reason.

Norris, Pippa (2001) suggests that there are three significant divides; (I) a global divide between the developing and the developed nations, (ii) a social divide between the internet-haves and the have-nots, and (iii) an autonomous divide, including individuals who use and individuals who do not utilize the communication technologies.

Cullen, R. (2001) viewed these disparities and mentioned that many research and policy papers address the digital divide by giving an example that some groups of people are specifically disadvantaged in their uptake of information and communication technologies (ICTs). These include individuals with low livelihoods, low educational qualifications or low computer levels, jobless, older men and women, rural area settlers or remote places, disabled people, single parents, and girls. Cullen (ibid) finds that this group of people is already disadvantaged in terms of their education, income, and health status culturally compared to western or other developed countries. Cullen (ibid) states that there are several indigenous peoples, migrants, and other ethnic minority groups that are also identified as having a deficient intake of information and communication technologies.

Hargittai E. (2002) raised a similar issue: once the internet becomes accessible, there is a possibility that the dimensions of abilities and experience to the divide might become one primary issue. Bertot, J. C (2003) contends that this thought of the divide similar to a gap of technology between the haves and have-not is in that frame of mind as, in view of it, legislators decrease the financing to numerous technological initiatives to connect the digital divide gap in specific communities.

In fact, DiMaggio, Paul, et al. (2004) contended that the term digital inequality ought rather supplant the digital divide to uncover the shifting degrees of purpose and their social ramifications precisely. DiMaggio et al. (ibid) focused their study on ways in which the understanding of different internet users about online resources either encourages or hinders the degree to which individuals can ideally profit from their utilization of digital media.

Regarding the expression of haves, several researchers proposed that our techno-rational thinking has to be reframed to a more social, psychological, and cultural thought pattern. For instance, Van Dijk, Johannes A.G.M (2005) mentioned that the term 'access to information and communication technology' has to be more comprehensive by perceiving that it has to go yonder merely as having a computer and a network connection but by also putting into consideration the disparities that exist with regard to access like inspirational access, factual access, skills, and usage.

Likewise, Rains, Stephen A (2008) defines the digital divide as a term coined to capture the discrepancy between individuals who can access the internet and those who cannot. These are accompanied by characteristic features such as gender, education, ethnicity, income, and language barrier, which could be reason for the divide across the digital landscape. As internet adaptation rates are increasing steadily, the distinctions between users and non-users are no longer visible using the same lens. Rains (ibid) states that there are three forms of the digital divide; (i) the initial internet was only beneficial to those with access, and that gave a partisan advantage to many; and (ii) the subsequent wave of digital divide points to skills divide, as it has now seemed as though gender and income were not the key motives for differences across the usage rates, (iii) the current wave of digital divide researches attempt to include access to internet bandwidth and language barrier (since English is the primary medium for utilizing the internet content).

Singh, Sumanjeet (2010) describes the digital divide as the spiral of asymmetrical access to the internet and usage of information and communication technology, as well as the economic rebound reasons that have propelled the rise of information divergence all over the world, both within and across nations, and also locally in communities. Singh (ibid) mentions three dimensions where the digital divide is essential, and information and communication technology makes a distinction. In the advanced and information-based world, monetary opportunities, like employability, rely on access, communication technology, and computer skills. Nonetheless, information and communication technologies assume a significant part in all cultural connectedness, from political cooperation to interfacing neighborhood networks, companions, and families. Secondly, information and communication technologies are essential in accessing

one's cultural resources and expressions in the globalized and socially diversified world. Thirdly, the definition replaces conventional innovation-focused depiction of the digital divide, reminding us that the shortage of technology is not generally a stalemate. It is evident that innovation remains stagnant and ineffective in the absence of the necessary knowledge and talents, as well as when it is implanted in the public eye in the absence of fundamental human capacities and abilities. When developments are collaborative activities, they become truly authentic.

Kamila, Kanchan (2011) mentioned that variables such as income, educational background, and sociocultural background that provide demographic data are essential. Kamila (ibid) states that there is a possibility that these can deliver information on how diverse society sections interact with mass media and how it impacts them. Therefore, this is an area of concern because the internet does not scale people's economic background; further could be one reason leading to the digital divide between information haves and information poor. Likewise, there are two discrete halves from a didactic point of view, namely 'literate and illiterate'. Thus, the digital divide allows certain resemblances to precede conceptualizations of the knowledge gap hypothesis, which describes that the group of people with higher financial status acquire information at a relatively quicker rate than those with lower financial status, as a result widening the knowledge gap between these groups.

Kamila (ibid) further states that most recent research works also focus on advanced access and use gauges, the nature of access, setting and power of administration, sorts of usage, and user capacities. This uniqueness is seen primarily in India's social setting among high and low castes, metropolitan regions, provincial regions, and the like. With the help of the above studies, the digital divide can be understood as a multidimensional study uniting experts in financial aspects, populace studies, political theory, communication policy, education strategy, and numerous other social sciences. Likewise, the digital divide can also be defined as a gap or a deficiency created by social, cultural, and economic factors generated by lacking information and communication technology concerning access and skills.

Talking about the digital divide, especially its divide in the healthcare management process, is crucial to study. Though the internet remains a broad phenomenon, our understanding should be

established in the far-reaching literature on the deeply grounded reasons for imbalances in old types of social communication and civic engagement (Bertot, J. C, 2003). The foremost question is whether the internet's potential forms will help diminish the prevailing disparities or worsen the situation. Internet consumers access the internet for various reasons and purposes, which gave rise to several problems and confirmative the growing digital divide. The internet population has grown by leaps and bounds and is progressively opening to reflect the general population.

It is also observed that the inequalities created due to lack of access to computers, the internet, and broadband may have adverse effects in the context of health information and public health care (Castells, M., 2001). Today, many healthcare agencies and public health organizations rely more on the internet as an essential source of information and medical care administrations (Cline, R and K. M Haynes, 2001; Cotten, S. R., & S. S. Gupta, 2004; Mittman, R., & M. Cain, 2001; Turner, R. et al., 2003). The implications of this development for health communication are tremendous.

Benigeri, M and P. Pluye (2000) find internet plays an essential role through which health and medical professionals can convey knowledge and information on health to consumers and help people improve their healthcare. However, it is also a fact that technology obscures some inadequacies, for example, (1) the sporadic nature of health information accessible on the web, (2) complications in result, understanding, and utilizing said information, and (3) the Inability to access the internet by people who do not have a connection and, (iv) the potentials for harm and risk of overconsumption.

Cotten, Sheila R., and Sipi S Gupta (2004) believe that if people cannot have access to the internet, they are unable to benefit from the health care assistance provided by the internet. Cotten and Gupta (ibid), find those who have accessibility to the internet for health information are more knowledgeable and have better health and contentment than those who entirely depend on traditional sources of information. Rains, Stephen A (June 2008) finds that with the surge and necessity of technology, there is a massive prospect that people with a bit of income-socio-cultural background will be pushed to the side-line and further become more disadvantaged. This

problem is expected to be experienced in emerging countries, which are already denied many facilities like the procurement of computer amenities and other network connectivity, and exacerbated by inclinations in the information economy, preferring a reduction in public subsidy and private sector development (Schwimmer, Brian., 1996).

Steffefson, Michael., et al. (2011) express concerns that health information ²⁹ is not equally accessible to the less educated, economically disadvantaged group, and socially marginalized people are least likely to access health information/eHealth on the internet. eHealth (*eHealth is used as a reference for electronic health*) ⁴⁵ indicates the ability to search for, locate, understand, and analyze health information from electronic sources and use such knowledge to tend to or caring for a medical condition. Thus, the digital divide can be classified based on age, education, computer skills, gender, income, internet access, racial group, and even within a locality, which creates a divide between the consumers of different groups of people. To better understand how this divide came into being, it is always good to refer to the past and see its shortcomings. Thus, based on the above studies, it is evident that the internet is gaining importance for delivering health information and promoting health education.

History of Digital Divides Around the World

The following section intends to review the history and significance of the digital divide, why such a gap occurs even within the same cities, the factors responsible for the divide, and the utopia/dystopia debate of the online experience as they pertain to understanding how people access health information in the internet age.

In the middle of the 1990s, the term digital divide was widely used, though as early as 1995, the word appeared in several news articles and politicians' speeches (Kamila, K, 2011). Digital divide perhaps is one of the most debated phrases in today's context, and it seems to have been introduced in the United States of America. Many people opined that Andy Grove (one of the ¹⁰ creators of the digital divide network) coin the term 'digital divide'. According to Benton Foundation, the former President of America, Bill Clinton, first used the term in his speech during the 'National Information Infrastructure' discussions in 1993 (Thakur, G. K, 2014). These arguments linger as to who coined the term; however, it has been pragmatic that with time there

is broader reception of the fact that there is a cumulative gap midst information haves and information have-nots, what we now call the digital divide.

In 1991, Tim Berners-Lee, an English computer scientist, made the first ‘web browser,’ including a unified editor that could generate hypertext documents on the subsequent computer, as a means for people to share information. The hypertext format permitted people to see documents on-screen without partaking in downloading them first. The first browser development allows a fluid use of online images and graphics processing. By 1996, 45 million people worldwide were using the internet. By 1999, international users reached 150 million (Rains, S., 2008). Internet diffusion started mounting at an incredible stride in seven regions worldwide between 2009-2019 (shown in table.1), with substantial growth.

A 1995 NTIA (National Telecommunications and Information Administration) report signifying demographic differences in telephone service access sparked interest in the digital divide. According to the U. S government’s universal service telecommunication policy, every individual has the fundamental right to access information. They orient their policy in producing sensible entrees to information services for all Americans (Katz, R.E., & J. E Rice, 2002). Therefore, such forms of inequalities rising due to the digital divide are considered antithetical to their policy. The growth rate of internet infiltration is high in North America, 89.1%, followed by Europe at 82.9%, Oceania/Australia at 68.0%, Latin America/Caribbean at 66.6%, the Middle East at 65.8%, Asia at 51.7%, and Africa stood last at 35.9% (Internetworldstats, 2019). However, this development comes at the outlay of the divide between the people shaped by these industrial advancements.

Table No.1: Internet Diffusion Around the World

Internet usage and population statistics around the world, 2019						
World Regions	Population	Population % of World	Internet users	Internet penetration rate %	Growth 2000-2019	Internet users%
Africa	1,320,038,716	17.0 %	474,120,563	35.9%	10,402%	10.9%
Asia	4,241,972,790	54.7%	2,190,981,318	51.7%	1,817%	50.4%
Europe	866,433,007	11.2%	718,172,106	82.9%	83%	16.5%

Latin America/Caribbean	658,345,826	8.5%	438,248,446	66.6%	2,235%	10.1%
Middle East	258,356,867	3.3%	170,039,990	65.8%	5,076%	3.9%
North America	366,496,802	4.7%	326,561,853	89.1%	202%	7.5%
Oceania/Australia	41,839,201	0.5%	28,437,577	68.1%	273%	0.7%
World Total	7,753,483,209	100.0%	4,346,561,853	56.1%	1,104%	100.0%

Source: www.internetworldstats.com/stats.htm

Factors Causing the Digital Divide

There are early adopters of any new technology, those who start exploiting the technology first, either because of financial leeway, access, or curiosity. Therefore, understanding the history and contemporary significance of this research on the digital divide is vital to diffuse awkwardness between those with internet access and those without internet connections. The underlying aspects of the digital gap might ascend because of monetary thought processes to get to and a lack of want or capacity to utilize the internet among specific population groups (Wagner, Todd H. et al., 2005). Internet access has been considered substantial in the digital divide; however, ability and educational background can also be indispensable factors in determining who benefits. Previous studies also reveal that the internet has infinite health information with poor-quality content and that people cannot judge the quality of the information provided. In this manner, certain individuals might be getting fewer advantages than they suspect. Wanger, Todd H. et al. (2005) accept that there are different factors other than internet access that could make sense of why most of those with unlimited access did not utilize it to seek health information. Van Dijk, J.A.G.M (2005) also said this divide has further broadened the disparities that previously existed in society regarding the inadequate delivery of resources and materials, leading to the emergence of a new discourse.

This disparity is typically seen in internet connectivity, where an estimated populace of 3.5 billion internet users around the world was recorded in the 2016 survey (Statista, 2016). It shoots

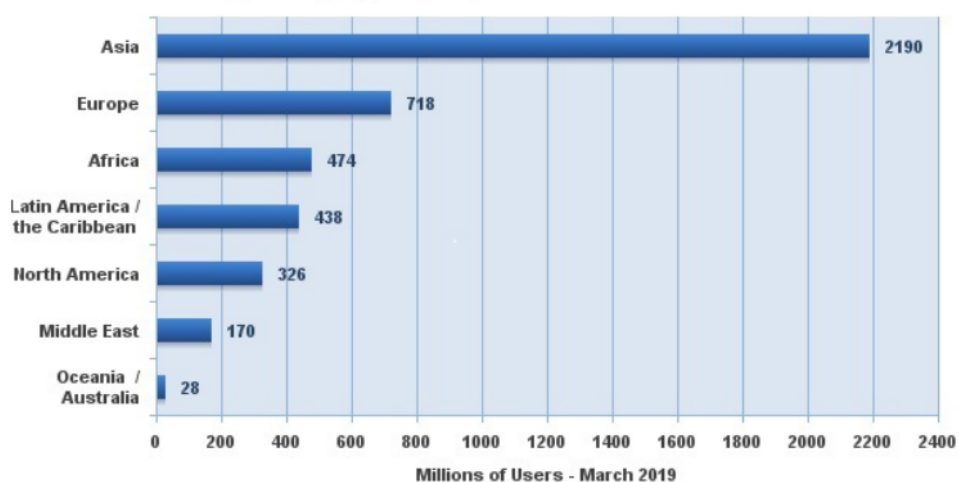
up to 68% of the total global population accessing the internet in March 2022 (Internetworldstats, 2022). Around the world, most internet users are situated in East and South Asia, while China is the biggest internet-based consumer (more than 1 billion users in 2022, Statista 2022). In 2016, China had north of 721 million web clients, which rose to 854 million users at the end of 2021, an increase of 3,796% of internet users. Meanwhile, India had a mere 5 million users in 2000, which rose sharply at the end of 2021 with 560 million users, an increase of 9,142.5% in internet users, and an overall penetration rate of 11,200% between 2000-2021 (internetworldstats.com, Table.2 and Fig.1). India is positioned second regarding internet users. The most well-known language on the internet by the portion of users is English, trailed by Chinese and Spanish. Monaco has the world's quickest average internet connection speed, from 261.82 megabits per second (broadband speed) and 105.01 megabits per second (mobile speed) at the end of 2021 (worldpopulationreview.com, 2022). While India stands at a measly 64.03 Mbps (69th position) and 17.89 Mbps (118th position), respectively. The average internet speed around the world is 69.14 Mbps, whereas India's speed comes around 30-40 Mbps (broadband) and 11.58 Mbps (mobileband) at the same time (Statista, Dec. 2022). Estimates of internet users among the top countries across the continent are shown in the table below:

Table 2: Countries with Highest Number of Internet Users (2000-2021)

Sl. no	Country	Internet Users 2000	Internet users 2016	Growth 2000-2016	Internet Users 2021	Internet growth 2000-2021
1	China	22,500,000	721,434,591	3,106.4%	854,000,000	3,796%
2	India	5,000,000	462,124,989	9,142.5%	560,000,000	11,200%
3	United States	95,354,000	286,942,362	200.9%	313,322.868	328%
4	Brazil	5,000,000	139,111,185	2,682.2%	149,057,635	2,980%
5	Japan	47,080,000	115,111,595	144.5%	118,626,672	252%
6	Russia	3,100,000	103,147,691	3,227.3%	116,353,942	3,751%
7	Nigeria	200,000	97,210,000	48,505.0%	126,078,999	63,000%
8	Indonesia	2,000,000	88,000,000	4,300.0%	171,260,000	8,560%
9	Germany	24,000,000	71,727,551	198.9%	79,127,551	329%
10	Mexico	2,712,400	69,000,000	2,443.9%	88,000,000	3,144%

Source: <http://www.internetlivestats.com/internet-users/>

Figure 1. Internet Users across the Continent



Source: www.internetworldstats.com/stats.htm

The study does indicate that roughly 80% of respondents with web access look for health information. The people who make this stride to a great extent have good impressions of health information on the internet and feel that it has helped them. Albeit, the ability to access help in one way explains the digital divide. The study also indicates that most respondents utilize the internet for consumption purposes like watching movies, soap operas, e-mails, chatting, social connections, daily activities, or keeping up to date with the surrounding environment.

Another form of the digital divide has been seen in mobile devices, especially smartphones, mainly used to access the internet. The 2016 statistics show that every day, millennial internet users, for instance, invest a typical time of around 185 minutes on mobile internet services (Statista, 2016). In 2016, it was forecast that the quantity of Smartphone users would grow from 2.1 billion, with an estimated 62.9% of the population worldwide already owning a mobile phone. It was projected that a little more than 36% of the total population would own a Smartphone by 2018, i.e., 10% more than that in 2011. By 2019, the amount of mobile phone users worldwide surpasses five billion (DOT, 2018), with 813.2 million internet subscribers. Recently, the smartphone was sold at a staggering rate of 3,882,762 pieces per day (as of 2019),

and in 2021, smartphone manufacturers sold over 1.43 billion cellphones worldwide, indicating a sharp increase in internet utilization owing to mobility, flexibility, efficiency, privacy, cost-effectiveness, and portability.

During the pandemic period, i.e., 1st, 2nd and 3rd wave lockdowns have been implemented in all regions, colleges, schools, retail malls, temples, enterprises, airports, and train stations, for example, were essentially shut down, activities that need human contact and gathering. As a result, to interact, connect, and work from home, individuals have turned to the internet and internet-based services. ³⁵ When compared to pre-lockdown levels, internet service consumption has surged from 40% to 100% (De, Rahul et al., 2020). It is also important to note that video conferencing, such as Google Meet, Zoom, Skype, and WhatsApp, witnessed a tenfold rise in usage.

What do People Generally Surf on the Internet?

One of the most common activities on the internet is like e-mail, work, visits to social networking sites, online inquiry, video conferences, online talk, and online video calls (especially that of YouTube, with an estimated view of 6.1 billion per day as of 10th April 2019), and shopping online. Today, texting is turning out to be more normal among mobile internet users around the world. Like that of the trending mobile messaging apps 'WhatsApp', which is used extensively by more than 2 billion monthly people. Facebook Messenger estimates more than 1.3 billion active users, and the parent social networking site with 2.77 billion dynamic users is expected to reach 3 billion users by the end of 2022. Other well-known informal social communities include Instagram, with active users of 80,956,389+ per day, Twitter with 345,948,419+ active users, and Tumblr, with 118,583,387+ active users per day, internetworldstats and Statista 2022), as well as other mobile phone talk applications like Zoom, Facebook Messenger or WeChat, Google meet, Skype and Pinterest, are increasing each day. Today, most internet users worldwide use e-commerce, which has also led to the expansion of the e-market.

Social Networking Sites (SNS) were one of the most popular forms of communication available to individuals during the COVID-19 shutdown. Several studies have found that SNS saw a huge

jump in consumption, which is reported almost in every part of the world throughout the pandemic period. Facebook saw an increase of 8.7%, and Tik Tok saw an increase of 85.3% during the pandemic (Statista, Oct. 2022). This saw a massive consumption of the internet in SNS (Facebook, Twitter, Instagram, and WhatsApp), mass media (YouTube, TikTok, and other forms of streaming services). In India, Facebook saw an increase of 450 million users between 2015-2022 and an increase of 30+% every year during the pandemic period.

Besides, in Asia, mobile e-commerce has become widely popular and is a vast market, taking over the traditional store or person-to-person market. ¹³ E-commerce has become an essential component of the global retail structure. Like many other businesses, the retail scene has experienced significant alteration since the birth of the internet. Due to the continuous digitization of modern life, customers from practically every country today benefit from the advantages of online purchases. ²⁰ With over five billion global internet users, the number of people making online transactions is snowballing. In 2021, global e-commerce sales topped 5.2 trillion US dollars, which is only likely to rise in the future (Statista, Dec. 2022). Today, Amazon is the leading web-based business that deals with more than \$27 billion in income, followed by Flipkart in India (internetworldstats, 2020).

The diffusion of the internet is at a monumental stage, and nearly all the countries worldwide are getting swallowed at its pace. The world population counts at 8 billion, with active internet users of 5.07 billion people; besides these, websites are growing day by day, which figures at a humongous total of 1.5 billion (and 200 million active websites) and still counting. E-mails sent stood at 319.6 billion per day (as in 2021), and internet consumption stood at 5.7 billion gigabytes per day (internetworldstats, 2020).

The number of internet users climbed by 10.2% in 2020, the first year of the pandemic, the largest increase in ten years, owing mostly to a 13.3% increase in internet use in developing countries. Growth reverted to a more moderate 5.8 percent in 2021, matching pre-crisis levels (Statista, Jan 2022). Internet in India increased hugely year by year between 2010-2022, from 92.57 million users to 932.22 million users. With a huge jump during Covid-19 from 493.96 million users in 2018 to 636.73 million users in 2019 and 100+ million users the following year.

Thus, one can see that numerous studies have been done on the problems involving the digital divide and identify the ample opportunities information and communication technology provides to improve the country's productivity and efficiency and develop people's well-being. Besides, based on the information system literature, it is evident that individuals and organizations in developed countries benefit from all these information and communication technologies (Quarterly newsletter, 2018). It is important to note that the divide not only comes in the form of technology such as smartphones, iWatch, laptops, tablets, and so on but also in the form of internet speed which is not uniformly spread across the country and within regions. This divide can also be in the form of internet utilization since the general average consumers use it for the main purpose of media consumption rather than for learning, acquiring information, keeping upto to date, and so on. Another form of the divide can also be seen in the form of technical skills, individual interests, language barriers, complexities in acquiring the correct information, and cultural, social, and financial. Some see it as a waste of time to spend on the internet.

The phase of Information Technology in the Context of the Internet in India

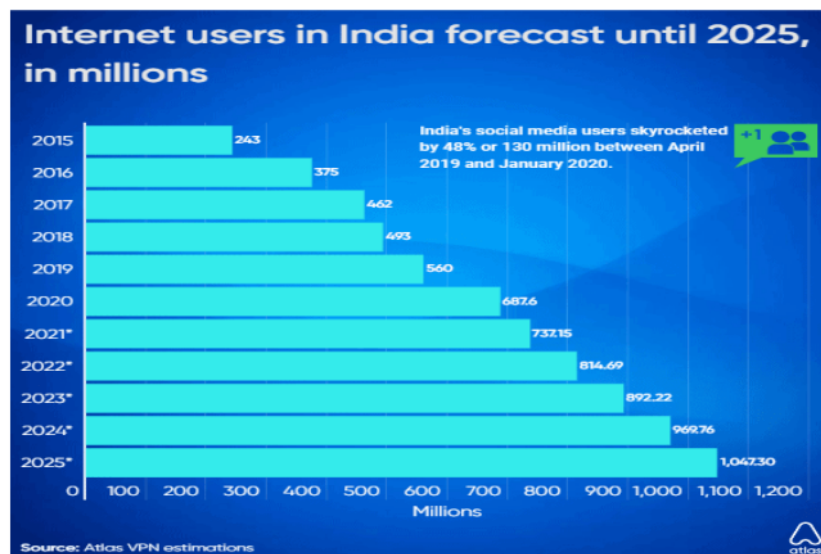
One of the earliest cyber cafés is the 'Coffee Day Cyber' cafe situated on Brigade Street in Bangalore, India. This cafe opened in 1995 and, from that point forward, has stretched into a chain of cybercafes all over India. All over the world, Cybercafes can be seen (Bist, R., 2007).

Internet got announced in India in the early 1990s. Videsh Sanchar Nigam Limited (VSNL), established on August 14, 1995, introduced the internet by means of dial-up in six urban communities. Initially, only a few major cities could access the internet, and the rest was under the government's control. VSNL, the agency in control of internet activities, and the department of telecommunication (DOT) provided intermittent networks with low transfer speeds and extremely hardly few telephone lines. The connection rates were meager at 5%. The charges were relatively very high despite the low level of service provided. Domestic users were charged \$2 (roughly around 20 rupees at that time) per hour, whereas, for a couple of privately owned businesses that could bear the cost of them, it ran more than \$2000 (around 40,000 rupees) each month for a 64Kbps line. After three years of government collaboration, there were only about 150,000 internet connections in India towards the end of 1998. Several small to major internet

service providers opened shops, resulting in a pricing war and better service. (Singh, Sumanjeet, 2010).

Internet monopoly by the government mostly ended in early 2006; since then, a considerable increase in internet consumption began (which can be seen in Table no. 3 below). The growth spurt is increasingly higher in the ascending year, once standing at 2.8% of internet Penetration at the end of 2006. In 2018, internet penetration stood at 38.0%, rising sharply to 50.0% (end of 2019) of India's total population at the onset of the pandemic (Statista, 2022). In January 2022, India had 830 million internet users. At the beginning of 2022, India's internet penetration rate was 47.0 % of the entire population. The internet users outpaced the projected score of 814.69 million users in 2022 (see chart.1), which is achieved at the end of 2021. Going by this pace, the overall number of users is expected to cross 1 billion internet users by 2025.

Chart 1: Internet Users in India (2020)



Source: atlasVpn (September 23, 2020)

Internet is the new buzzword in a brief passé all over India. Both the state and Central governments are assertive about internet growth. Studies have shown that the internet has gained momentum in India's metro cities and small towns. Only 1.2% (20.26 million at the end of 2016)

of the people in rural India have access to the internet, whereas, in urban India, it is 12% (405 million subscribers). Urban users dominate internet use, contributing more than 60.6% of India's internet consumption (DOT report, 2018).

The data from DOT shows that 30.3 million people in urban areas use the internet daily, whereas only five million use the internet in provincial regions. The number of internet subscribers rose to 30 million in September last 2007. Disparities are also seen high among internet users and non-users, with a ratio of 63.5% to 36.5% even when there is a connection.

Internet (broadband and narrowband put together) access rapidly increased to 4% in 2009 with an estimated 80 million people. It crossed 7% in 2010 (ultraxart report, 2018). As per DOT, disparities are seen within the Indian states. State-wise, the highest number of internet subscribers (between Dec. 2015 to March 2016) in Delhi, Maharashtra, and Tamil Nadu, followed by West Bengal, Karnataka, and Kerala. North East-II, Assam, Oriya, Andaman and Nicobar, and Uttaranchal have the least internet subscribers (Table 3, DOT report 2018).

Table No. 3: Internet subscriber base of Rural-Urban India (Dec2015-March 2016)

[Subscribers in Millions]

Telecom Service Area	Narrowband (Mar-16)		Broadband (Mar-16)		Total Internet (Dec-15)		Total Internet (Mar-16)	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Andhra Pradesh	5.70	7.99	3.43	7.74	9.05	15.38	9.13	15.73
Assam	2.37	1.56	0.84	1.98	3.38	2.79	3.21	3.54
Bihar	6.92	6.89	1.95	3.87	8.43	10.00	8.86	10.76
Delhi	0.49	8.13	0.45	11.53	0.95	18.72	0.93	19.66
Gujarat	4.11	7.23	1.95	7.81	6.16	15.00	6.06	15.04
Haryana	2.08	2.27	0.89	2.32	2.96	4.50	2.97	4.59
Himachal Pradesh	1.02	0.82	0.74	0.46	1.73	1.15	1.76	1.28
Jammu & Kashmir	1.16	1.10	0.67	0.68	1.84	1.65	1.83	1.79
Karnataka	3.62	6.83	1.92	10.26	5.85	16.33	5.54	17.09
Kerala	2.70	3.76	2.87	5.27	6.14	8.25	5.57	9.02
Kolkata	0.25	4.62	0.30	4.10	0.55	8.48	0.55	8.72
Madhya Pradesh	5.18	7.39	1.07	6.78	6.37	13.08	6.24	14.17
Maharashtra	6.59	9.08	3.18	10.64	9.70	18.82	9.76	19.72
Mumbai	0.16	6.60	0.12	8.77	0.30	15.31	0.28	15.37
North East	1.35	1.11	0.62	0.99	1.96	1.74	1.97	2.10
Orissa	2.72	2.68	0.65	2.25	3.60	4.25	3.37	4.93
Punjab	3.59	4.68	1.12	4.07	4.56	8.45	4.71	8.75
Rajasthan	5.16	6.38	1.85	3.87	7.28	9.58	7.01	10.25
Tamil Nadu	3.53	9.59	3.32	11.56	6.86	20.41	6.86	21.16
Uttar Pradesh(East)	9.40	7.26	1.81	4.01	10.98	10.86	11.21	11.27
Uttar Pradesh(West)	5.15	6.04	1.32	4.00	6.15	9.48	6.48	10.04
West Bengal	5.43	2.24	2.21	3.51	7.36	5.27	7.64	5.75
Total	78.65	114.25	33.29	116.47	112.16	219.50	111.94	230.71

Source: <http://www.internetlivestats.com/internet-users/india/>

In the data of IMAI (Internet and Mobile Association of India), internet diffusion increased from 22% with 277 million users in 2015, which further increased to 27%, i.e., 405 million users in 2016. In December 2017, internet access in metropolitan India was 64.84%, contrasted with 60.6% in December 2016. Similarly, internet access in the provincial region expanded from 18 % in December 2016 to 20.26% in December 2017. The data moreover shows an average of 281 million daily internet users, with 182.9 million, or 63.50%, accessing the internet consistently in a metropolitan region. At the same time, in rural India, only 98 million users, or 36.50 %. Delhi, Mumbai, and Kolkata are the three leading cities with the highest access in urban India. Simultaneously, Jagdalpur, Fatehpur, and Imphal (as of Dec 2017) present the minor internet user among 170 cities (ultraxart report, 2018).

Regarding gender, it was estimated that there are 143 million female internet consumers, roughly 30 % of all internet users (starting around 2017). However, digital India is making inroads into rural India, and the underlying digital gender gap persists, particularly in rural regions. Therefore, bridging this literacy disparity between the gender becomes critical to guarantee that everybody gets educated, engaged, and security online (IAMAI report, 2018). At the beginning of September 2018, the internet subscriber stood at 429.25 million, which has increased dramatically by the end of September 2018 to 560.01 million, meaning an improvement of 9.32 % as per estimate, the number of people using the internet in India would rise by 9.18% every year until 2025. (DOT report, 2022). In 2022 (see table no. 4) the internet disparity between men and female, state wise across the India, shows still a prevalent gap between the gender and only uniformly seen in the state of Sikkim. In urban India, 52.8% of women and 72.5% of males utilize the Internet. In urban India, the North-Eastern States, Goa, Delhi, Chandigarh, Himachal Pradesh, and Punjab have the greatest percentage of Internet users. Odisha, Telangana, and Bihar have the lowest proportion of Internet users in urban India.

Table No. 4 Internet Penetration in India 2022 Gender

#	States and UTs	Women User (%)	Men User
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			(%)
11			
1	Andaman and Nicobar	34.8%	46.5%
2	Andhra Pradesh	21%	48.8%
3	Arunachal Pradesh	52.9%	71.6%
4	Assam	28.2%	42.3%
5	Bihar	20.6%	43.6%
6	Chandigarh	75.2%	91.9%
7	Chhattisgarh	26.7%	56.3%
8	Dadra and Daman	36.7%	68.3%
9	Goa	73.7%	82.9%
10	Gujarat	30.8%	58.9%
11	Haryana	48.4%	72.4%
12	Himachal Pradesh	49.7%	67.9%
13	Jammu and Kashmir	43.3%	72%
14	Jharkhand	31.4%	58%
15	Karnataka	35%	62.4%
16	Kerala	61.1%	76.1%
17	Ladakh	56.4%	67.8%
18	Lakshadweep	56.4%	80.3%
19	Madhya Pradesh	26.9%	55.7%
20	Maharashtra	38%	61.5%
21	Manipur	44.8%	73.9%
22	Meghalaya	34.7%	42.1%
23	Mizoram	67.6%	79.7%

24	Nagaland	49.9%	64.6%
25	NCT Delhi	63.8%	85.2%
26	Odisha	24.9%	50.7%
27	Puducherry	61.9%	80.7%
28	Punjab	54.8%	78.2%
29	Rajasthan	36.9%	65.2%
30	Sikkim	76.7%	78.2%
31	Tamil Nadu	46.9%	70.2%
32	Telangana	26.5%	57.4%
33	Tripura	22.9%	45.7%
34	Uttar Pradesh	30.6%	59.1%
35	Uttarakhand	45.1%	74.6%
36	West Bengal	25.5%	46.7%
Total	India	33.3%	57.1%

Source: [Findeasy.in/Indian-states-by-internet-users/](https://findeasy.in/Indian-states-by-internet-users/)

Likewise, one can see wireless internet subscribers enjoying a wild share of 96.21 % of the total internet subscribers. As time went by, the number of broadband subscribers extended from 481.70 million in the end of 30th September 2018 and saw a further increase to 518.55 million as of 31st December 2018, 36.85 million (Quarterly report, 2018).

In 2019, 34.8 % of India's population had access to the internet out of the total population of 1,326,801,576 (1 billion 32crore 68lakh 15thousand seventy-six) (internetlivestats, report, 2019). The number of wireless subscribers rose to 752 million (at the end of 2020) on the onset of Covid-19. According to the Indiatimes report, in 2021, 61% of Indian homes utilized the internet, up from 21% in 2017. Over 130 million people went online in 2020 and 2021, with almost 80

million going online in 2020 and 43% (roughly 34 million) going online as a result of the COVID-19 issue (Monit Khanna, 15 Nov. 2021, Indiatimes.com). At the time of writing this thesis, India has 833.7 million internet users, with a penetration rate of 59.5% (internetworldstats, 2022). Going to this estimation, India will reach total internet users of 1 billion in 2025 (atlasVpn report, Sept. 23, 2020).

India's digital adoption has advanced by 4-5 years during the pandemic (Kunal Vohra, TOI, 2021). Physical dependencies have been replaced by digital infrastructure, and the fulfillment of Indians' daily lives has migrated online. People remaining indoors linked virtually to stream content, buy necessities, e-learn, tele-consult, play games, make payments, social network, and utilize remote apps to work from home, increasing data usage by 25%-30%. There is a growing positivity toward a more digital way of life, and statistics (growing numbers of internet users) back this up. It is crucial to point out that time spent on cell phones has increased by nearly 25% to 6.9 hours per user each day (Statista, 2022). Thus, witnessing a major movement toward digital, which is expected to have long-term consequences, particularly in the areas of digital platform adoption, online gaming, and e-learning.

Information Technology and Schemes Implemented to Bridge the Digital Gap

India is multicultural and multilingual, with 29 states, seven union territories, 22 official dialects, and 13 scripts. Accordingly, it is of essential importance that information technology has to be processed. Software for translation should be established in vernacular dialects and accessible at a reasonable amount for the broader proliferation of information technology to assist the people at large. This will, in turn, overlay the way in the direction of digital unity and knowledge for all to diminish the digital divide gap since information and communication technological and infrastructural development is the pillar of any modern society. Since India has about 4 lakh villages, which are geographically dispersed, with fewer populations and a shaky economy, it is not easy to provide internet connectivity to each village.

Furthermore, the telecom companies may not undertake schemes in remote villages because the villages' procuring economy is insufficient to recover the cost of connecting them. Therefore, in view of connectivity, one must regulate the cost-effectiveness, ease of deployment, and proper

administrative innovations that are vital for the sustainable deployment of telecom systems in India (Rogers, E.M., and P. Shukla, 2001). It is essential to point out that some of the major metro cities in India are at par with about developed nations; moreover, a portion of the country regions in states like Orissa and eastern Bihar are more regrettable than a portion of the least advanced states (Singh, Sumanjeet, 2010).

Information technology is the main structure for transformation and process restructurings with minimum confrontation. Various studies (Marwaha, S.K., 2006; Rogers, E.M and P. Shukla, 2001; Brodie, M et al., 2000; Norris, P., 2000; Singh, S., 2010) exposed that good governance in any given society could not be done without information and communication technology (ICT). ICT also focuses on bringing about effectiveness, efficiency, and transparency in the system. The Indian government is increasingly employing ICT to deliver and promote its services during emergencies and significant events beneficial to the citizens.

Though ICT brings the assistance of digitally connecting, it also poses other potential threats to development and digital opportunity, e.g., rural people cannot be a part of this bandwidth connectivity group due to literacy and financial problems. By large, technologies developed so far adhere to the literate classes' needs (Bist, R., 2007). Therefore, we must start prioritizing building technologies that profit the communal masses of society. As one of Asia's leaders in the information technology (IT) sector, information technology plays a significant role in developing a country or nation. In this regard, the scope of India's future progress and advancement will significantly depend on its ability to spread information and knowledge to the common masses of society.

Several aspects hamper the growth, but among them, literacy is one of the key factors dividing the people of India into categories. At the same time, many people have the skills and knowledge to use the ICT tools like the internet, computer, smartphone, laptops, PDAs, and the like. Yet, the mainstream population is entirely ignorant about accessing the internet or computer. It is also apparent that numerous technological innovations and advancements have been achieved within a short period by the government of India.

Recognizing that information technology is indispensable for a country's development, India's government has taken specific initiatives to address the issues and complications of the digital gap. From 2003-2007, the administration of India supported the implementation of the National E-Governance Action Plan (NEGAP). This plan looks to lay the foundation and convey the push for the long-term development of e-Governance within the country (Marwaha, S.K., 2006). It is also noteworthy to mention some important government organizations such as; the Center for development of advanced computing (C-DAC), National Informatics Center (NIC), Software Technology Parks of India (STPI), DOEACC (Department of Electronics and Accreditation of Computer Courses), and Education and Research in Computer Networking (ERNET India), which all together works towards the country's information and communication technology development (Marwaha, S.K., 2006).

The national informatics center (NIC) is one of the pioneering interventions that led to the proliferation of information technology, facilitating economic growth and bringing about social transformation in India. NIC also does provide network backbone and e-governance backing to the focal government, state legislatures, union territory organizations, districts, and other small-scale Government bodies (Marwaha, S.K., 2006).

Studies have shown, and it is apparent that the government of India has undertaken measures and initiatives to bridge the digital gap. For example, the 'Information Technology Act 2000' was passed to guarantee that online business and e-governance reach out to the masses and in remote regions. This scheme recognizes the potential of pervasive broadband service for gross domestic product (GDP) growth and enhancing the quality of life through communal applications. It also engages with e-governance, tele-education, telemedicine, employment creation, and entertainment (Rogers, E.M., and P. Shukla, 2001).

Numerous initiatives and schemes are the Kisan call center (launched in 2004 to deliver extension services to the cultivating community and respond to issues brought by farmers in their local dialect). Life line India (established in Nov. 2006, is intended to deliver cultivating communities with induction to expert assistance on agribusiness and animal husbandry). Bhoomi project (records of land possession). Gyandoot Project (provincial data network where

individuals can undoubtedly sign in and complain or request information on crops, woodland fields, water assets, and so forth.). Technology improvement for Indian Languages (participates in creating data handling apparatuses and strategies to work with human-machine communication without a language obstruction, creating and accessing multilingual information assets, and coordinating them to develop innovative user products and services) (Bansode, S.Y and S.K. Patil, June 2011). Another scheme, the 'Sakshat' tablet, was initiated by the government of India, and HCL Technologies was launched on 10th January 2011. Sakshat tablet was established as a component of the public undertaking on education through information and communication technology. It was meant to associate 25,000 schools and 400 colleges the nation over for an e-learning program through the current Sakshat gateway (Kamila, K., 2011).

In Andhra Pradesh, the government of India undertook several projects to bridge the digital divide, such as; eSeva, VOICE (to improve disability representation), Fast (transportation), e-Cops (computerized information system support for the work of the police), AP Online (One-stop-shop on the web), Saukaryam (metro administration delivering to an internet-based platform), Online transaction processing, APSRAC (Andhra Pradesh State remote detecting application center). APSRAC projects are applicable in the areas like farming, energy, and marine assets to country strengthening with the assistance of compelling use of remote sensing (RS) and geographic information system (GIS) technology. APSRAC projects likewise embraced the village information system (VIS), which contains a detailed data set on segment subtleties, the number of medical clinics, schools, electricity connections, and the like. Other actions of telecenters include monitoring of wastelands, wasteland mapping, land use, and soil degradation mapping by efficiently employing remote sensing and geographic information system (GIS) based technology (Kamila, K., 2011).

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The Indian government also unveiled the 'general resources and information dissemination' (GRID) Center, which was developed and implemented by the 'Indian Farmers and Industries Alliance' (IFIA), and the 'Federation of Farmers Association' (FFA) at Gummadidala, Andhra Pradesh. The GRID communities are comprised of data booths and an information bank coordinated with government interventions. National Institute of Rural Development (NIRD) schemes include two public information booths or kiosks with internet connectivity that were

established at Vikrabad in Ranga Reddy district and Tenali in Guntur district in Hyderabad (Kamila, K., 2011). These booths give information like assessment results, registries, horticultural costs, governmental systems, land records, educational prospects, and the like.

Many initiatives have been undertaken to develop software, apparatuses, and human-machine interface systems in Indian dialects. The information technology department took a critical step to build tools and fonts in Indian Languages to broaden the proliferation of information and communication technology at free cost for the general public. These tools and software are Fonts, Morph Analyzers, Text Editors, Spell Checkers, Key-Board drivers, Dictionaries, and Messaging Systems for Telugu, Tamil, and Hindi have been launched in the public domain for the masses. These tools are available on the Website (www.ildc.gov.in and <http://tdil.mit.gov.in>) (Marwaha, S.K., 2006). A comparable announcement of fonts and software tools for other languages was also planned.

Looking at all the initiatives and schemes undertaken, one can precisely say that the digital divide gap is plummeting. There is also anticipation that the government plans and public firms will make it probable to link the digital divide. By the by, it is additionally apparent to totally eradicate the digital divide in India; viewpoints like orientation, age, culture, language, gender, education, skills, and such are central parts that influence our everyday activities.

Perspectives on the Digital Divide

(a) Studies on the Digital Divide Across the World

The important concern in recent discussions on the dispersion of information technology in developed and emerging nations is not such a huge amount on the socio-technical financial differences between the countries and how viewpoints like income, age, orientation, education, occupation, area, and infrastructure play a critical role in information technology infiltration. The concern for many kinds of research has taken a paradigm shift, which concerns the rapid change and disparity that the digital divide has created (Jones, J. B et al., 2007). This divide is in the form of internet access have and have-nots, while not forgetting about the cognitive skills and language (besides other factors mentioned above) necessary to utilize the internet resources fully.

Today, elementary computer knowledge is becoming pivotal for monetary achievement and individual headway, entry to a promising profession and educational prospects, access to social networks, and possibilities for a civic appointment. Also, diffusion theory recommends emphasizing the so-called economic advantages when new technologies are adopted, wherein the rich become more affluent. At the same time, the less wealthy segments begin to decline.

One of the forerunners in the digital divide, Norris, Pippa (2001), stated that the digital divide implies the breach involving the information haves and information poor, including parts along like gender, racial, and class lines. Why this has become a grave concern is a question one must consider. The fundamental issue fixated on the digital divide is that the underclass of the information poor will be additionally underestimated in the social order. Norris (*ibid*) accepts that the generational fluctuation in variation to new advancements is believably the utmost importance for the future dispersal of the internet but the most underestimated in policy circles. However, the internet appears to be appropriate to the necessities of the older adults in various ways, as sensibly stationary occupants with significant relaxation time, especially for person-to-person communication, leisure redirection, and services like the home conveyance of food. Referring to an illustration of the age gap inside the Nordic district, where the internet has invaded most widely, demonstrates the way into any social cleavage observed to this point. Like, how the youthful age group is multiple times as liable to be online than the more established age. Norris (*ibid*) likewise observed that nearly 33% of all Europeans under 25 are online, contrasted with just 3% of those over 65 years of age.

Norris (*ibid*) stresses the critical aspects of comparative inequalities in the information society. It is no surprise that there are utter differences concerning internet access. Notwithstanding, the inquiry remains whether the general aberrations in internet access are either unique or like that of the distribution of other common types of information and communication technology, similar to VCRs and satellite TV. Assume we underscore that the various parts like education, income, or expert imbalances are comparable across all communication and information technologies. All things considered; this recommends wide clarifications of this peculiarity concerning well-established social definition designs predominant in present-day cultures. Then again, assuming that the distribution of internet access shifts from the use of various sorts of information

technology, then, at that point, one ought to look for explanations in light of the particular qualities of the actual internet. Since elements, for example, the monetary expenses of procuring internet access, the cognitive abilities and computing skills expected for surfing, language hindrances to perusing the web in non-English talking nations, and the manner in which individuals answer the kind of resources and facilities accessible on the internet, similar to music, entertainment, and shopping. Both comparative and complete inequalities can be seen as similarly significant. In any case, the previous examination gives a more profound comprehension of this phenomenon's causes and probable solutions.

Norris (ibid) analyses and demonstrates that the core of the issue lies in more extensive social delineation designs that outline access to the virtual world and complete involvement in other systematic structures of information and communication technologies. Norris (ibid) suggests that the gender gap need not be explained, for example, women's approach toward computers or, on the other hand, the absence of a non-forceful way of behaving toward computer games and websites suitable for little girls. This might possibly be precise. Be that as it may, it tends to be a small and wide clarification for why fewer girls than men are online since ladies are likewise more uncertain than men in accessing ICT delivering mass diversions like digital TV, VCRs, and the like. Realizing that internet innovation would not stop insofar as the market stays to request ever lesser, quicker, and better delivery systems, reducing the divide in the process.

Rogers, Everett M (2003) referenced that this plan is a long way from undeniable since the conditions under which modernization is executed decide their social outcomes to a limited extent. He added that unique initiatives to even the odds by the public authority and the private sectors could widen technological access. Rogers (ibid) stated that the existing social foundation likewise assumes a basic part in the technological developments in a developed society, reinforcing the already existing socio-economic disparities.

Jung, Joo-Young et al. (2001), attempts to find whether the digital divide implies having internet connections, e.g., If 90% of internet dispersion is achieved, will it make the digital divide a forgotten or solved issue? Or, on the other hand, does the digital divide need to extend a more comprehensive aspect of disparities in individuals' associations with communication

technologies? The digital divide is an analogy for the overall ten-year issue of deficient admittance to new communication technologies questionable about being settled by light dispersion of the internet or related technologies. When technology becomes an asset for keeping up with higher status in the public eye, e.g., computer-based technologies have progressively become essential or must-have in any offices or at home. Subsequently, inconsistent access to such technology becomes more than a question of ownership; the issue of deficient access ought to likewise address whether there is a facility to boost the technology's viability for the purpose of various regions. For example, an individual with a computer with an internet connection may not have the skills and knowledge to get a high-tech job done.

Jung et al. (ibid) developed a measure to understand the digital divide called the internet connectedness index (ICI), which integrates conventional time, context, and history. Still, their research goes beyond these scopes to capture internet integration's goals, centrality, and activities in diverse social groups' everyday lives. They express that conservative time-based internet connectedness activities cannot explain to us why individuals are associating and the way in which they shape their connections. However, it is fair to say that these extensions are similarly essential as critical as the amount of connection time. They contend that this happens when the attention is on internet connections and individual and social impacts, which should be carefully viewed in understanding the more sensitive attributes of the digital divide. For example, when individuals access the internet, the inquiry becomes how they can and do develop the sense and convenience of being connected with the internet. In this manner, disparities exist, even in accessing the internet and can straightforwardly upset individuals' capacity and desire to use their connections for social mobility purposes.

Jung et al. (ibid) accept that scientists are considerably less liable to consider the digital gap to be an issue of ownership of the technology than to consider it to be an issue of fostering a relationship with the technology. They argued that a solitary estimation could not capture this relationship. All things considered, the relationship should be estimated concerning various elements of individuals' goals and emotional connectedness to the internet. The internet connection cannot be analyzed in separation from any remaining choices present (and dynamic) in the communication environment, whether customary media, local area or public media, or

interpersonal communication. Finally, internet connections cannot be perceived without including the subjective aspects that influence individuals' persuasive interests in those connections.

Their study shows that the internet connectedness index empowers the observational appraisal of how individuals associate with the internet in their regular day-to-day existences. Their review upholds that this new measure can catch the multi-layered inconsistencies between various education, age, income, and gender groups. Their interpretation of these differences is that individuals of various ethnic foundations previously special concerning their education, income, age (more youthful), and gender are more expected to be associated with the internet in manners that will safeguard or expand their advantages.

Loges, William E and Joo-youthful Jung (Aug.2001) investigate the digital gap between old and youthful using an ecological methodology that considers the resources, objectives, and communication environment of youthful and old respondents to a telephone survey. They look at the relative degree to which more youthful and more established individuals are probably going to partake in internet use in their everyday activities, and the meaning of the internet as an implies that assists them with meeting their objectives. Further, the assessment is accomplished on the perceptions of factors that characterize the media ecology, including access to computers at school, work, and out-stations areas, on the levels of internet connectedness.

William and Jung (ibid) stress that the digital divide issue is a natural and multi-level peculiarity. They added that it is not just a trouble of people's decisions of access or no access connections with the information technology, nor is the financial reasons to internet services. In any case, it is a subject about how essential the internet is or could assist with accomplishing various crucial objectives in people's day-to-day activities and how implanted the internet is in more youthful and more seasoned individuals' communication infrastructure. The digital divide issue cannot be isolated from difficulties. For example, how a general public handles the issues of contrasts in life may open doors regarding gender, age, class, geography, identity, or social inclinations. Simultaneously, the internet might be a diverse source for older individuals with various media experiences, objectives, or social events for interacting on the internet.

To more readily comprehend the basic issues of divide even inside similar group with given aspects, William and Jung (ibid) recommend that connectedness is made out of three aspects: (I) history and setting, (ii) scope and intensity, and (iii) centrality in one's life. Here, the set of experiences and setting aspects alludes to when one needs to acquire internet skills and absorb the internet into regular day-to-day activities. The degree and intensity aspect incorporates the scope of individual objectives one looks to accomplish through an internet connection, the substance of online applications (like e-mail, browsing, and messaging), and the degree of time one spends on these activities. The centrality aspect alludes to an individual's emotional evaluation of the internet's effect on their own life and how much an individual would anguish the internet in the event that it was no longer accessible.

Their study demonstrates that the digital divide among youthful and older grown-ups stretches out past inquiries on access. They gave two instances of how individuals respond to internet access: (I) Older respondents vary from their more youthful partners in the nature and setting of their internet use. (ii) Older individuals would represent lower internet connectivity/connectedness. The distinction in connectedness is unequivocal because more established individuals pursue a narrow selection of objectives and activities online, using fewer internet applications, and engaging in the internet in fewer places than more youthful individuals. They presumed that the connection between age and internet connectedness stays, even in the wake of controlling significant access disparities by background. Notwithstanding these differences in extension and power of internet connectedness, more seasoned individuals will generally abstractly assess their internet connection as vital to their lives as more youthful individuals do. They added that the age partition in internet connectedness is because of contrasts in scope and objective and may be subjected to change with time.

Keniston, Kenneth and Deepak Kumar (2003) underline the factors bringing about the digital divide as economic constraints to accessing and the absence of desire or ability to utilize the internet among a particular group of society. They mentioned issues of disproportions concerning internet access among people with low socio-economic backgrounds and that it is found across the globe. They also added people with higher earnings have better accessibility to

the internet than those from lower-income groups. Likewise, large cities are unevenly circulated in internet usage, and the urban poor has minimal access, expanding the gap even more between rural and urban areas. Today, young people in India, especially from metropolitan cities who belong to low-income groups, are also using the internet. For example, slum dwellers, cooks, daily wage earners, maids, salespersons, vegetable vendors, and the like are using smartphones with internet facilities.

Looking at disparities within the countries, they derive four reasons which might cause the digital divide. The first divide exists in every nation, between the developed or developing countries, wealthy, educated, powerful, and vice-versa. The second divide is connected to the English language's dominance and what is roughly called 'Anglo-Saxon culture'. Most of the websites were first invented in the United States and other English-speaking countries like Australia, Great Britain, Canada, and New Zealand, including an English-speaking populace of countries like India, Hong Kong, Singapore, and South Africa. The 3rd divide is the gap arising from the discrepancies concerning admittance to information technology between the rich and the emerging countries. At long last, there is the developing intra-public peculiarity of the 'digerati' (a prosperous tip-top portrayed by abilities fitting to information-based businesses and technologies), developing affluence and impression unmistakable to traditional textual styles of elite class status, and compulsive concentration, particularly among youngsters, on the state-of-the-art advancements, negligence for convention and authority, and stimulus to the morals of conventional progressive systems.

Livingstone, S and Magdalena Bober (2004) researched the digital divide among children and young people. They analyzed the survey findings with respondents between the ages of 9 and 19 in the UK with variations in age, gender, and socio-economic status. This study was on the accessibility and use of the internet. Since both the level of utilization and the explanations behind low and non-use of the internet differ by age, it can make sense why contrasts in internet utilization matter, adding to inclusion and exclusion. They added that the demographic data, use, and proficiency variables are crucial in affecting the extent and complexity of internet usage.

The younger generation is progressively arbitrated by information and communication technologies in school, home, and society. Livingstone and Bober (ibid) explain that modest research has addressed imbalances and pervasiveness in children's and youngsters' access to the internet or explained why some have less or no utilization of the web. Youngsters are comprehensively seen to be tended to as the internet age or online experts - names they relish, albeit some researchers have challenged this as a predominant myth.

Livingstone and Bober (ibid) explain these variances by considering specific variables like the recurrence of internet use, length of time spent on the internet, sorts of services, mastery in use, specific skills on the internet, and perspectives towards internet use. They employed a random location sampling method across the UK. And their data shows that most children and youngsters have internet access at home (74 %) or at school (92 %). For the most part, kids and youngsters use it every day (41 %) or week by week (42 %). Only 13 % are infrequent users (i.e., use it not exactly once per week), and only 3 % are considered non-users.

The age discrepancy in the frequency of internet utilization is nonlinear for the two frequencies of utilization and time spent on the internet. They observed that youthful mid-teenagers are more learned users while, typically, the older the kid is, the more years they have been on the internet. Comparatively, it was found that working-class children use the internet lesser than middle-class children. Their study also revealed that children from diverse backgrounds use the internet correspondingly, assuming that they have equivalent access; existing uniqueness in access will have tremendous contrasts. For instance, kids and youngsters with home access will generally have spent more years on the web, utilize the web more regularly, invest more energy online daily, and have more elevated levels of online abilities and self-adequacy. Whereas adults and across all age groups, restricted availability is the premier explanation for preventing kids and youngsters from connecting more on the internet. The other explanation is indifference, ordinarily found among teens contrasted with 9 to 11-year-olds.

Despite the fact that not genuinely critical, there is a clue that security, parental limitation, and absence of abilities are likewise vital for the most youthful group. The discoveries likewise introduced that few youngsters do not utilize the internet, unlike their folks and grown-ups who access the internet. Thusly, the straightforward declaration of a twofold gap between the haves

and the poor, or users and non-users, is not relevant to youngsters at this point. In any case, it is not necessarily the case that access issues are presently not important. Their discoveries uncover disparities brought by age, orientation, and financial status concerning the nature of internet access and use. Their outcomes likewise show how age and gender shape and characterize the exciting open doors taken up by youngsters. Apparently, skills-based interventions would be ideal for more youngsters, while empowering more regular use for more established teenagers will improve their pursuit of opportunities.

Livingstone, S and Helsper Ellen (2007) believe that it is challenging to decide if the digital divide is smoothening the playing ground for youth or raising new obstructions for some while advantaging others' cultural positions. Contrarily, several studies suggested that there should be a classification of information technology users beyond the traditional distinction of online haves and internet those who lack access. All things considered, few have given a point-by-point theoretical structure for a more careful empirical study of usage variances. Their research was focused on a diversified group of youth concerning internet use, and the data was collected from 1,160 surveys to demonstrate the prevailing variances along the deliberated dimensions. These variables can be seen in the form of gender, education, income, computer skills, language, and social and cultural differences which significantly impact how people utilize the internet.

Their study was based on how variations in user's perceptive of online tools and services could impact or frustrate how much individuals can ideally profit from their utilization of computerized media. Livingstone and Ellen (ibid) study centers around refined access and use measures, including nature of access, setting and intensity of purpose, sorts of usage, and user capabilities. They observed that the distinctions are not generally thought to be dichotomous properties; all things being equal exist on a spectrum. Running against the norm, the absence of ability in these domains might disadvantage others. In this manner, to comprehend these distinctions, they develop a hypothetical structure for the idea of manners by which information technology utilizations might veer off across users and include multiple ways for which individuals' internet-based exercises and expertise might contrast, for example, (I) experience with and utilization of devices on the internet, (ii) information on what is accessible on the web, (iii) aptitude to find as expected content on the internet, (iv) capability in internet browsing, (v) knowledge of where and

how to pursue support with questions online and (vi) variances in young people's internet uses. They explained that individuals' capacity to find desired sorts of information on the internet and their ability to evaluate the unwavering quality of the information is an indispensable piece of the medium's capability to add to individuals' ordinary requirements and prosperity, in the long run further developing their life possibilities.

Jones, James B et al. (2007) accepts that the worldwide digital divide is simply one more replication of the technology dualism principle. Singer (1970) was the first to introduce the dualism principle. The particular dualism principle perceives that the digital divide emerges; when one gander at technology development and gaps between nations that have existed since the modern age. It is on the grounds that technological advancement has consistently centered around nations intently resembling developed nations' financial characteristics (or metropolitan areas inside a country with major differences in income and education). Jones et al. (ibid) utilize this principle to recognize that the diffusion pattern of information and communication technology strictly resembles the concept of technological dualism and would seem to predict that this outcome will benefit the wealthier countries.

(b) Studies on the Digital Divide in India

In the past few decades, India has become one of the countries where enormous technological and communication progress has grown momentum (Dutta, A., and Rahul Roy, 2004-05, Bowonder, B. and Gopi Boddu 2005, Marwaha, S.K 2006, Bist, R. S 2007, Singh, S 2010, Kamila, K 2011). Rogers and Shukla (2001) have a different view about the digital divide in the Indian context, prompting questions as to who is connected in India. They are, precisely, a collection of tiny, wealthy, successful, and English-speaking minorities. Despite the perseverance of old elites and the advent of new elites, India remains one of the most damaging social regimes in the world, despite its historic cultural treasure.

Singh, Peter M. (2004) explains that the digital divide is a worldwide peculiarity that exists in financially poor nations as well as in the purported developed nations, among nations, and inside any single given country. He additionally says that internet access is at the center of the digital divide and incorporates few elements; cost, content (comprehensibility), capability (skills and

language barrier), and several dimensions such as the basis of age group, gender, income, race/caste, education, and ethnicity. As indicated by him, the main component is the caste system which works at various levels, victimizing individuals and partitioning society.

Singh (ibid) explains a broadening gap between the nation's metropolitan populaces and its failure to remember the provincial or rural populace. In like manner, shopping online and e-mails have neglected to forestall old issues like literacy, poor, and unemployment in India. Furthermore, the digital gap is not limited to less developed states with poor infrastructures, such as Bihar, Uttar Pradesh, Rajasthan, and Orissa. It is additionally predominant in the IT (information technology) states like Karnataka, Maharashtra, Tamil Nadu, Delhi, and Andhra Pradesh. He emphasizes that any digital revolution needs a qualified environment, which India has yet to establish.

Singh (ibid) explains that the digital divide is a moral concern. It raises a new array of social problems, including intellectual and socio-economic factors, programming theft, computer crime, hacking, infection, protection, over-dependence on an AI machine, and working environment stress. Stresses that social divisions and differentiation have gotten through, for the most part, unblemished by information and communication technologies, which obligated its presence to the craving of the rich individuals. In this situation, comprehension should be reached to move from resource-based to information-based creation. And furthermore, a shift from political, religious, and socio-economic obligations precedence has yet to be developed. Singh (ibid) concluded that the gratification of human rights is not generally compelled to advantaged people and social elites, which is thinkable through means of access and use of the resources (finance, infrastructure, knowledge, and skills) that allow people to express themselves, connect, express their ideology, generate, control, and offer the beginning of knowledge and information.

Marwaha, S. K (2006) talks about initiatives proposed by earlier researchers that have helped reduce the gap among several social groups and show progress in many areas but points out that these initiatives are moderately weak in rural areas. It happened not only due to the lack of financial constraints but also owing to a lack of innovations. He believes that we can realize

success only when the initiatives receive acceptance at the grass-root level, like panchayats and blocks, with local community support. Thus, digital development objectives should improve facility excellence and empower people to contribute to developing programs, actively decision-making, and improving quality of life. The free access to information will allow them to widen their thought design, acting as a free agent contrary to their traditional poverty, obtaining new life skills, expanding new thoughts and knowledge, and empowering them. The rural network of information will also act as information facilities and specific sorts of communication from one hub to another across significant distances, where every hub fills in as a community center, medical center, library, bank, matrimonial office, government information center, educational resource, and public telephone booth center. Marwaha (ibid) concluded that completing the information and communication technology design and making it relevant to the people will drastically improve the growth and capability and elevate people's lives, especially the less privileged groups of society. Besides, it will also enhance the social relations within the community, and the government and the citizen must give their equal conscious effort to achieve the goal. This study is supported by other global researchers stressing the importance of ICT and its role in bridging and bringing people closer to one another.

Venkatesh, V and T. A. Sykes (June 2013) conducted a longitudinal study on the rural village in India. They think of two theory that catches the two critical advantages of social networks, (I) power and influence and (ii) access to assets from both immediate and roundabout social ties, to concentrate on the digital divide in the emerging country. They proposed a model of technology use and financial processes with context to digital divide interventions in an emerging country and found that 39% and 47% of the fluctuation in technology utilization and economic developments, respectively, and an additional 16% comes out with new variables. Their study proves that the social network variables directly affected financial outcomes far in excess of what was intervened by technology utilization.

In this manner, the authority of India ought to zero in on coordinating the social network perspective with other individual-centric perspectives to exhaustively figure out the fundamental peculiarity. They reasoned that future exploration ought to inspect various settings, incorporating those with more critical social fluctuation, as it might give a thorough or moderating role to

promoted culture. Their review focuses on the fact that for any emerging country to connect the digital divide is to zero in on progression along a few aspects like education, financial achievement, and accessible medical services. For development to happen, programs expected for this reason should find lasting success and proposition unmistakable advantages.

Bist, R. S (2007) found the digital divide gap to be significantly observed between rural and urban India. Researchers have shown that considerable investments are required to bridge the digital divide gap. New wireless technology in the 'local loop' can conceivably diminish the improvement cost and, in this manner, increment the number of associated towns. The concept of the emergence of this aspect of digital convergence is one leeway that can be used to reduce the digital divide. It is also apparent that both governmental and non-governmental organizations are putting much effort into developing and improving the country's telecommunication infrastructure. Singh, S (2010) also believes that this improvement and development in modern telecommunication technologies will benefit the mass population of India's diverse culture and background and transform the country into a techno-savvy society.

Bansode, S.Y and S.K. Patil (June 2011) talk about the factors that contribute to the digital divide, like gender, disability, actual access, absence of information and communication technology support and skills, attitudinal variables (perspectives towards technology), age, racial isolation, pertinent content (content not interesting to the user). They discuss factors prevalent in the Indian scenario, including literacy rate, education system, and language. They also talk about the schemes and initiatives undertaken by the authority of India to connect the digital divide, for example, the Kisan call center, Lifeline India, Bhoomi project, Gyandoot undertaking, and technological advancement for Indian dialects. They stress the importance of a library, which can act as a training center for the people to access information through the internet and employ free literature access.

Kamila, K (2011) finds that many society sections are left behind in the information technology revolution, such as older people, Individuals with limited formal education, those who speak English as a second language, the socially poor, and technophobes are all at risk. The topic of equity and how to overcome health inequities are key concerns for health promotion. While

information technology is critical, it must be supported by other approaches in order to reach the most vulnerable groups.

Malik, Ridhi (2014) said cash is the king in India, and according to RBI (Reserve Bank of India), currency exchange represents 90% of all monetary exchanges in India. The quantity of computerized financial users in India is assessed at 100 million, representing 33% of the number of ledgers. However, at that point, Malik (ibid) likewise mentions that almost 50% of the Indian populace does not yet have a basic bank account.

Malik (ibid) also points out that with internet savvy and online shopping, India still trudges with offline shops. The benefits of current electronic online transaction systems have not touched all sections across the country. It is due to a concentrated number of services and products to a large degree being intended at the level I and level II areas of the country, where residents, as of now, can access formal banking channels. This slow adoption can be attributed to a lack of robust internet connectivity across the country. He predicts that the number of computerized banking customers will increase from 100 million in 2012 to 450 million by the end of 2020. Malik (ibid) concludes that for a society to achieve cashless transactions, the crucial component would be producing a modern and extensive payment system that includes numerous factors such as affordability, assurance, accessibility, availability, acceptability, awareness, and appropriateness.

Conclusion

This chapter's primary purpose has been to understand better how information technology, especially the internet, brings about the digital divide. One can easily get astray by technology just because it is never limited. The technology options we choose are determined by who we want to reach and what we want to say. It is crucial to ensure that your target audience has access to the necessary technologies. As the internet grows and opens the way for a rising number of possibilities, it has also opened up double deception potential. The conceivable outcomes are boundless, both in the idealistic and the undeveloped territory, particularly while traditional establishments, for example, legal systems, take some time to reach numerous new turns of events. While multiple technical enhancements and government policies have been

carried out to handle a portion of the above issues, those interventions take time, requiring an educated user base.

Due to the topic's broad nature, it is not possible to discuss all the critical aspects of the study. However, this review has looked at some vital research designs and methods that are not exhaustive or conclusive. Still, it conveys the literature's key relevant points. The study also emphasizes that more future research has to be done to address the substantial question of why, how, and the benefits and impact information and communication technology has on individuals in developing countries.

Researchers across the globe have acknowledged the ubiquity and designs of internet usage and the digital divide it brings. This can largely be attributed to numerous factors such as gender, age, occupation, education, costs, income, cognitive skills, computing experience, language, people's response to the type of resources and facilities available online, social background, or traditional hierarchies, people's objective, geography, and cultural preferences, the narrow scope of goals, lack of desire to utilize the available facilities, and limited access; which acts as a deterrent and thereby creating the divide. Studies have also shown that a country's growth depends on the availability of information and communication technology and will provide an unprecedented opportunity to meet vital development goals.

Therefore, it is necessary for internet connections at schools and classrooms, trained teachers, free or low cost, and community access in rural or poor developed areas. The next step is to inspire people and teach them its significance and resourcefulness, and only then can this digital divide be controlled before it spirals out of reach.

This chapter has critically examined the digital divide from different researchers' points of view, as well as the initiatives taken up by the government of India to reach out to the masses. The time and place of working practices have also seen a significant transformation due to digital technologies. Many conventional enterprises and methods of operation have failed as a result of digital technologies. It is, therefore, necessary to understand the technological advancements taking place to better grasp the changes happening and the reason behind it.

The chapter talks about how digital divide research and the development of information and communication technology (ICT) research has continuously moved from access to use to a better comprehension of intended outcomes. Digital inequalities threaten society in a period where communities are quickly moving toward a digital platform. For example, day-to-day activities like paying dues, applying for jobs online, occupations, education, medical services, shopping online, and such are supposed to be completed electronically. Hence, bridging a digital divide is basic for maintainable digitalized social orders. The findings of these literature approaches can give a foundation for additional research and a reason for specialists to situate themselves and position their work. From the survey of 150 respondents, some of the findings relating to the digital divide, even among daily internet users concerning the utilization of health information, will be discussed in the following chapter.

Chapter 5

Seeking Virtual Health Information: Understanding the Perceptions of Youth in Hyderabad

Introduction

Seeking virtual health information has become one of the latest trends, even among the average Indian. However, the focus should be on context-oriented components connected with the individual's financial state and the prevailing well-being condition. As a consequence, the focus of the behavioral healthcare services consumption study is on identifying the most appropriate elements (both individual and environmental) that may influence the healthcare services provider's decision. The frameworks proposed to make sense of the healthcare services usage by an individual from the behavioral aspect. The hypothesis of “Engaging Consumers in Health and Healthcare in Communities” (EHC) by Mittler, J. N., Grant R Martsolf, Shannon I Telenko, and Dennis P Scanlon (March 2013) addresses a concentric circle structure that shows that individuals, groups, and organizations will influence one another at any given point in time, but not necessarily in a linear manner. The chapter will concentrate on the data analysis obtained from 150 respondents using a survey questionnaire, interviews, and case-study approaches.

Medical anthropology is a branch of anthropology that investigates the connection between health, illness, and culture. Health ideas and practices vary among cultures and are influenced by economic, historical, political, and religious variables. Medical anthropologists employ anthropological theory and methodologies to generate intriguing facts about how different social groups worldwide experience, decipher and answer inquiries about health, disease/illness, and wellness. Below are some of the questions medical anthropologist seeks to answer; Some significant considerations arise, such as how a particular culture characterizes health or sickness. What does a diagnostic or disease condition mean in different cultures? What roles do doctors, medical practitioners, shamans, and alternative health practitioners play? Why do some populations have better or poorer health outcomes or have a higher incidence of specific diseases? What exactly is the relationship between health, happiness, and stress? In what ways are certain conditions condemned or even glorified in different cultural contexts? Furthermore,

medical anthropologists investigate the factors that influence or are influenced by the spread of sickness/illness and are particularly interested in issues of inequity, power, and health.

Perceptions of Youth on Online Health Information

The section aims to provide the analysis of data collected from the study area in Hyderabad to understand the perspectives of the youth concerning online health information. The study was conducted using a purposive snow-balling sampling method constituting 81 (54%) male and 69 (46%) female educated respondents. Thus, the total sampling size is 150 respondents. The analysis are as follows:

Perceptions of Respondents on Reliability, Satisfaction, and Bias towards Online Health Information

The analysis of the responses from 150 respondents shows a trend where they depend on online health information. However, the user neither entirely depends upon nor is fully satisfied with the online health information. The information provided in Table 5 gives a detailed statistical picture of the same.

Table No. 5: Reliability, Satisfaction, and Bias of Online Health Information

Frequency*	Reliability		Satisfaction		Bias	
	Respondents	Percent	Respondents	Percent	Respondents	Percent
Always	17	11.3%	37	24.7%	6	4%
Sometimes	84	56%	67	44.7%	56	37.3%
Rarely	29	19.3%	26	17.3%	23	15.3%
Do Not Know	17	11.3%	10	6.6%	47	31.3%
No	3	2%	10	6.6%	18	12%
Total	150	100%	150	100%	150	100%

**Note: The categories given in the 'frequency' columns in Tables wherever mentioned were defined as the following: Always – more than 90 percent frequency; Sometimes – 50 – 90 percent frequency; Rarely – less than 50 percent but not Zero percent; Do Not Know - either do not want to give a response or they do not have knowledge about it; No – Zero percent frequency.*

The reasons why the respondents could not fully rely on and satisfy with the health information available online were two main reasons. One, the abundance of online information, which is often causes the user in a way that they feel like the information is incomplete or inadequate. It feels like there is more to explore. For instance, one of the respondents shared his experience browsing for online health information for his diet plan; he said that he felt like there was more to read/know even after an hour-long extensive reading on the subject. He opined that it is just because there is almost never-ending information available online on the subject.

Likewise, one of the respondents, Rello, a philosophy Ph.D. student residing on the University of Hyderabad campus, said *one of the health challenges that I came across, though not really faced in that sense of the term, is with regards to food habits and health. But one that I have faced is cold and viral fever which can be said to be seasonal. So, depending on the nature and seriousness of the problems, I refer to the internet if it goes beyond the normal or usual modes in which I take precautions or treat myself. For example, if it is just a common cold, I do not find the need to refer to the internet but take proper care myself. But during a couple of occasions when the fever lasted longer, and rashes appeared on my body, I did refer to the internet to do more research on what symptoms were about. However, for proper diagnosis and treatment, I did not end with whatever the internet provided. I went ahead to the university health facility and outside for proper treatment from physicians. And yes, I do check the internet once in a while, even when I am not faced with any health issues, to stay healthy and aware of health (and hygiene). Internet does play a critical role in promoting awareness.*

Two, according to the opinion of another respondent, online information cannot rely upon every single time we go for it. This is because there is plenty of information available online, which makes it more and more complex to make a decision. Most importantly, there is contrasting and juxtaposing information on the same topic. The respondent cited the example of dengue fever and viral fever, which have similar symptoms but require different treatments not only in terms of the medicine but also the diet process. So, it becomes challenging for a user to decide which piece of information is authentic and which one is not.

Similar trends were shown when the responses of the 150 surveyed respondents were analyzed concerning satisfaction with the online health information. The majority of them opined/expressed that the information available on the internet is informative, but people are often not completely satisfied or convinced. However, a significant percentage of respondents were opined that they are always satisfied with the information. The detailed statistical data is given in Table 5.

However, when it comes to the bias of online health information, the surveyed population is more on the side of saying it is not biased most of the time. Only a small percentage of the respondents said that online information is always subjective. This is concerning about food consumption culture and obesity. Here, one of the female respondents, Ramee, a research scholar, says that *the information given about reducing weight through a certain diet, such as the Keto diet or consumption of certain tea or a combination of honey and other ingredients such as ginger and lemon, could help balance weight. The information here works mostly as product placements and often conceals certain health hazards related to such practices.* The detailed statistical analysis of the opinions of the respondents is given in Table 5.

Here it can be summarized that there is a certain degree of concordance between satisfaction and reliability. The informativeness of certain content on a medical issue increases the satisfaction level and the reliability of the source information, which is the internet content. Compared to the view that information available online is biased, the view that internet sources are satisfactory and reliable is more pronounced, if not overwhelming. What influences the respondent's judgment is their fine sense of judgment since they benefit from education, which enables them to distinguish between which content or source is reliable. However, this does not mean that their knowledge is equivalent to that of the medical professional, and this is also indicative of instances where people are carried away by certain information which are not normatively true. On the flip side, this contributes to the formation of the perception that internet sources mostly provide biased content.

Perceptions of Respondents towards Internet as a Learning Tool / Networking Tool

With the easy accessibility of the internet, people are using ² it as a source of information. To classify the internet simply as a source of information would be an oversimplification. For the purpose of the study, the internet is classified as a learning tool and networking tool. Here learning tool is used in the context of education, skills development, information gathering, and the like. With regard to networking, it is used in terms of connecting both social and professional relationships. The respondents' responses to these two classifications generated many diverse opinions. The statistical analysis of the opinions collected from respondents is given in Table 6.

Table No. 6: Perceptions of Respondents on Internet as a Learning / Networking Tool

Frequency	Total Responses			
	As Learning Tool		As Networking Tool	
	Yes	Percent	Yes	Percent
Always	36	24%	39	26%
Moderately	72	48%	71	47.3%
Sometimes	21	14%	25	16.7%
Rarely	12	8%	9	6%
No	9	6%	6	4%
Total	150	100%	150	100%

Concerning the internet as a learning source, the response inclines toward the dependence on the internet. We see that the internet is the major source of learning for 24% of respondents, and another 48% of the respondent use the internet on a regular basis. And the percentage of people who uses the internet now and then is about 28% only. The reason cited for the lack of internet use as a source of education is given as the preference for conventional methods of learning and sometimes the unreliability of the source material and the absence of interaction with an instructor for clarification. With regard to networking tools, the figures are almost identical. The active and moderate users dominate the percentages of people who rely on the internet for communication tasks. And only about 25% of people either do not rely on or use the internet to expand their networking horizons. The active users cite the internet as a global connectivity tool;

on the contrary, the not active users cite unwanted dissemination of their details, although they do not deny the relevance of the internet.

Choices of Websites

The frequency with which people use the internet also reflects their preferred sources and the reasons behind their engagement. Here the percentages are also close to the table above in 4.2, with the active and moderate users dominating the percentages. The people who use the internet on a regular basis have certain websites through which they draw information. They have preferred websites because they find the content reliable to keep them informed. However, they also look at contents that come up as suggested readings. The occasional users generally take up contents that are shown by the search machine. In this instance, one of the female respondents, Tiela, a private employee, said, *I do not have any major health issues, but at times I do have pains in my body, and if the pains are new, which I have never experienced, then the first thing before I consult a doctor is to check the related issues, the causes, and the symptoms on the internet.*

Likewise, another female respondent Mery, a B.Tech student, said, *'the health challenges that I'm currently facing are blur vision, migraine pain, and back pain. I usually handle them by putting eye drops for blurry vision, mediocre for migraine pain but only when it is extremely painful, and a light massage for backaches. I have not referred to any internet source for health-related issues, but yes, I do read articles on the internet from authentic sites related to my ailments, sometimes for awareness of its symptoms, effects, and cure. If there is anything I can do, sitting at the pleasures of my comfortable home, I do try them out, but over the years, through personal experiences, most of it has proven ineffective. Only in common cases, I have been cured up to a certain degree. For instance, giving acute pressure on the palm, feet, backbone, and so on have proven short-term effectiveness.* Here internet websites are typically used for the sake of necessity. The detailed statistics of opinions are given in Table 7.

Table No. 7: Frequently Visited Website & Important to Keep Updated

Frequency	Total Responses
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	Frequently Visited is Reliable		Important to Keep Updated	
	Yes	Percent	Yes	Percent
Always	21	14%	58	38.7%
Moderate	63	42%	57	38.6%
Sometimes	25	16.7%	20	13.3%
Rarely	28	18.7%	7	4.7%
No	13	8.7%	7	4.7%
Total	150	100%	150	100%

Perceptions on Visiting the Websites Operated by Health Organizations and Suitability of Health Information.

From the above two analyses, what can be noticed is that about 60-70% of the people either actively or moderately use the internet. People generally use it for productive purposes or to enhance one's knowledge. But the striking response from the people who use the internet was the lack of engagement with health-related websites. The majority of respondents acknowledged that they do not visit websites operated by health organizations for health-related online information. Still, most of the surveyed respondents expressed that they are concerned about relevant health information. For example, one of the male respondents, Lany, a Life Science Ph.D. student, said, *I usually type symptoms that I'm suffering in google and read whichever article appears first and fits with the same symptoms that I'm experiencing and likewise to see if there is a home remedy to prevent or cure such illness.*

Table No. 8: Visiting Websites Operated by Health Organizations & Concerned about Suitable Health Information

Frequency	Total Responses			
	Visiting Websites Operated by Health Organizations		Concerned about Health Info. Suitability	
	Yes	Percent	Yes	Percent
Always	9	6%	20	13%

Moderate	41	27.3%	69	46%
Sometimes	33	22%	27	18%
Rarely	37	24.7%	17	11.3%
No	30	20%	16	10.7%
Total	150	100%	150	100%

It is clear from Table 8 that the majority of respondents do not visit the websites operated by health organizations, although they are concerned about pertinent health information. Roughly 34% of respondents utilize the internet for health purposes queries against the 70% who use the internet regularly. One of the male respondents, Raju, an IMA student, said *whatever I type in, the search engine pops up immediately, which does not distinguish between reliable website links or proxy websites. Hence it is difficult to pinpoint whether the said website is operated by the healthcare provider or vice-versa.* This instantly raises a few quick questions; Are respondents aware of the websites operated by health organizations? Are respondents not liking the information provided by websites operated by health organizations? Is there better health information available on the websites in which non-health organizations do not operate? These questions can be investigated further to know more about the health information offered by different websites. However, the present attempt is confined only to understanding the preferences and perceptions of the respondents.

Opinions on Online Information with Reference to Difficulty, Amount of Information, Credibility, Privacy, and Safety.

For minor illnesses, people depend on self-medication. For specific infections or sudden development, the internet's vastness is where people are fed with a lot of information. The majority of the respondents feel that online information is challenging to comprehend most of the time. One of the male respondents, Aron, a private employee, said *stress and poor sleeping habits are the two most common problems I face as a private employee. It makes my day unproductive, affects my work, and deprives me of my mental and physical health. Initially, to deal with it, I started researching on the internet, YouTube, and so on, but it did not help me much since different health experts have different opinions due to an excessive amount of*

information where one cannot make reliable information. So, I decided to go for a different alternative which was staying connected with my friends (for laughs especially), family, and loved ones by sharing my problems which have, in fact, helped me a lot to overcome my stress actually and also helped me to find a sense of belongingness and self-worth too. Apart from that, I also do exercise to deal with my poor sleeping habits. Whenever I face some common sickness like headache and vomiting, I usually go for doctors' consultation and their prescribed medication. I do not usually read health-related issues even for awareness, although that is equally important. Similarly, the majority of the respondents opined that there is overwhelming information available. The statistical data of the opinion of the respondents are given in Table 9.

Table No. 9: Perceptions on Difficulty and Amount of Information

Frequency	Total Responses			
	Online Info. Difficult to Understand		Overwhelming Info	
	Yes	Percent	Yes	Percent
Always Treatment	17	11%	36	24%
Moderate Treatment	65	43.3%	75	50%
Sometimes new disease	29	19.3%	24	16%
Rarely check symptom	21	14%	8	5.3%
No reference to internet	18	12%	7	4.7%
Total	150	100%	150	100%

From Table 9 few points can be derived. One, the difficult level of understanding of health information available on websites can be attributed in two ways; either the information which is available on those websites is complex to comprehend, or the understanding level of the respondent could be poor, or the information available may be more accessible on some website when compared to others, and the respondents only explored those websites which have provided complex information.

Two, overwhelmingly available information often leads to confusion. This is possibly due to the variation in terms of information provided on different websites on the same topic. Take an

example from the four top websites people often use for health-related information, such as www.mayoclinic.org, www.webmd.com, www.healthline.com, and www.medicinenet.com. a search on specific diseases like diabetes gives a varied number of options and treatment processes which cause confusion and overloading of information. If a user accessed information provided on different websites about subject 'A', then there can be multiple possibilities how the user may end up with the accessed information; first, the user may come across websites that provide information easier to comprehend, and the websites which provide information difficult to comprehend. Further, the user may also come across websites that provide information only covering a few aspects of the subject while the other websites provide covering more or fewer aspects of the same issue which actually leads to confusion for the user in deciding which information is credible, authentic and reliable. The above description given was based on the data presented between Tables 4.1 and 4.5 reflects on the same.

Nevertheless, when it comes to credibility, personal privacy, and safety, there is little evidence that supports that there is any relation between the difficulties of the information. Table 10 presents the statistical data of 150 surveyed respondents about credibility, personal privacy, and safety.

Table No. 10: Perceptions on Credibility, Personal Privacy, and Safety

Frequency*	Credibility		Personal Privacy		Self-Treatment is Life-Threatening	
	Respondents	Percent	Respondents	Percent	Respondents	Percent
Always	17	11.3%	26	17.4%	25	16.7%
Sometimes	84	56%	64	42.7%	56	37.3%
Rarely	29	19.3%	24	16%	22	14.7%
Do Not Know	17	11.3%	18	12%	26	17.3%
No	3	2%	18	12%	21	14%
Total	150	100%	150	100%	150	100%

From Table 10, it is clear that the majority of the respondents acknowledge that the information that they accessed on different websites is credible at the same time; they highly care about their

personal privacy. Simultaneously, most of the surveyed respondents do believe that self-treatment is life-threatening. In this instance, one of the female private employees, said, *I had tummy pain for several days, sometimes very severe, and so I googled the search engine on my phone, which reads the possible symptoms for my tummy pain is due to indigestion or gastric problems. However, the pain did not recede; hence I approached the doctor and found that I'm pregnant. After that, I stopped depending on the internet for health information.* The data of the surveyed population also shows that there are also several cases where they think that the websites, they access for health information are secure concerning personal privacy and may give them reliable guidance to make decisions on health-related matters.

²³ Diversity, Digital Gap, and Patterns of Use of Online Health Information

The study tried to cover as much diversity as possible while collecting respondents' opinions as Indian society is basically a widely diversified one. The 150 respondents covered under the survey for the present study come from different sections of society (which includes occupation, education, gender, income and those who use internet in a daily basis). As far as the gender of the respondents is concerned, there are 81 male respondents and 69 female respondents, which includes both working employees and students are covered. Table 11 provides detailed statistical data on the occupational diversity of the respondents.

Table No. 11: Categories of Respondents

Categories of Respondents	No of Respondents			
	Male	Female	Total	Percentage
Students	20	41	61	40.6%
Government Employees	13	6	19	12.6%
Private Employee	43	22	60	46.8%
Total	81	69	150	100%

Due to the occupational diversity among the respondents, as shown in Table 11, the usage of the internet also diversified. The internets' utilization among the respondents is given in Table 12.

Table No. 12: Usage of the Internet among Respondents

Usage	No. of Respondents				Total	Percentage
	Yes	%	No	%		
Software	123	82%	27	18%	150	100%
Describe Word	126	84%	24	16%	150	100%
Advanced Learning	113	75%	37	24.7%	150	100%
Emails	137	91.3%	13	8.7%	150	100%
Download Materials	135	90%	15	10%	150	100%
Browsing	150	100%	0	0	150	100%

From Table 12, it is apparent that all the respondents, across the occupational diversity, are educated and well aware of how to use the internet. Further, a clear majority, i.e., more than 75% of respondents, are actively engaged across the mentioned internet usage categories, and only on average, 15% are not actively using across internet usage categories. This does not mean that the average 15% surveyed population is consistently not using the internet in all the mentioned categories, and it means that they are using it based on their need and requirements. Therefore, it can be stated that no considerable level of digital divide among the surveyed respondents was identified in this case.

Further, the respondents were asked whether or not they own/use certain items/facilities in order to measure and understand the digital divide among them. Table 13 gives the statistical data about the possession of computers and use of the internet across 150 respondents.

Table No. 13: Possession / Use of Computer and Internet among Respondents

Particulars	Computer		Internet Use	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Yes	138	92%	139	92.6%
No	12	8%	11	7.4%
Total	150	100%	150	100%

It is understood from Table 13 that only a negligible percentage of respondents neither possess computers nor use the internet. These respondents (95% of students) find the possession of computer non-relevant since they can access or acquire information through the library computers and mobile cellphones platforms. However, one can also see financial problems coming into play due to the inability to purchase one's computer at their disposal. A highly considerable percent of respondents has computers, and they do use the internet almost every day. This shows that the digital divide among the surveyed respondents is mainly absent or minimal in possession of computers and using the internet.

Further, the total internet usage experience among the majority of the surveyed respondents is a considerably long period; the subtleties of the equivalent are presented in Table 13 (a).

Table No. 13 (a): Total Experience of Internet Usage

Duration in Years	Men	Women	Total	Percentage
Less than a Year	6	3	9	6%
1-5 Years	4	7	11	7.3%
More than 5 Years	71	59	130	86.7%
Total	81	69	150	100%

More than 80% of the respondents had been using the internet for more than five years at the time of the survey conducted. However, the total hours they spend on the internet in a week varies; the subtleties of the equivalent are presented in Table 13 (b).

Table No. 13 (b) Total Hours of Internet Usage in a Week

Hours	No. of Respondents	Percentage
1 – 5Hours	6	4.0%
6 – 10Hours	17	11.3%
11 – 15Hours	10	6.7%
16 – 20Hours	19	12.7%
21 – 25 Hours	20	13.3%

26 – 30 Hours	13	8.7%
31 – 35 Hours	20	13.3%
36and above Hours	45	30%
Total	150	100%

More than 60% of the respondents acknowledged that they are spending more than 15 hours a week on the internet. On average, if counted, every respondent, around 4 hours in a day, is spending on the internet which is a significant usage of the internet. However, the main concern in this context is finding out how much time an average internet user spends accessing health information. Table 13 (c) gives the respondents' total time spent on online health information.

Table No. 13 (c) Total time spent on Health information in a Week

Total time Spent on Health info	No. of Respondents	Percentage
Less than an Hour	60	40%
1 – 5 Hours	69	46%
6 – 10 Hours	9	6%
11 – 15 Hours	7	4.7%
16 – 20 Hours	5	3.3%
Total	150	100%

The majority of the respondents acknowledged that they are spending more than an hour and up to 5 hours accessing online health information in a week. However, almost an equal percentage of the respondents acknowledged that they spend significantly less time, less than one hour a week, accessing online health information. In juxtaposition to it, around 24% of the respondent are spending more than 5 hours and up to 20 hours on online health information in a week. Therefore, it can be stated that, on average, a respondent is spending 3-5 hours on online health information in a week.

It is already known from the analysis based on data given in Table 13 (b) that an average internet user spends around 20 hours on the internet in a week. Whereas, it is known from Table 13 (c)

that, on average, a user is spending 3-5 hours on online health information in a week. Based on this, it can be further stated that an average internet user is spending around 15-20% of the total time spent on internet usage, which is a significant amount of time to spend on a specific aspect.

This shows that the average internet user is spending a significant amount of time accessing relevant health-related information on the internet, which further indicates that internet users do care about their health and are willing to spend some time to browse, access, research, and understand certain health-related information based on their needs.

The above analysis would leave one with an immediate question that what actually motivates people to seek health information from the internet, where 80% of the total 150 respondents say its due to time constraints, availability at any given point of time, cost-effective, privacy, emotional support, no discrimination, no barriers, and distance.

With regards ²⁵ to the utilization of online health information, the majority of the respondents acknowledged that they use online health information to make health-related choices and make health-related decisions. Further, the trend of using online health-related information is similar across mentioned genders. The statistical data about the same is presented in Table 14.

Table No. 14: Use of Online Health information

Gender	Total Respondents					Total
	Always	Sometimes	Rarely	Cannot say	No	
Male	13	34	13	8	13	81
Female	15	39	9	3	3	69
Total	28	73	22	11	16	150

The respondents have also acknowledged that the usage of online health information is helpful for them to know what to do and what not to do in certain health conditions. The information changes their perception of a health condition in a positive way. One of the male respondents, Leer, an IMA student, said, *as a student, I personally do not feel free to visit the doctor nor tell my problems parents when we are usually away from home. So, most of the time, I end up*

referring to the internet, which has many benefits. Being a student, sometimes we run short of money to visit expensive hospitals, so the internet has been so much beneficial in cutting down the costs of treatment. Internet is also very convenient for busy people; it reduces time as we can consult the internet within a blink of a second and resolve our issue and problem in the next second.

Likewise, another male respondent, Ajay, a private employee, said, *health challenges are minor in the sense of pressure during the peak season of our business. But I do refer to the internet to seek certain information if I fall sick. One such instance was when I woke up with a severe headache. I previously had a head injury while playing and had a concussion. My immediate fear was whether this headache was part of the concussion I had some days back. I did read up on the internet related to concussion-related issues, especially after the event. Following that, I visited the doctor my office referred me to and underwent an MRI based on the suggestion. The result was nothing serious nor related to the previous concussion case.*

Accordingly, the information is helpful in making changes in their lifestyle. For example, making modifications/changes in eating habits shared by one of the male respondent's, Amigo, a Plant science Ph.D. student, said *I am dependent on the internet if I develop some unusual pain or health issues. Often, I would check if the problem that I have is related to my food habits. As a researcher, I spend most of my time in the lab and even late at night, so I compromise on the food I eat. At times I have had bad bowel movements for days. If my condition does not worsen, I go for the medicine accessible in any drug store. For which I rely again on the internet to check the content of the medicine just to see if it will be suitable for me. And also, to recuperate my health from the ailment, I look for proper diet suggestions on the internet. I also follow preventive measures as per I get information from the internet.* Table 15 shows the statistics of the responses of the respondents.

Table No. 15: Use of Online Health info for Different Health Choices and Decisions

Frequency	Dos and Don'ts		Make Changes in Lifestyle		Changes in Eating Habits		Make Changes in Prescriptions	
	Men	Women	Male	Female	Male	Female	Male	Female

Always	15	15	5	4	4	3	4	3
Sometimes	33	32	31	36	31	31	30	23
Rarely	14	12	20	10	10	16	16	19
Do not Know	9	0	13	10	11	7	7	5
No	10	7	12	9	25	12	24	19
Total	81	69	81	69	81	69	81	69

It can clearly be seen from Table 15 that the majority of the respondents acknowledged that online health information is helpful in making the right decisions based on ‘Dos and Don’ts’, further positively influencing them to change their perceptions and lifestyle, and food habits. On the other hand, a considerable number of respondents, though not the majority, acknowledged that online health information is not helpful for them with respect to mentioned categories. One of the male respondents, Akai, a private employee, said *I am able to cope with my work culture in normal circumstances, but now and then, we have Black Friday and Cyber Monday. If they come, these two days are very stressful and tough to balance because we end up working about 16 hours. So, the week schedule kind of gets messed up. I would not put it entirely on the work, but I do have headaches and stomach aches. I read up on the internet because I have symptoms, especially with my stomach, that cannot be ignored. But it did not help, and I did develop an ulcer. But once it got worst, I immediately rushed to Apollo hospital and did an endoscopy. The case was such that I could not rely on the internet. It was, in a sense, an emergency, and my company covered for treatment cost.* One considerable point over here is that in both the cases, i.e., among those who acknowledged that online health information is helpful and among those who acknowledged that online health information is not beneficial, similar trends are shown among both men and women respondents.

When it comes to the method ¹ of use of online health information, most of the respondents acknowledged that it is handy to use. However, they do not comprehend the information by themselves; instead, they cross-check it with information available on other similar websites to make a meaningful and informed decision. Likewise, those who replied that they rarely use the internet or none at all can be explained in some situational examples, such as one of the male respondents, Wati, a private employee, who said, *personally, I do not have any health problems.*

Perhaps one of the reasons why I do not read anything on health either online or elsewhere. I may read like once in two months. As an employee working in an American company, the major task is balancing work life and life outside of work since there is a big-time and space zone difference between India and US. I do feel worked out, but apart from stress, I am fine, and my company gives proper health care coverage, so I am not particularly worried. The statistical analysis of the same is shown in Table 16.

Table No. 16: Online Health information Method of use

Frequency	Use Online info Handy		Comprehend info by my Own		Evaluate / Verify Online Info	
	Men	Women	Male	Female	Male	Female
Always	9	6	0	1	14	18
Sometimes	39	37	16	11	35	33
Rarely	14	8	28	35	18	8
Do not Know	7	7	12	11	7	3
No	12	11	10	5	7	7
Total	81	69	81	69	81	69

As displayed in Table 16, no tremendous contrasts were found between men and women in the responses concerning the method of use of online health information.

Further, by and large, a significant majority of the respondents do not consult with doctors or people with similar health issues or their friends to discuss neither health issues nor health information they have come across. The statistical data of the responses of the respondent of the same is given in Table 17.

Table No. 17: Preference of Consultation to Discuss Online Health Information

Consult	With Doctor	People with Similar Health Issues	With Friends
Yes	26	31	30
No	124	119	120

Total	150	150	150
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It is clear from Table 17 that only a small number, around 20% of respondents, were constant in terms of consulting either doctors or people with health issues or with close friends to discuss health issues and health information they have come across. The trends draw us to two quick points. One, the majority of the respondents were either verifying the information as shown in Table 16 by comparing the similar information on the other available websites, or they already know some basic understanding about the issues that help complex understanding matters.

However, the above trends did not go with 'seeking help while sick.' The majority of respondents seek help from family members when they are sick, followed by friends. Here the respondents said *when it comes to health problems, especially that sickness or illness, where financial matters, the family members are always approached to seek out the possible ways to find a treatment or find other means of the meeting ends meet*. The trends show that as far as the 150 surveyed respondents were concerned, their family-supporting system is solid and effective, followed by friends. The statistical data of the same is given in Table 18.

Table No. 18: Seeking Help while Sick

Particulars	No. of Respondents	Percent
Family Members	66	66.0
Friends/Relatives	22	22.0
Neighbors	08	08.0
Others	04	04.0
Total	150	100.0

1 **Patterns of Disease and Respondents' Use of Online Health Information**

There is also a report of having chronic diseases either among the respondents or among their respective family members (which they are inclined to share since it is intruding into their personal life). The majority of the respondents were outside the impact of the chronic disease.

However, the majority of respondents who have a history of chronic diseases were acknowledged that they consult doctors, besides online health information, for better treatment or suggestions. Because of the nature of the disease and illness, privacy comes into play; hence, collecting the depth of information becomes impossible. The statistical data about the same is presented in Table 19.

Table No. 19: Patterns of Disease and Use of Online Information

Yes/ No	Chronic Disease	Chronic Diseases in Family	If so, do you Consult a doctor?
Yes	20	24	13
No	130	126	137
Total	150	150	150

Patterns of Visiting Websites for Health Information

Generally, it is observed that internet usage for acquiring health information is quite different compared to the situation in the context of chronic diseases and acquiring information for other related health problems. In the case of chronic disease, the research shows that the respondents are little or less dependent on the internet and shows more or completely dependent on the doctors. The patterns about the same are shown in Table 20.

Table No. 20: Patterns of Visiting Websites for Health Information

Frequency	Generally Recommended Websites		Reputed Websites		Suggested Websites by Doctor	
	Responses	Percent	Responses	Percent	Responses	Percent
Always	14	9.3%	23	15.3%	16	10.7%
Sometimes	51	34%	55	36.7%	48	32%
Rarely	16	10.7%	22	14.7%	24	16%
Do not Know	13	8.7%	12	8%	21	14%
No	56	37.3%	38	25.3%	41	27.3%
Total	150	100%	150	100%	150	100%

Table 20 shows that though most of the respondents go after popular, recommended, and suggested websites for accessing health information, a considerable number of respondents do not visit such websites for accessing health information. Here, the respondents share that the choice to visit any popular websites is taken after a recommendation from friends, family members, and doctors; besides, they rarely browse websites unfamiliar to them to extract health information. If it is generalized, this gives the impression that online health information seekers are two types; one, those who go after the popular and suggested websites: and two, those who explore suitable websites for health information on their own.

Correlation of internet with different variables

The correlation matrix, which shows the correlation coefficient for age and internet usage, shows a perfect correlation between the two variables, signifying that they are dependent (see table 21).

Table No. 21: Correlations of Age and Internet Use

		Age	Internet Use
Age	Pearson	1	.043
	Correlation		
	Sig. (2-tailed)		.626
	N	150	130
Spending Time on Internet	Pearson	.043	1
	Correlation		
	Sig. (2-tailed)	.626	
	N	130	130

The correlation variables between gender, usage of the internet for health information, and decision based on internet information (table no. 22) show significant variables implying that health information found on the internet does not necessarily influence the respondents/consumers to depend on the internet for the decision-making process solely

Table No. 22: Correlations of Gender, Internet health Information & Decisions

		Gender	Internet on Health Information	Decision Based on Internet Information
Gender	12			
	Pearson	1	-.165	-.174*
	Correlation			
	Sig. (2-tailed)		.094	.034
	N	150	104	150
Internet on Health Information	12			
	Pearson	-.165	1	-.003
	Correlation			
	Sig. (2-tailed)	.094		.977
	N	104	104	104
Decision Based on Internet Information	33			
	Pearson	-.174*	-.003	1
	Correlation			
	Sig. (2-tailed)	.034	.977	
	N	150	104	150

*. Correlation is significant at the 0.05 level (2-tailed).

The correlation variation between; gender, usage of the internet for health information, and use of the internet for general information clearly shows variables gender has a clear influence on the usage of the internet for health information. Similarly, the usage of the internet shows a clear dependency on the income of the respondents (table no.23).

Table No. 23: Correlations of Health, General Purpose, Income and Gender

		Internet on Health Information	Internet on General Information	Total House Hold Income	Gender
Internet on Health Information	12				
	Pearson	1	.447**	.181	-.165
	Correlation				
	Sig. (2-tailed)		.000	.066	.094
	N	104	104	104	104
Internet on General Information	12				
	Pearson	.447**	1	.095	-.029
	Correlation				
	Sig. (2-tailed)	.000		.300	.754
	N	104	122	122	122

Total House Hold Income	Pearson Correlation	.181	.095	1	-.224**
	Sig. (2-tailed)	.066	.300		.006
	N	104	122	150	150
Gender	Pearson Correlation	-.165	-.029	-.224**	1
	Sig. (2-tailed)	.094	.754	.006	
	N	104	122	150	150

** . Correlation is significant at the 0.01 level (2-tailed).

Conclusions

From the above data analysis, a few points can be drawn to arrive at some understanding of the public's perceptions on seeking virtual information mainly related to health. The issues are as the following; A large section of the respondents has shown positivity towards the reliability and satisfaction of online health information. The reasons could be multiple for their positivity, which needs further intensive research to unpack the ground realities. The study also shows that the overwhelming majority of the respondents acknowledged that they consider the internet as a learning tool as well as a networking tool as there is a huge possibility to explore and learn/get informed about much useful stuff, especially related to health. The respondents considering it as a learning tool make sense because they have reliability and satisfaction with what the internet is offering with reference to health in the first place. Though the respondents showed positivity toward the available health information provided by certain health-related websites, they did not confine their enthusiasm to just that. They are open to exploring more in order to cross-check the already available information and learn more. They are not restricted to visiting popular websites for information but also explore alternative websites for cross-checking. This means that a large majority of users have the habit of taking a second opinion as far as health issues and online health information is concerned.

The study highlights that the respondents highly care about their privacy but also show positivity towards online health information, which basically tells that the surveyed population thinks that websites they access for health information are secure concerning the personal privacy and

provide reliable guidance to make decisions on health-related matters. The study also shows that the respondents were not interested in discussing with a doctor, people with similar health issues, or friends. But they preferred to cross-check the information by themselves by exploring more information that is available online. This situation, in a way, tells two things. One, the presence of health information online encourages and empowers the user to explore until they are satisfied and convinced. Two, it gives privacy from making health issues public as online health information emerges as a potential option besides consulting doctors, experienced persons, friends, and family. The data shows that the respondents inevitably depend on family and friends for help in the case of illness or sickness.

Everything comes at a cost, and the study shows that there is a digital divide existing (in terms of possession and accessibility of computers and usage of the internet) despite wide diversity among the surveyed populations. Though the observation is accurate in the context of the given surveyed population, more research in this direction can bring in stable and more reliable findings. However, it should be noted that the studied population is considered from the technologically happening localities. The findings may vary drastically as the survey moves farther to the technologically not happening places or localities. It is also to be noted that the surveyed respondents are spending a significant percentage of time on seeing online health information from the total time spent on internet usage. This shows that internet users are well aware of their health. One more observation is that the online health information usage trend did not show considerable gender discrimination between men and women. Besides, seeking online information not only reduces the difficulties which may cause when seeking health information offline but also works in a way that the gender gap is reduced while seeking health information online. In spite of the overwhelmingly positive response of internet social media in personal health decisions and choices making, there is no direct evidence of the process and dynamics through which health information seekers are influenced. In light of these findings, it is noted that one should presume the above data in regard to health information sought cannot be universally applied to all regions.

Based on the functional approach to culture, Malinowski, Bronislaw K (2002) said cultural institutions exist to meet ⁶ the needs of individuals or society as a whole. Malinowski outlines

three categories of societal demands in his posthumously published work, 'Scientific Theory of Culture' (1944), which are primary or ⁶ basic biological needs, instrumental needs or derived needs, and integrative needs. He ⁶ counts sex and nutrition as primary requirements. These are met by cultural institutions such as marriage, family, and kinship. Instrumental needs encompass institutions such as economic, educational, legal, and political institutions that aid in meeting primary needs. He defines integrative needs as those that assist society in integrating (cohering or uniting) ⁶ and include knowledge, religion, magic, art, morals, and values. The need theory provides a framework for a functional investigation of the relationship between biological, psychological, and cultural factors.

In simple terms, the methods for meeting human wants are cultural characteristics or cultural institutions. As we humans have a variety of needs, including ⁶ social, economic, religious, biological, physical, and mental ones. In the process had, constructed social, religious, economic, and political organizations to meet these requirements. All of these requirements are interconnected in some manner since they are tied to mankind as a whole. Therefore, seeking online health information can be seen as a form of human need which has impacted people socially, culturally, religiously, and politically around the globe. Thus, from the anthropological perspective, the present study qualifies as an anthropological study since it involves human needs and changes in behavior patterns.

¹⁶
The findings of the study coincide with what Mittler, Jessica N., Grant R Martsof, Shannon J Telenko, and Dennis P Scanlon (March 2013) said that the consumers/individuals move or take actions independently for their own health and well-being. The findings also show how the majority of the respondents gather information health information from the internet for their healthcare. The data shows that consumers approach the internet for the quick treatment process, financial problems, time, and to reduce medical expenses. The study indicates that the respondents are more or less aware of their health conditions before accessing the internet for information gathering and making health decisions and choices accordingly. However, the study ⁴ did agree that an individual's level of preparedness is strongly linked to behavior change and that their level of behavior may alter over time, which is corroborated by the case studies.

Therefore, to conclude, based on the analysis of the responses of the surveyed population, the perception of an average user towards seeking online health information can be interpreted as Nicola Bulled (2011), suggested that these people seek health information online to gain greater control over their health care process, and thus, what can be said about the user here is that – a conscious and informed attempt to make meaningful health decision without surrendering privacy and without spending much.

Chapter 6

19

Doctor-Patient Relationship in the Age of the Internet

Introduction

The Twenty-first Century has rushed medical care into a period of modernization due to advances in medical technology and the digitalization of almost everything we use in daily life. One can see a huge jump in the healthcare department, where health information has become a frequently sought topic on the internet. Our world lives and healthcare delivery are becoming increasingly simple and complex due to the growth of information and communication technology (3rd Annual report, 2003). Many kinds of research and features of the doctor-patient relationship have been the subject of focused study by mainstream researchers and insightful reflection by lay authors and patient support associations. A significant collection of scientific literature summarizes that doctors who research and keep updated with their surrounding environment enhance their viability. Interestingly, patients rely on a steadily developing form of mass communication and articles which advise them on taking care of their health and, in turn, help them to interact with their respective health professionals effectively.

The internet is changing how patients get medical information and interact with doctors, their families, and even strangers. Shapiro, Joseph (Oct. 2007), based on his research from the 'Pew Internet and American Life Project' (2000), explains that people with disabilities and chronic conditions are some of the most genuine consumers of health information websites. Fox, Susannah (Oct. 2006) found a big part of those online research is carried out for the benefit of another person. For instance, when somebody becomes ill, individuals are not simply bringing random food or flowers. Fox (ibid) says that it is not because the patient cannot carry out their research, but it is the loved ones who encompass them who can do that examination for their benefit. As each critical part of the health care delivery system make progress toward accomplishing viable and proficient help and quality outcomes, this intricacy has frequently resulted in conflicting requirements, requests, and expectations (McMullan, Miriam 2006). However, the healthcare system structure founded on the medical profession's primacy

guarantees that patients are reliant upon medical care professionals for most clinical therapies and administrations (Hardey, Michael 2001).

Due to an explosion of health information accessible on the internet has been the impetus for the doctor-patient relationship's seismic shift. This growth does not show signs of halting down but tends to grow faster day by day. For example, entering 'health' in a generic web search engine like Google at present yields over 8,65,00,00,000 (eight billion 600 fifty million as of March 2020). however, these numbers fluctuate, and none are exceptionally precise. These searches may include academic sites, online journals, government sites, hospitals, health-provider institutions sites, and countless other groups or individuals' contributions, i.e., citizens, patients, and health professionals.

This chapter analyses the secondary sources on the doctor-patient relationship. Additionally, it will highlight some case studies from my fieldwork in Hyderabad. This chapter will critically examine how online health information has bought a paradigm shift in doctor-patient relationships among educated students, working professionals, and doctors in Hyderabad. The study will focus on previous studies, the sick and disease/illness concept, and the health care delivery system. The study will also encompass some case studies collected from the field conducted during the pandemic period. The data was collected from selected ten respondents (case studies based on a total of 150 sample respondents were collected with the help of a recorder), including seven doctors (one each from different hospitals, namely, AIG Hospital, Citizens Specialty Hospital, Continental Hospital, Health Center-University of Hyderabad, Kakatiya Hospital, Akash Hospital, City Dental, and Shree Hospital all located in Ranga Reddy district, Telangana), working professionals, and research students, based in the Hitech City area and Gachibowli area in Hyderabad. The respondents comprise of men and women respondents in the age group of 20-60 years old.

A look at the Doctor-Patient Relationship in Typical Settings?

Sociologically, Parsons, Talcott (1951, see David Mechanic, 1980) explain that when patients interact with the doctor, they are obligated to collaborate and trust the doctor as a mentor and helper. He points out that many doctors counterattack the patients' incompetence to present a

clear statement of their illness. Likewise, with the advancement in technology and medicine, doctors can better treat many diseases and ailments. Still, the doctors also wavered to treating patients seeking more skills and amenities than they can deliver.

Parsons (ibid) comes with two kinds of information that he believes would help the doctor better treat the patients; one is the state of the patient (for example, a representation of their symptoms), and the other is the patient's response to their condition. He believes that this information influences the doctor's analysis of the patient. Thus, it must be noted that there is always a pressure of money, time, procedure, and recurrent treatment that affects the quality of treatment. It will also allow the doctor to execute more efficiently within the given context and sceneries of the work environment.

Mechanic, David (Sept. 1, 1980), states that medical actions, be it research, clinical practice, or deterrent work, demand thoughtful social and cultural gravities that directly influence an individual's decision and choices. Medical doctors must consider the salient medical facts and how the social, economic, and cultural factors have molded the patient's motivation and reactions. Mechanic (ibid) observed that doctors tend to preserve a tactical distance from patients who come up short in delineating their physical problems and ask numerous queries. By doing so, the doctor diagnoses the ailments by gauging the patient's condition and responding to the health problem. In this way, the doctors' scientific approach clashes with the patient's opinions and perceptions, consequently failing to bring about the patient's recovery through emotional support, encouragement, and suggestion. Mechanics (ibid) cited an example, in the case of the anxious patient with numerous social complications and the distressed emotional disparity with an array of body problems approaches doctor for their issues. In this stance, the doctor comes up short of distinguishing the situation, and an advanced restorative assessment is conducted.

Mechanic (ibid) illustrates that even though the doctor's approach to the patient's health issues may be scientifically accurate, the patient's expectations were not met since the doctor failed to appreciate its expectations and socio-cultural stereotypes. He further points out that features like time limits, number of patients, and allocation need for completion force the doctor to

implement several tactics and ways, which may not deliver quality services but permit working more effectively within the given framework and settings of their work.

Mechanic (ibid) says that the patient's failure to follow medical guidance is a frequent issue faced by the doctor while administering health care. He explains that a hierarchy is usually designed when a patient visits a doctor, limiting the helping condition's structure than in informal contacts, where friends, relatives, and neighbors may provide help. The doctor's interest in the patient's affliction and complaints also plays an essential role in the treatment process. Mechanic (ibid) further mentions that the availability and usage of the support facilities, and other conceivable alternate facilities, depends on the comparative user-friendliness for the person. The greater the barriers to a specific facility, the more likelihood of seeking other sources of assistance will be approached. These barriers include the cost of treatment, effort, time, and privacy.

Mechanic (ibid) opines that the doctor-patient relationship's success is primarily attributable to the typical orientation structure. Like how doctors from particular cultural groups perform better in their cultural groups, the patient and doctor share the same characteristics to express themselves more precisely and better understand between them. Mechanic (ibid) opined that the doctor, in the course of the treatment or diagnosis of the disease, usually does not consider social values; instead, they employ several valuation procedures, such as the history of patients' grievances and their development.

Mechanic (ibid) pointed out that one of the most decisive factors affecting the doctor's evaluation and response to the patient is the social designation of the physician's role in society. He added that the doctor's action depends on the scientific answers and professional ethics, the community's expectations, and the obligation assigned to them. Explains that doctors are called upon to deal with countless forms of distress that may necessitate skills and directions discrete to their scientific expertise. Likewise, patients' doctor visits are characterized by some problems, which may diverge substantially with each individual.

Mechanic (ibid) also explains that each individual tries to manage their health problems and difficulties contrarily, and seeking medical support is one of the numerous possibilities for managing distress. Whether a person views the doctor as an appropriate collaborator will entirely depend on diverse factors such as cultural background and social standings, personal characteristics, accessibility of the doctor, perception on illness, and financial costs associated with the alternative approaches. He expresses how a person's ability to deal with problems, be it physical, mental, or social-cultural, depends on how an individual defines the health problems, identifies the causes, determines the alternative treatment, and utilizes the abundant resources needed for the alternative treatment. However, such concepts and knowledge will differ with different individuals, which also encompass cultural complexities in interpreting health problems, setting various conditions to cope with the disease, and recognizing the remedies that are acknowledged as appropriate.

Mechanic (ibid) describes 'illness behavior' as the study that examines processes affecting how pain and symptoms are defined and socially characterized and considering the degree to which help is sought and the variations in life after treatment. Illness behavior, by its nature, requires an understanding of those who seek health care, the choice of path undertaken before approaching health professionals, and their responses to illness or ailment in general. Talks on types of illness behavior patterns, where on the one hand, are seen as a product of social and cultural conditioning. On the other, it may be seen as part of a more extensive adapting process or an attempt to make the challenging situation more challenging and adaptable for the individual facing difficulties.

Mechanic (ibid) collected data from 1300 students at two American universities to prove his theory and found that Jewish students reported higher illness behavior than Protestants or Catholics. Mechanic (ibid) found that income is an essential factor in illness behavior reports and help-seeking behavior since higher income is represented by Jewish students than Catholic or Protestant students.

Mechanic (ibid), with the data collected, explains how several reasons determine how people's approach differs widely regarding help-seeking behavior for health problems. It includes trying

out some remedies, discussing the health problems with neighbors, friends, and family, and seeking advice from others on whether to visit a doctor or by associating the symptoms and diagnoses made by friends and acquaintances.

Mechanic (ibid) believes their proficiency and clinical knowledge primarily shape the doctor's views on the ailment. Though the social-cultural understanding of the ailment preconceptions patient's assessments, it does not mean that the doctor is incompetent to perform their exclusive standpoint in the situation. Mechanic (ibid) stresses that the doctor, in the course of the treatment or diagnosis of the disease, usually does not contemplate social values; instead, they employ numerous assessment procedures such as the history of patients' complaints and their development. Mechanic (ibid) talks about the role of doctors, who are anticipated to execute duty in their social capacity, to administer to patients in any given condition. For example, managing a chronically ill patient after the diagnostics assessment, the doctor must oversee the patient over time in the recovery process. Here, the doctor performs their duty by accustoming the patient's social condition and understanding the illness consequences for the patient and their family members. The failure to understand this social context of ailment or disease may affect the patient's social welfare situation.

The social characteristics of medical practice right through history have been a component of the doctor's responsibility. However, in this modern era, due to the proliferation of technical medical knowledge, doctors have taken cognizance by helping them focus on what they have to do and perform well. He points out that there is always a question of preferential behavior found familiar in medical practice. The doctor's social values not only affect how he deals with particular patients but also affect the decision about such fundamental issues as the persistence of life.

Mechanic (ibid) said that these approaches would help us understand how people deal with health problems: how they refuse to accept the definitions of illness that others impose on them. Mechanic stresses that in self-defined illness, as the discussion develops, it becomes clear that the variables affecting the condition of the person himself or others in his social group are surprisingly similar. These variables equally relate to the area of physical illness and diseases.

Mechanic (ibid) points out that it is essential not to forget the character of the perceived symptoms since much of the sick person's behavior is a direct product of the specific symptoms they experience or go through. The supposed momentousness of symptoms will affect how likely a person responds and chooses to seek health care. Since patients' understanding of medical knowledge varies, some may be aware of the latest medical technologies and therapeutic advancements. In contrast, others may not have a basic medical knowledge of their body and have a superficial knowledge of bodily functioning. Mechanic (ibid) stresses that such medical knowledge and understanding differences influence how people substantially recognize, define, and respond to health problems.

What Led to the Rift Between Doctor and Patient Relationship?

Hardy, M (1999) says the internet can change the idea of some service dissemination and create a companion of informed service users who might challenge conventional doctor-patient connections (DPR). ¹⁴ Craan, F and D.M. Oleske (2002) find the doctor-patient relationship is changing to a participatory model, in which patients actively participate in their care, asking questions and indicating preferences. Consumers are actively seeking a variability of methods to become more knowledgeable and have more fruitful lives owing to the advances in information and communication technology. Doctors or Specialists and other health professionals traditionally act as gatekeepers for medicines, administrations, treatment, diagnosis, and, in certain circumstances as, social benefits. Without a doubt, this is a critical part of the 'sick role' that makes patients dependent on doctors.

Diaz, Joseph A et al. (March 2002) said doctor-patient interactions are set to transform, and medical practitioners will confront a new challenge as individuals get access to online health information. The patient may just discuss part of these issues with their doctors, or they may use the internet instead of a health care practitioner. Their investigation of 1322 British internet clients found that patients do not consider the internet to be a substitution for health professionals. Their study demonstrated that individuals go online in the wake after meeting with health professionals or doctors to affirm the information and accumulate extra information related to their health. They view doctor-patient relationships as principal to giving and receiving good care, recuperating, and better-expected outcomes.

Eysenbach, Gunther (2001) assessed that, on a worldwide level, of the 278 million internet searches completed every day, generally 12.5 million inquiries are health care related. Eysenbach (ibid) studied malignant growth patients, which showed that most patients search for specific medical conditions after diagnosis and before initiating treatment. His research indicates that cancer patients have two fundamental reasons; patients go to the internet for information since they are disappointed (because they feel the information is inadequate) with the information provided by specialists and reinforce themselves with every information possible. In this manner, the possibility is that internet-informed patients know about their well-being and as they become mindful of the magnitude of information that is out there that they should have received from health professionals. As a result, their relationship changes over time.

Baker, Laurence, et al. (May 2003) study was based on a 2001 survey of exactly 4,700 internet users, find 40% of users were at that point going on the internet to get clinical information. The essential communication in medical services is the one between patient and doctor. That reality is probably going to stay substantial for a long time to come. The doctor-patient relationship is principal to giving and receiving care, recuperating, and further developing results. In this manner, it is fundamental to comprehend what components comprise the relationship and distinguish those that make it possible. As per Anderson, J.G (2004), four fundamental variables add to the modification in the patient's role from a passive beneficiary to an active user of health information. He calls attention to the advances in medicines that have prompted unreasonable expectations from patients. Due to health professionals' highly specialized care, they are often perceived as unfriendly and distant. In like manner, because of time constraints in consultation, patients are more often left with a feeling of discontent and distress with the provided information. And furthermore, doctors/specialists or health experts might fall behind the patient when it comes to expertise in using information technology. Anderson (ibid) believes that these realities necessitate accord among all interested parties where the doctor-patient relationships are the standard to which the whole framework should adjust. Assuming the doctor-patient relationship is to be health care's standard, all groups or parties should figure out the quintessence of that relationship and that the relationship itself should be sound.

Accomplishing those objectives requires clearly articulating patients' and doctors' expectations and then accommodating conflict with those that might occur.

Fox, Susannah (October 2006) says that as online health information becomes more common, the internet changes everyone's role in medicine. Traditionally, doctors were the primary suppliers of health information to patients relating to their prognosis, diagnosis, and expected outcomes (Mcmullan, M 2006, Eysenbach, G., and Thomas L. Diepgen 2001, Craan, F and M. Oleske 2002, Alexander, G. Caleb and John D. Lantos, 2006).

Mcmullan, Mariam (2006) research on the National Cancer Institute in 2005 says the internet has become a critical wellspring of health information and can improve how patients might interpret their ailment and their self-efficacy. Furthermore, it can enable them to make healthy decisions and enables proper communication with the doctor, bringing about more patient-centered interaction between patients and health experts. It has likewise contributed to a change in patients' roles from uninvolved beneficiaries to more dynamic health information consumers. In retort to the internet-informed patient, the doctor-patient relationship can grow in three ways: (I) health professionals-centric relationship with the health professional exercising their expert judgment. (II) a patient-centric relationship where the patient and health professionals work together to acquire and evaluate the online information; (III) the health professionals perceive the patient's quest for information and guide the patient to dependable and precise information. With the ease of access and accessibility of health information on the internet, numerous patients are not generally happy with the specialists' attitude. Patients need to be completely informed and be an essential part of the treatment decision process. In contrast, doctors were hesitant to give up their position as the primary source of medical information. McMullan (ibid) found that patients do not always communicate with a doctor about the information found on the internet since they are nervous about challenging the doctor's decisions. But things have changed in the process. Thus, a shift occurs. Notwithstanding, for this change to occur toward patient-centered communication, health experts genuinely should recognize patients' quest for knowledge, talk about their information, and guide them to dependable and precise health information websites.

What remains ambiguous is whether consumers' internet use will increase the burden on ⁴¹the quality of health services, encourage a ⁴¹patient-centered clinical practice, or promote health experts and practitioners, in the face of difficulties in the status quo.

Why Do Patients Seek the Internet for Health Information Instead of Doctors?

Today, consumers can easily access information through mass communications, self-support groups, and, specifically, the internet. The expected course of active and engaged health education is currently being enhanced by an anarchical course of unrestrained patient data recovery. Without precedent for the historical backdrop of medication, consumers have comparable access to the understanding fundamentals of medicines/treatments and are profoundly exploiting it.

Eysenbach, G and Thomas L. Diepgen (2001) studied the motivations of patients seeking information and advice online. They found that the patients turned to the internet with questions rather than talking to the doctors because of some of the reasons such as ineffective treatments, lack of trust, uncomfortable discussing their problems, limited information, time constraints, or forgetting to ask their doctor during their visit. In like manner, it has been the traditional obligation of the specialist to coordinate the two sorts of information in the individual collaboration with the patient, i.e., to give patients insights concerning their circumstances and to introduce suitable outward information on accessible conceivable outcomes custom fitted for the patient.

Wager, Karen A et al. (2005) also believe that the typical patient's visit with a doctor is often seen as too brief to exchange sufficient information. Results in patients not fully understanding their ailment, or treatment, not recognizing the value of following the treatment and the dangers of not complying, and not understanding how criticism should be shared with their benefactor. They emphasize that this can lead to misdiagnosed, under-diagnosed, or non-compliant with their doctor's prescriptions. These issues impetuses the growth of consumers' self-management of their health by seeking their medical problems and therapies through the internet. Ultimately, they feel that the solutions to the inquiries presented above will unfurl in each doctor-patient encounter's privacy, diversity, and uniqueness.

Dominant financial powers impact doctor-patient relationships. Straightforwardly or in a roundabout way, spiraling expenses immerse all medical services exchanges. They impact when and where patients access medical care, their healthcare services, and how they relay to their doctors. As far as it matters for them, doctors feel overpowered by rising medical malpractices, the cost of new medical technology, and limitations on compensation.

Expected Role of the Doctor

DiMatteo, M. Robin (1998) conducted a study to understand public perceptions of doctors' roles and the expectation of people from physicians by using a random sampling of respondents. DiMatteo (ibid) found three factors: communication, diagnosis and treatment, and ethical conduct, playing a crucial role in the doctor-patient relationship. Out of these, he found communication to be one of the vital skills for doctors; numerous vital implications of these findings are that doctors are most deficient in communication skills and cold-heartedness toward treatment expenses for patients. DiMatteo (ibid) explains that over the years, studies have consistently shown that the best clinical results happen when patients are completely educated and involved with decision-making. With the arrival of the new era of managed care, trust in the doctor-patient relationship is eroded. Building trust is an important task in such an environment, given the focal role of confidence in the doctor-patient relationship.

Communication, responsiveness, and thoughtfulness regarding cost are significant to patients however tend not to be exceptionally normal for their doctors. DiMatteo (ibid) observes that doctor-patient communication is sometimes so short that a portion of the patients leave the doctor's office not understanding everything they are told, what they should do, or how to deal with themselves. Doctors frequently utilize clinical terms that patients don't have the foggiest idea, and patients might be too intimidated and need adequate expertise to verbalize their inquiries. DiMatteo (ibid) concluded that for an effective treatment, a collaborative discussion between the patient and the concerned doctor is critical, taking into account the patient's physical findings and their expectations, outcome expectations, level of acceptance of risk, and costs related to the treatment.

Eysenbach, Gunther and Thomas L. Diepgen (2001) state that accessing two categories of any health information is the expected behavior of patients, specialists, or doctors to reach a decision. (1) Patient-related data refers to the individual patient and case (diagnosis, pathology, individual risk factors, and the like) (2) General information about the external clinical evidence (for instance, the viability of various interventions for a given disease, and the like).

Harrington, Jane, et al. (2004) says the importance of the doctor-patient relationship in the health care process has been laid out, with various researches showing strong connections between the quality of communication and patient fulfillment, adherence, and clinical results. Further, perceiving the significance of doctor-patient communication has prompted the formal instructing of communication skills, which is a fundamental part of clinical education and is presently an indispensable part of most clinical educational programs. Harrington et al. bring up that albeit coordinated endeavors at conduct change have been directed at health care experts, taking into account just the specialist's contribution to the discussion has the outcome of disregarding 50% of the relationship. Their investigation discovered that the patient's commitment to the consultation is additionally connected with positive treatment results.

Like many researchers before him, Klein, Richard (2007) agrees that communication is a core element of eHealth initiatives. Nonconcurrent healthcare communications, or the interpersonal computer-mediated communication among doctors and their patients, comprise a fundamental area of assessment in figuring out the more astonishing e-health phenomenon. Klein (ibid) employs qualitative and quantitative methods to pursue and explore patient adoption of internet-based patient-physician communication applications to provide a secure environment for routing electronic messages between parties. Klein (ibid) explains how electronic doctor-patient communications have escalated to new challenges for health professionals, remembering powerlessness on the supplier's part to oversee enormous message volumes and an absence of settlement for electronic interactions. Moreover, e-mails lack context, as direct clues present in face-to-face communications do not exist, yielding limitations in diagnosing without physical examination. Moreover, electronic communications comprise a permanent and point-by-point record of interactions and present difficulties concerning confirmation of receipt and comprehension of the content.

Lee, Chul-Joo (2009) studied the connection ⁸ between health information search on the internet and health professional contact. He addresses endogeneity by investigating the board idea of the information as opposed to utilizing successful variable techniques. The consequences of Lee's (ibid) investigation found that internet use for health information positively affects doctors or health professionals. Lee (ibid) talks about two opposing theories found in medical sociology related to technological advancement and doctor-patient relationships. One belief is that dispersing health knowledge formerly accessible only to doctors since technological advancement has reduced the doctors' command over their specific field. The other hypothesis expresses that notwithstanding individuals' access to the doctors' information base, the information gap between the overall population of health experts actually exists since new proof consistently arises and is at first accessible to medical experts. Moreover, health, disease, and clinical information incorporate vagueness and errors. Hence, individuals depend on doctors to interpret and apply ⁸ health information. As a result, increasing access to the health information on the internet may increase the frequency with which health professionals communicate with consumers (as consumers are now more aware of their health problems and are able to communicate properly about their health problems).

Shukla, Ajay Kumar et al. (2010) emphasizes the need to have good communication skills are fundamental for doctors to lay out a decent doctor-patient relationship. Shukla et al. (ibid) stress that the content, structure, and function of the communication between doctor and patient have received moderate attention as well as been overlooked from the scientific inquiry. Therefore, most clinical experts have had less proper preparation in communication abilities. There is a growing popularity among patients who wants patient-centered doctors (who invest time and energy in listening to the patient). With the growth of commercialization in medication, healthcare services research on doctor-patient relationships has turned into a significant area of interest for clinical scientists and administrators. Thus, numerous undergraduate and postgraduate clinical education and training programs have made attaining good communication skills a central prerequisite.

Shukla et al. (ibid) raises the question of why to emphasize good doctor-patient communication. Studies have shown that the doctor's tactic toward his patients, his ability to deliver and regard

the patients' interests, the essential of significant data and the declaration of compassion, and the improvement of patient trust are the critical determinants of good agreement with clinical treatments. Moreover, preparing the doctors to further improve their communication skills could be practical as it increments consistency, improving patients' overall health since good doctor-patient communication has positively impacted several health outcomes in previous studies. Their study sought to evaluate the impact of communication skills training on the improvement and process of care connected to patients' emotional difficulties, as well as improvement in physicians' communication skills, which was shown to be accompanied by a lessening in patients' emotional discomfort. Their investigation of 21 randomized controlled preliminaries and insightful investigations on the impacts of doctor-patient communication on patient health results was found to be associated with better health results with time. Good doctor-patient communication is related to good mental and physical health, good diagnosis, and improved control of persistent sicknesses that additionally incorporate great guidelines for blood glucose, blood pressure, and pain control. Furthermore, to the extent that diminished usage of health care services, it was shown that patients, who saw that their treatment had been patient-centered, got fewer appointments and diagnostic evaluations in the coming months.

Shukla et al. (ibid) explains that much accentuation has been placed on the significance of good communication and effective doctor-patient relationships. Doctors who are satisfied with their work can likewise be an imperative determinant for a decent doctor-patient relationship since doctors who are more satisfied might be better ready to address a patient's anxiety. As physicians, one must listen in with two ears, emblematically passing one ear on to gather biomedical and the other to acknowledge psychosocial information. They also stress how medical instruction emphasizes only the biomedical aspect, making medical students and physicians look at patients' problems with a biomedical ear and, in this way, neglect the social aspects of the patient. Listening requires the concurrent intake of biomedical, mental, and social information. Priorities should then be set with respect to both evaluation and the management of this data. Objectives ought to follow the SMART guideline, i.e., objectives ought to be S⁴⁶ (Specific), M (Measurable), A (Achievable), R (Relevant), and T (Time-related).

Shukla et al. (ibid) explain that transcultural awareness is essential in a successful doctor-patient relationship. Appropriate eye contact with the patient, suitability of hand signals, physical

contact between gender (e.g., shaking hands), and social or cultural beliefs encompassing the sickness are some of the vital perspectives. Shukla et al. (ibid) reasoned that good doctor-patient communication is significant and has multiple effects on various variables of health outcomes. The impacts consolidated better health results, higher adjustment to the restorative course of treatment in patients, higher patient and clinician endorsement, and negligible risk. Albeit clinical education has, as of late, begun to stress the significance of good communication between doctor and patient, and institutions have begun to include the educating of communication skills for some undergrad and postgraduate projects, it is still in its outset stage in India. With the growing claims of medical malpractice for doctors, the enhancement in the volume of inquiries and criticism by the administrative bodies, and the growth in the commercialization in medication, good doctor-patient communication is becoming much more critical. Researching in this field might help teachers, clinicians, and health care providers' overseers better grasp the doctor-patient relationship and communication unique to one way of life, environment, and social settings.

Dependence on Doctors

The doctor and the patient's relationship are always a matter of discussion due to the intervention of the ever-growing popularity of information and communication technology. In the context of the taken area under study and conditions for the selection of respondents, the data can just be taken as a form of research and not as a concrete conclusion. However, the data shows a variable even among the educated respondents, clearly showing the impact of modern technology. The data shows that the majority of surveyed respondents were consulting doctors online. The trend is similar across the mentioned gender, i.e., men and women. Still, at the same time, 39.3% of the surveyed respondents portray that people's complete dependence on the doctor is slowly moving away, and they only tend to visit the doctor whenever necessary. The statistical data about the same is presented in Table 24.

Table No. 24: Gender-wise Trends of Consulting Doctor Online

Frequency	Total	Percent	Gender of the Respondent			
			Male	Percent	Female	Percent

Always	19	12.7%	10	52.6%	9	47.3%
Sometimes	53	35.3%	24	45.2%	29	54.7%
Rarely	23	15.3%	11	47.8%	12	52.2%
Do not Know	21	14%	15	71.4%	6	28.6%
No	34	22.7%	21	61.7%	13	39.3%
Total	150	100%	81	54%	69	46%

Students, Working Professionals, and Doctors' Perceptions of the Doctor-Patient Relationship from their Viewpoint

The primary goal of doctor-patient communication, a complex clinical activity, is to exchange medical knowledge in order to further the understanding of diagnosis, therapy, and particular disorders. The level of communication between a doctor and a patient has an impact on their relationship. The traditional doctor-patient relationship was one in which doctors made choices and patients followed them. However, the emergence of the internet and its vast amount of healthcare information has completely transformed the scene. Furthermore, because of the rapid expansion and widespread usage of medical websites, the pattern of online health information seekers' access to health information is shifting from passive recipients to active service seekers. In this regard, the internet has become more significant in many facets of life since the Coronavirus Disease (COVID-19) epidemic. The COVID-19 pandemic has had a significantly positive effect on how e-health is used. Every day, people search for their health problems or symptoms on the internet, self-diagnose, and learn about new treatment choices or better methods to manage their diseases. In the same mindset, the internet has enabled healthcare practitioners to have access to the most recent medical research and therapies, as well as tools to help them continue their education, all with the click of a mouse or simple touch to their electronic gadgets.

Many of anthropology's core concepts are being used and expanded by health anthropologists ¹⁸ in an effort to comprehend what sickness/illness is, how victims, their social networks, and healers perceive, directly experience, and respond to it, and how health-related beliefs and behaviors fit within and are molded by encompassing social and cultural systems and environmental settings.

(Baer, H A et al 2013). Knowing that new thoughts and new bits of knowledge would arise by conducting an interview with a number of respondents (selected from 150 respondents based on their interviews and viewpoints) and five doctors in a neutral setting to characterize the doctor-patient relationship in the 21st century. A list of questions was prepared for the respondents, including students, research scholars, working professionals, and doctors (questions can be found in Annexure-II) concerning the subject matter, i.e., their perceptions on the doctor-patient relationship due to the influence of the internet on our very way of life and healthcare.

Below are some studies where the respondents (postgraduate students, research scholars, and working professionals) responded with their perceptions of the internet's influence on the doctor-patient relationship:

Case Studies: Students, Working Professionals' Perspective

Tiano (working professional in the IT sector) said the internet has made my life easier and simpler and has also made me lazy. I am involved with it every day. It starts to play its own chores from the moment I open my eyes in the morning (alarm app) and ends with it at night when I go to sleep engaged in activities like YouTube, Spotify, WhatsApp, and the like.

Before 2012 my healthy relationship with the health care industry was not so easy. I hardly visited the doctors, but doctors were the only help available for any major sickness if the home remedies could not help in treatment. But with the coming of the internet, I was more conscious of the medicine (prescribed by the doctor) that I was consuming because I started checking on the internet about the contents of the medicines which I was consuming to cure my ill health. Checking the side effects of it and getting free guidance from reputed websites and articles. The reason for the changes in the relationship is that the information available on the internet is priceless (provided that the source is genuine).

So far, I can say that the internet has helped me find health information quickly at a convenient time when it comes to minor illnesses like colds or body pain. Still, it has not yet affected my relationship with the doctor besides cross-checking the provided medicine. Regarding any

major illness, I usually go to the doctor and never thought of cross-checking their authority on the disease or ailments.

Ravi (Ph.D. research scholar at the University of Hyderabad) said accessibility to the internet has dramatically comforted my life and constitutes an integral part of my daily activities. I do not have any major health concerns; thus, by association with doctors or other medical professionals, I am limited to the occasional fever and such. However, the pandemic outbreak and the subsequent lockdown, in my opinion, have had a major impact on the mental health of many, including mine. I have, however, never consulted a doctor for that mental health problem.

The internet has become an integral part of my life in a way that mobile applications such as calorie trackers and Fitbit watches have greatly made one aware of his/her health information and enable them to adopt necessary measures for their well-being. Regarding me, I have only limited myself to occasionally checking for symptoms and natural home medications for my ailments on the internet.

Tom (Ph.D. research scholar at the University of Hyderabad) said the internet is an integral part of my life now. Without the internet, it is difficult to get anything done. It has become a necessity. On the questions about his relationship with the doctor, he said; honestly, I have not visited a doctor in a long time, as I have not had any major health issues. But, now that I have access to the internet, I get lots of information from the net regarding medicines and other minor symptoms related that I come across here and there. I follow certain doctors on YouTube, where I get lots of information about health and diets. And yes, the internet certainly has a significant impact on healthcare, now that we have different apps where we can put in our personalized health and diet information. We are able to connect to doctors through it. Thus, I think it might impact my relationship with the doctor if I happen to visit in the near future.

Tim (a postgraduate student studying at the University of Hyderabad) said the internet is part of his life. In fact, I am dependent on the internet for everything from groceries to educational information. I have never had a severe illness, so I barely visited hospitals. But with the coming

of the internet, I have often read an article on health-related information to keep myself in good health condition. My area of interest, especially when it comes to health, is diet.

Since I have subscribed to specific news portals that churn out articles on health issues, I find it very informative. Also, I have often ordered medicines online for minor health issues. I can not say if the internet has greatly changed my health perspective, but it has definitely helped keep my body fit and healthy. From my viewpoint, the internet is surely changing the doctor-patient relationship because of its cost, privacy, efficacy, ease to use, time, an abundance of information, and availability at any given time.

Niu (working professional) said the internet is a matrix of information, identity, and connectivity. I am dependent on the internet for social life to entertainment. I do not have any personal or family doctor, so the only relation is to visit a doctor when one is not well. Internet helps in search-match symptoms, but it does not affect my relationship with the doctor (where I visit them). The introduction of an online application for doctor appointments or medical stores may be impactful; however, it does not apply to me. On a personal level, most hospitals and doctors have business-oriented practices.

Jill (assistant professor at the University of Hyderabad) said I think the internet is very helpful as it acts as a source of information. I spend about two to three hours on the internet a day. I visited a doctor for small problems before 2012, and after the internet arrival, I browsed for my symptoms and checked myself. It has definitely changed my relationship with the doctor since I do not have to depend on the doctor for small health problems as one can get information from the internet anytime. Last but not least, the internet has changed how I approach my health problems and daily activities.

Doctors' Perspective

Anupam, 32 years as a health professional working at the University of Hyderabad, said the internet is an integral part without which one cannot survive, where it has our wants and needs, which has become a must. She said her relationship with the patients would never change concerning the doctor-patient relationship. I have a constant connection, I care for my patients,

and we are professionals in our approach. So, it will remain the same and will never change. I am used to the daily routine of explaining in detail the health problems or disease to the patients, I take my time to explain whatever their doubts are, and it is constantly that way, and I will continue to do it that way. I think patients are now more aware of their health problems because they read health information online but still have many questions to ask on approaching the doctor. Here, it tends to be positive or negative, contingent upon the particular doctor, which I have never thought of negatively. I think patients have every right to be well-informed and ask whatever doubts they have. After all, it is like a product where one cannot buy the car blindly. Similarly, one cannot just go to a doctor and simply ask questions. Trust has to be built between the patient and the doctor; the rest is up to them. So, my relationship with the patient has never changed from the beginning and will continue to do so. Anupama said,

“In my case, I have not yet recommended any online referral to my patients because every disease is a specialized field, and therefore I cannot recommend them. But yes, online referrals are available, which somewhat changed some patients’ attitudes, but overall, it does not conflict with my treatment process. Because I know the right procedure and the end, it is up to the patient to accept their diagnosis or vice. Regarding biased information, almost all information is biased because the problem with medicine, especially allopathic medicine, is that everything is recorded. For instance, the common side effects to the rarest side effects of the medicine are recorded. For example, a patient approached me with a bowel movement, and I prescribed him ‘metrogen’, a very common drug that works very well for bowel treatment. The patient went back home, googled the search engines, and found that his prescribed medicine had carcinogenic side effects. On seeing this, he rushed back to me again, questioning why I had prescribed him a carcinogenic medicine that causes cancer. So here, the internet is not meant for general average consumers where one gets biased information and gets hyped in the process, causing unnecessary anxiety to the patients if they are not adequately informed. Therefore, to help ordinary people, hospitals give leaflets to create awareness”.

Timothy, 15 years as a health professional working in Kakatiya hospital, said there is nothing that is not impacted by the internet, and due to the impact of COVID-19, telemedicine has played a major role in subsidizing the consumers’ anxiety. During that time, I have to deal with 10-15

patients through WhatsApp at a time or a video, where the patient shows their medical report, and I prescribe them accordingly. In these ways, the internet has helped immensely, and the foundation is always the internet, so the internet is a very positive development.

There are many cases where patients insist that the treatment, I prescribed is totally opposite of what is mentioned on the internet, so how is it possible? These questions arise now and then but, in the end, with a careful explanation of the procedure, the patient does change their opinions and attitudes. In the end, it is up to the consumers to follow the doctors' advice or not since the doctor always do their best to help their patients. Ultimately communication is the best way to build up ²⁷ the relationship between the patient and the doctor. There are instances where even the best medicine available for the treatment becomes useless if the doctors do not have the patient's trust, so the real test is if a doctor is a thorough professional, it does not matter whether they are deep inside the forest or in government or the corporate hospital one, relationship with the patient has to be caring, build trust and be honest in case they cannot help patients.

Anil, gynecologist, 16 years as a health professional working in the Continental hospital. It has been so long that I cannot remember the number of patients that I have treated. I use the internet daily for entertainment and nowadays for study purposes as well. Besides, I also search and see videos relating to surgery and other related areas. In regards to the patient and the doctor's relationship, I do not have any problem with the patient using the internet because the people are not that much educated in this particular location. Likewise, there are sometimes when patients come with the information, they found online without understanding much of the content of it, or in some cases, even if they understand the information, there is no problem between them. So far, I have not come across any patient who confidently approaches with the information they found online, and even if such cases happen, they can convince the patient with the right information by understanding their problems and conditions and carefully explaining it to them. Sometimes people may come with conflicting ideas about their disease and pains, for instance, chest pain; however, symptoms vary from person to person. Therefore, people should understand that not every chest pain is related to stroke or cardiac arrest, but it may be related to severe chronic gastritis. Thus, it is where the internet fails to provide consumers with accurate information but instead shows common or general problems of chest pain.

Some websites are reliable to the consumers, such as the science website (meditube), which is useful for their awareness but should not take as the final answer. There are also cases where patients turn up with their diagnosis process and treatment; however, it is always mandatory to stick to the medical guidelines for the disease treatment process and not swaying to the patient's assumptions. First, we will start with conservative management and then proceed with further investigation/ diagnosis if necessary. So far, I have not promoted any internet websites or video calls since diseases can only be diagnosed through face-to-face interaction, and also the images (sent by patients) may clinically be the same, but it is important to follow the procedure to ensure proper treatment. The internet has not and will not have a financial impact on the doctor because consumers can not entirely rely upon the internet continuously (maximum 2-3 days), after which they will approach the doctor for further treatment. There is no complete treatment with the information solely based on the internet.

Rita, a Gastroenterologist for 15 years working in AIG hospital, said patients visit the doctor only after experiencing severe health problems where the symptoms were apparent and developed for an extended period. This shows negligence or dependence on the information source, which is inaccurate due to its massive variance in the symptoms the patients might face when it comes to the internal digestive system. Thus, my suggestion is never to trust the information on the internet entirely due to its volume and bias. So far, the internet might have some positive effects, especially for educated people, but the same cannot be said for the masses. Therefore, I'm sure that no matter how much information on the internet is controlled, the relationship between doctors and patients will remain the same. In conclusion, the internet is a good platform to create awareness, and one should not entirely depend on it, especially when it comes to internal body health problems.

Ram, 12 years as a health professional working in Citizen Hospital, said that patients are expected to be online at this age. However, it is limited in the sense very few know the benefits of the internet. Most internet users consume the internet for mass media consumption or social networking. In India, we have low-health literacy, which proved to be a huge problem during the pandemic period, and as such internet played a huge part in solving some of the constraints (like no-contact video conferencing and the like). The internet probably did affect the relationship

between doctor and patient initially during the Covid period, and with the passage of time, it has made somewhat more manageable in some ways to take care of patients. Since many of the patients are armed with lots of good information about what I'm likely to talk about, it has made my job almost easier, as they have done the background job that used to be the physician team to do. Sometimes, it's challenging as it is easy to find misinformation online unless one is an expert or has done sophisticated research and whether the particular piece of information is relevant to their health conditions and whether it is taken out of context or not. I think the positive outweighs the negatives, so I'm really happy patients are doing it.

Researches has also shown that the internet is a great source of comfort for patients and has a therapeutic effect on the part of their healthcare process. For instance, patients tend to find great comfort in interacting with other patients suffering from similar symptoms, also called peer-to-peer reviews. It is easy these days; everything is pretty much free if you have an internet connection and fully unlock its potential, especially for healthcare. It has changed the face of medicine of how patients research their own treatment and ask about their medical problems with the help of specific articles. Patients are able to take a more proactive approach to their medical issues. However, the downside is researching their medical problems because of what part of the information is accurate or vice-versa. Thus, it is the job of health professionals to make patients more comfortable with their decision-making process in their healthcare.

Thus, we can say that consumers have become more or less aware of their health problems and conditions from the subject under study. The study shows that the respondents have adequate knowledge and skills to retrieve health information from the internet at any given time, whether for themselves, their friends, or their family. The study shows that mass media consumption has contributed to peoples' familiarity with all kinds of health problems. Unlike in the old traditional systems where people were completely dependent on doctors for everything starting from health information, health problems, diets, choice of outcomes, and diseases, with a vague knowledge of what we were told. Based on these facts, we can somehow conclude that be it educated, or the common mass of people, information and communication technology has brought about changes and has many positive effects on our health care but has not yet affected the relationship between the doctor and the patient, especially in the case of the respondents under the study.

The takeaway is that anthropology is thus as much a study of what people are becoming as it is a study of what technologies are becoming because it may involve the study of both usage and consequence. The early focus of anthropology on custom and tradition stands in stark contrast to how quickly things are changing today. In addition, these might be equally evocative of enduring anthropological issues like the origins of normativity. The importance of lengthy ethnographic investigations that are prepared to take into account the complexity and contradictions that are inherent to an assessment of our new digital worlds is further supported by the speed of change (Miller, Daniel 2018).

Conclusion

The doctor-patient relationship is the very core of medical care conveyance. It penetrates every component that we talk about in this research. In its closeness and individualized nature, it is unique among proficient connections. At its great, the doctor-patient relationship gives patients access to clinical care and can accelerate the healing treatment process. In the logical domain, mounting proof exhibits that the viability of the doctor-patient relationship directly connects with positive health results.

It is quite evident that discussing ²⁵ the quality of online health information is largely pointless. The studies demonstrate ³¹ the advantages consumers can receive from online health information. The question of ³¹ what role health providers should play in equipping consumers with decision-making tools remains, given the abundance of reliable and thoroughly reviewed health information sites that are currently available for free and were established by the government and nongovernment health organizations. Therefore, ³² it is necessary ³² for health professionals to be aware of how frequently clients/patients use the internet as a source of health information, and in the internet era, the majority of consumers will inevitably access online health information. It would be sensible to educate consumers about reliable information websites and the best technique to seek reliable health information rather than worrying that they would acquire incorrect information without the necessary advice. Some of the precautions include; checking whether the information provided is sponsored, which will indicate bias if it is funded. Second, the information provided must be from experts or professionals in the specific field. The third is to check if the information is evidence-based. It is always recommended that online information not be taken as

the final say and follow the proper medical procedure prescribed by health professionals. Thus, providing consumers with reliable information sources is just as crucial as guiding them during face-to-face consultations.

Primarily, a result is the consequence of a cycle. A decent medical care result might be resolved conversely by various individuals who may not share a comparative point of view. The prevalent concordance among doctors and patients is that the notion of their relationship matters; the good the relationship, the more better the outcomes. This interpretation requires a common perspective of what those results can and ought to be. Studies have over and again shown that patients and doctors communicate that we both need exactly the same things. However, they do accept that something often was lost in translation in their respective parts of providing and receiving care. Therefore, good communication is crucial between physicians and patients, where both can express views on what constitutes a good outcome is indispensable. Thus, the doctor-patient relationship requires a foundation of shared liabilities that incorporate; trust, compassion, respect, and honest and transparent communication. This recuperating relationship often includes companions, relatives, patient supporters, and other medical service experts. Affiliation works best when doctors recognize and completely coordinate these people's roles in the patient's treatment process. However, there are also numerous barriers in connection to the healing process leaving aside the aspects of time, money, place, and privacy are set aside, such as the absence of capacity to communicate efficiently, lack of trust between the patient and the doctor, lack of suitable coordination of care, nonattendance of doctor support, lawful and social barriers adhered to the patient, and patient's previous experiences.

The next chapter will focus on the summary and conclusion of the research.

Chapter 7

Summary and Conclusion

Undoubtedly, the internet has changed how we live, and its transformation is felt in all aspects of human activity, ranging from production to consumption. However, unlike the Industrial Revolution that preceded the information and communication technology revolution, this revolution is constantly evolving and mutating. On the one hand, we have increasing computing power, and on the other hand, the evolution of artificial intelligence, or AI as it is popularly known, has become a keyword for understanding change. While the industrial revolution became static and did not witness any incremental change for many decades, the ICT revolution does not rest. It is this vastly expanding ICT technology fueled by the rise of cheap computing power and large-scale hardware penetration that has created an ecosystem of internet users who are ready to be wooed as customers for a variety of industries. The medical industry did not make an immediate head start but also did not lag behind and entered the service sector through medical care mediated by the internet. In this connection, Hyderabad, one of the original metros that were designated to be the torchbearer of the ICT revolution in India, with the high-tech city as the main center connected with a network of hospitals to usher in this new trend which forms the subject of study of this thesis. This thesis, therefore, tries to understand the impact of the internet and medical healthcare, the digital divide it brought, and its effect on the doctor-patient relationship and tries to study the efficacy of internet-based information.

The central focus of the thesis is, therefore, to understand the new delivery system of medicine and the transformation of medicine through the mediation of the internet and how effective this delivery system is. Proceeding from this thesis opposes another related question of the efficacy of the doctor-patient relationship in the type of treatment that has dispensed with the traditional face-to-face treatment and physical examination but rather relying on the digital reports. The transformation of a physical encounter to a digital one mediated through the internet in real-time in Hyderabad from the immediate context.

Summary

The thesis is divided into seven chapters; ³Chapter 1 Introduction, Chapter-2 Methodology of the Study, Chapter-3 Review of Literature, Chapter-4 The Gap of Digital Divide in India, Chapter-5 Seeking Virtual Health Information: Understanding the Perceptions of public, Chapter-6 Doctor-patient Relationship, and Chapter-7 Summary and Conclusion followed by a Bibliography and Annexures. The chapters are divided into many considerations beginning with the introduction chapter that lays out the plan of the thesis, along with the organization of material, the layout of the different chapters and the general plan of the thesis, and the sub-themes which have led to dramatic division on which the chapters are organized. We begin this chapter by understanding the transformative role of the internet and the speed at which this transformation is heading. This chapter begins with a brief note on the internet revolution and how it has reorganized many aspects of production, consumption, family life, work and leisure, and, more importantly, the way we communicate.

In 1975, Alvin Toffler, in his book *Future Shock*, started to talk about this debate and later elaborated in another book titled the 3rd wave. What was implemented was that all human beings were hunter-gatherers, and the 1st wave of the agricultural wave that swept the planet Earth 10,000 years ago but proceeded slowly. Following this was the 2nd wave of the industrial wave that transformed how we produced goods 300 years ago. From the nineteen fifties onwards, there was a disruption in the economy understood by growth in ICT and how such phenomena were circulating in the world. These are exemplified by low-cost air travel, large-scale employment in the service sector, the rise of contraception, advanced medical devices, and breakthroughs, all of which transform the economy and society. Therefore, the argument was that the frames of reference used to understand the new society had to be relevant to the new context. While this debate was raging on in America, Indian society was largely agrarian and industrial, and many things changed after the liberalization policy inaugurated by the former press Prime Minister Narasimha Rao. Following this, we had an influx of global players in the Indian market who also ventured into production and transformed the production of goods and services. Most of these players did not enter the industrial estates but invested in the new knowledge clusters. Throughout the world, more money was made in the knowledge clusters than in the industrial estates or in the agrarian sector. This signaled the rise of a new form of production that was

based on information. One of the key components of this is becoming the internet which is connected to people through various nodes and not from a top-down or bottom-up approach but rather through a seamless web.

This seamless web-the internet is robust enough and has never failed till today, and communications have not been disrupted though there have only been locally stopped for short periods. Therefore, internet failure is a distant possibility for the description of communication, and the obvious is that it is a reliable mode of communication in real time. It is this factor and also the capacity to broadcast, combine and recombine data in the form of text, image, and video along with sound in different formats that has made it effective for its adoption in healthcare. Another important aspect is that the increased speed of the internet and the massive computing power means that data can be processed, and many conclusions based on this data can be arrived at, making the internet powerful. Since the internet of the fourth generation can also be accessed on mobile phones and is increased speeds, Hyderabad has, in a large way, adopted this, and the hospitals and medical practitioners are also very familiar with this ecosystem and have been trained on many platforms related to this. We, therefore, find the adoption of internet-based health care in many cases prompting the researcher to embark on this topic based on the fact that this is not a one-off syndrome but is a general trend.

Other aspects that have been dealt with in this chapter discuss the influence of the internet on the global economy as well as how the microelectronics revolution has given a new face to capitalism by reducing costs in communication and production. Since this thesis deals with the human element, it can qualify as an anthropological study. Like sociology, which studies single institutions and focuses its attention there, anthropological study focuses on multiple institutions and embraces medical pluralism. Therefore, this approach takes them toward the direction of understanding health and illness from a broader perspective. Medical anthropology is characterized by its practical focus and extensive ethnography and participant observation method to understand the complexities of health, illness, and healthcare. This thesis also focuses on several topics, including the above-mentioned and how the internet has become a source of information that is cited by different medical researchers.

A major departure and a landmark moment in internet healthcare were witnessed following the emergence of HIV/AIDS and worldwide awareness; the institutional, financial, and political architecture of international health was changed, culminating in a powerful global health movement led by anthropologists who are also medical activists. This movement has made Anthropology in global health become one of anthropology's most significant empirical and theoretical topics today. There is very little research on the internet's influence on health-related decisions and choices, especially in relation to Hyderabad among the literate and tech-savvy youth mostly in the age group of 20-60 years old, with regards to internet utilization for acquiring health information. Therefore, I have critically examined the implications of the internet, particularly internet usage for obtaining health information, the critical aspects influencing their internet health information selections and decision-making process, the digital divide brought about by this technological development, and the factors affecting their doctor-patient relationships, and the digital divide brought about by this technological development in this thesis.

The major objectives of the study attempt to understand the pattern of how the educated and techno-savvy youth in Hyderabad uses the internet for seeking health information. Who is most likely to access the internet and why? The study's first research question is to examine relevant and critical factors influencing how people access the internet for health information.

The internet is a wealth of information for consumers suffering from present diseases or those suffering from the negative effects of a disability (Madden, M and S. Fox, 2006). Consumers use this health information subsequent to examining it with their doctors, considering everything. Wagner, T.H. et al. (2005) said individuals who are continually ill would undoubtedly go to the internet for health information. Goldner, M (2006) separates the frequency with which healthy and sick persons utilize the internet for health-related objectives. Besides, Madden, M and Susannah Fox (2006) suggest that users who are fundamental guardians or have loved ones who are ill or impaired furthermore will undoubtedly go to the internet to satisfy their information doubts. The study found several pertinent and significant variables that are connected with and predictive of access to sites for health information. These factors were identified as ease of access, cost, privacy, availability, no discrimination, flexibility, detailed information, time, abuse

of authority, at our own comfort time and place, internet self-efficacy, socio-demographic variables (gender, age, health status, ethnicity, and insurance) and outcome expectancies. The data collected from Hyderabad shows that health information seekers utilize online health information to satisfy specific necessities, like education, doubts about health information, support, and the like. The data gathered from the respondents shows that 'ease of information' is found to be a major factor motivating people to access online health information. In such a manner, Rains, S.A (2008) suggests that consumers or health information seekers turn to internet sites to supplement the information they receive from their physicians or other medical care providers.

While looking for information online is a common online activity, it is not one in which many respondents spend a lot of time. In contrast, only 130 of the total 150 respondents access internet health information, and only on average, 15% are not actively using across internet usage categories. This does not mean that the average 15% surveyed population is consistently not using the internet in all the mentioned categories, and it means that they are using it based on their need and requirements. Likewise, 40% of the respondents spend less than an hour per week seeking health-related material, while the remaining 46% spend between 1 and 4 hours per week. One argument for reduced internet usage might be that health information seekers are looking for solutions to specific issues and would typically search for online information on a need-to-know basis rather than as a normal practice. According to Fox, S., and L. Raine (2000), health seekers would frequently opt for internet health information particular to ailments rather than broad health-related themes.

To Understand the Impact of Digital Divide on Healthcare Delivery

I have critically examined the digital divide from different researchers' points of view, as well as the initiatives which are taken up by the government of India to reach out to the masses. It is essential to ensure your target audience has access to relevant technologies. As the internet grows and opens the way for a rising number of possibilities, it has also opened up double deception potential. The conceivable outcomes are boundless, both in the idealistic and the undeveloped territory, particularly while traditional establishments, for example, legal systems, take some time to reach numerous new turns of events. While multiple technical enhancements

and government policies have been carried out to handle a portion of the above issues, those interventions take time, requiring an educated user base. The study found that the digital divide can largely be attributed to numerous factors such as gender, age, occupation, education, costs, income, cognitive skills, computing experience, language, people's response to the type of resources and facilities available online, social background, or traditional hierarchies, people's objective, geography, and cultural preferences, the narrow scope of goals, lack of desire to utilize the available facilities, and limited access; which acts as a deterrent and thereby creating the divide. From the literature reviews, it is observed that studies around the globe have also shown that country growth depends on the availability of information and communication technology and will provide an unprecedented opportunity to meet vital development goals. Digital inequalities threaten society in a period where communities are quickly moving toward a digital platform. For example, day-to-day activities like paying dues, applying for jobs online, occupations, education, medical services, shopping online, and such are supposed to be completed electronically. Hence, bridging a digital divide is basic for maintainable digitalized social orders.

To Critically Examine the Doctor-Patient Relationship

Several studies have over and over again shown that patients and doctors communicate that we both need exactly the same things. However, they do accept that something often was lost in translation in their respective parts of providing and receiving care. Good communication is a crucial factor between physicians and patients, where both can express views on what constitutes a good outcome is indispensable. Thus, the doctor-patient relationship requires a foundation of shared liabilities that incorporate; trust, compassion, respect, and honest and transparent communication. This recuperating relationship often includes companions, relatives, patient supporters, and other medical service experts.

The data analysis of this study shows that the respondents have become more or less aware of their health problems and conditions. The study shows that the respondents have adequate knowledge and skills to retrieve health information from the internet at any given time, whether for themselves, their friends, or their family. The study shows that mass media consumption has contributed to peoples' familiarity with all kinds of health problems. Unlike in the old traditional

systems where people were completely dependent on doctors for everything starting from health information, health problems, diets, choice of outcomes, and diseases, with a vague knowledge of what we were told. Based on these facts, we can somehow conclude that be it educated or the common mass of people, information and communication technology has brought about changes and has many positive effects on our health care but has not yet affected relationships between doctors and the patient, especially in the case of the respondents in the study.

Significance of the Research

The data collected reveals that the internet has created awareness among the educated youth and how to properly utilize the information on the internet. Secondly, it will help the institutions, administrations, social scientists, doctors, and parents to the growing issues and adaptability of the internet and how it can be accessed appropriately, utilized, and built as a bridge created by these technological advancements. Last but not least, this research findings will help researchers in the near future to develop better theories and conduct extensive fieldwork in this area. The internet provides health information accessible to everyone, and many people are dependent on online sources rather than consult doctors.

Therefore the 1st chapter ends with the conclusion by arguing the need for internet healthcare research and makes a case for the same. The 2nd chapter is primarily based on the approaches and methodology of the study and defines the target group and the geographical location that is Hyderabad. There is a detailed discussion on tools and techniques of data collection and field sites that was selected after a pilot study. It is a basis of this pilot study that the field site and the numbers were arrived at based on the consideration that the data has to be robust for future generalizations. Based on this preliminary pilot study, the research design and sampling designs were conceived, and then the researchers embarked on the data and the following are the tools of the data collection; interviews, case studies, observations, and survey methods. They were primarily obtained by a participant observation and the like. The secondary sources include articles from various journals, books (although there is a scarcity of books on this topic), Census reports, websites, YouTube, an online newspaper, magazines, and unpublished documents. Thus, outlining the detailed methodology of the study.

The 3rd chapter begins with a review of the literature and starts with the immediate context, that is, the use of the internet for health information. There is a detailed discussion on how variables such as age, gender, and quality of online information vary over time. There is also a detailed study of both primary and secondary literature. The literature review is done on the works by renowned scholars and authors like; Craan and Oleske (2002), Norris (2001), Cline and Haynes (2001), Fox (2000, 2006, 2008, 2011), Keniston and Kumar (2003), Cotten and Gupta (2004), Dutta and Bergman (2004, 2005), Madden and Fox (2006), Rogers (2001, 2003), Livingstone (2003, 20004, 2007, 2011), Rains (2008, 2009), and DiMatteo (1998). All of them elaborated on the same idea that the internet is bringing immense changes, especially in the field of health information and the health care system. At the same time, they talk about the impending changes and challenges it brings and how to cope with this digital platform. With the help of the literature review, the theoretical and empirical basis is prepared and keeping in mind, the crucial factors that directly or indirectly influence the variables in health-information-seeking behavior are noted. As mentioned by many scholars and researchers, the critical factors include age, occupation, education, gender, socio-economic status, language, computer skills, internet experience, health status, knowledge of the disease, apparent risks associated with the disease, and how different individuals utilize the online content. This chapter, therefore, argues that the different variables associated with lifelike education and gender and the like are also important determinants in how different individuals utilize online content and how their choices are conditioned by the larger social and economic variables and the immediate and the larger context in which they are placed.

The next chapter is titled the gap of digital divide in India and gives a brief overview of the digital divide situation in the world, how the penetration of the internet and communication has been uneven on one side and on another side, and how many governments and other institutions are trying to bridge this gap. This is therefore created a class of digital haves and have-nots, and it intersects with gender class and other inequalities that are already present in society, compounded by the use of computers that, in many cases, have deepened this divide. The digital divide is a matter of serious concern, and keeping this in mind, the government of India has embarked on many schemes to mitigate this problem. This chapter, therefore, argues that Pippa Norris (2001) stated that the phrase digital divide is already a ubiquitous phrase that implies the

breach pertaining to information haves and have-nots, including racial, gender, and socioeconomic divisions. Why this has become a grave concern is a question that one has to consider.

The study exhibits the different ways in which various scholars and researchers depict the digital divide and how it affects it. This chapter, therefore, argues that while internet penetration is increasing digital divide is a reality and is a very important factor that one has to take into account while launching a new program that is associated with the internet and the field survey also confirms the same.

The 5th chapter is, titled ‘seeking virtual health information: understanding the perceptions of youth in Hyderabad,’ is one of the core chapters of the thesis. The frameworks proposed to explain an individual's use of healthcare services from a behavioral standpoint. The theory of “Engaging Consumers in Health and Healthcare in Communities (ECHC)” by Jessica N Mittler, Grant R Martsof, Shannon J Telenko, and Dennis P Scanlon (March 2013) represents a concentric circle structure that shows that individuals, groups, and organizations will influence one another at any given point in time, but not necessarily in a linear manner.

Statistical Analysis

After the data was collected, it was checked for mistakes and put into an SPSS file. Following that, frequency distributions were examined to confirm that the questionnaire data was accurately transcribed and that any missing values were accounted for. The data was now available for further examination. The chapter focuses on the data analysis collected from 150 respondents, constituting 81 (54%) male and 69 (46%) educated female respondents. With the help of a survey questionnaire, interview, and case-study methods, this study found some interesting social realities, as analyzed in the previous chapters.

The study found that the respondents could not fully rely on and satisfy with the health information available online for two main reasons; abundance of information and reliability due to the mass volume of information. The study also found that more than 60% of the respondents were satisfied with the information found online. The study found that 24% of the respondents

use the internet as the primary source of learning, another 48% of the respondent use the internet on a regular basis, and about 25% of the people either do not rely on or use the internet for expanding their networking horizons.

The study found that people who use the internet on a regular basis have certain websites through which they draw information and find the content reliable to keep them informed. The study found the majority of respondents acknowledged that they do not visit websites operated by health organizations for health-related online information since they are not aware of such given websites. Approximately 80% of respondents use the internet for health-related questions. The study found that the majority of the respondents feel that online information is challenging to comprehend most of the time, and it is possibly due to the variation in terms of information provided on different websites on the same topic.

The study found a majority of the surveyed respondents do believe that self-treatment is life-threatening. The study found more than 75% of respondents are actively engaged across the mentioned internet usage categories, and only on average, 15% are not actively using across internet usage categories. The study found more than 80% of the respondents had been using the internet for more than five years at the time of the survey being conducted. More than 60% of the respondents acknowledged spending more than 15 hours a week on the internet. 24% of the respondents spend more than 5 hours on online health information in a week, whereas more than half use internet health information for less than one hour every week. The study found shows that the average internet user is spending a significant amount of time accessing relevant health-related information from the internet, which further indicates that internet users do care about their health and are willing to spend some time browsing, accessing, researching, and understand certain health-related information based on their needs.

What actually motivates people to seek health information from the internet found that 80% of the total 150 respondents said that it is due to time constraints, availability at any given point of time, cost-effectiveness, privacy, emotional support, no discrimination, no barriers, and distance. Majority of the respondents acknowledged that they use online health information to make health-related choices and make health-related decisions. The study finds that those respondents

who utilize internet health information cross-check it with information available on other similar websites to make a meaningful and informed decision. The study finds around 20% of respondents were constant in terms of consulting either doctors or people with health issues or with close friends to discuss health issues and health information they have come across. The research data shows that the majority of surveyed respondents were consulting doctors online when it comes to consulting doctors online. The data also shows more than 40% (seen in chapter 5 Table 19) of the surveyed respondents portray that people's complete dependence on the doctor is slowly moving away, and they only tend to visit the doctor unless necessary. The study finds that most respondents with a history of chronic diseases acknowledged that they consult doctors, besides online health information, for better treatment or suggestions. The research data shows most of the respondents go after popular, recommended, and suggested websites for accessing health information. In contrast, a considerable number of respondents do not visit such websites to access health information.

The broad conclusions of this chapter are that most people have pressed on the doctor and do not visit the internet or use it for chronic diseases. Most people use the internet because they are already connected to the network and therefore have a very high degree of familiarity and, more importantly, time to deal with the internet. This familiarity and ease of use also lead them to maximize time, and therefore, one of the determinants of using the internet for purchasing medicine is for ordinary diseases primarily cited due to lack of time. Further cost efficiency and, more importantly, the price factor and lack of any discrimination, and the provision of emotional support makes internet medicine a very attractive proposition. The most important factor is the distance that is reduced on account of internet medicine because there is no constraint on travel. Overall, this chapter argues that the penetration of internet medicine has been uneven but is showing an upward trend and is largely motivated by factors of accessibility and reliability only for minor diseases and is conditioned by the time factor and cost factor.

The next chapter is titled ¹⁹ the 'doctor-patient relationship in the age of the internet' to understand how this very important relationship has been transformed by the role of the internet. The study found that the patients turned to the internet with their questions rather than talking to their physicians because of some of the reasons such as the frustration of failed or ineffective

treatments, lack of trust in their doctor's competency, uncomfortable discussing their problems with their doctors, adequate information provided by the doctors, time constraints, or forgotten to ask their doctor during their visit. This new method of communication has transformed the doctor-patient relationship in many ways. Primarily among them is the cost factor that has led the patients to approach doctors who are far away. Along with the cost factor, the distance factor is also very important, which is totally irrelevant in the case of internet medicine. This chapter deepens into the case studies to portray the changing relationships and how consumers and health professionals perceive it during the pandemic and daily life activities.

The final chapter is titled the conclusion and summarizes the main findings of the thesis. Some of the main findings of the thesis reveals that one witnessed a fundamental shift in approach to treatment with the introduction of computers and the internet both from the side of the doctors and patients. While the digital divide is still a very important aspect that has brought about uneven connectivity, it also reveals the other forms of stratification in society that are based on income, gender, and access to computers and Wi-Fi are replicated in the digital divide. Further, distance has ceased to matter, and the cost is also significantly reduced, prompting many people to migrate to computer and internet-based medicine, which is also transforming the nature of the doctor-patient relationships in many ways. Most of the patients are unable to communicate properly and are unable to elicit different types of information from the doctor. Many Indian researchers: researching this topic from the same perspective have also confirmed the changes in the doctor-patient relationship. One may therefore say that the intervention of the internet in enabling consumers to purchase medicine independently has brought about a very important shift, but it will still be much to be desired, and Hyderabad is one of the few places where this shift can be empirically verified. The transformation can be explained both by the role of individual actors and institutions that form the backbone for the infrastructure of the ICT, but this has also been uneven. Overall, the experience of ICT has been a positive transformation for the consumers/internet users, in upwards of 70% positivity in the case of the respondents taken under the study

Conclusion

When conducting online research, an anthropologist faces various challenges. It demands a thorough theoretical engagement with the technologies of digital information, semiotics, and their link to social and material realities. Many fundamental methodological tenets, including 'fieldwork' and 'participant observation,' need to be redefined. Finally, studying the internet necessitates that the analyst engages in self-reflection when researching politics that are near to home and includes understanding it. Although the fundamental concepts of anthropology, 'the field' and 'culture' are in flux, ethnographic approaches to emerging fields of media, technology, and science, demonstrate a persistent anthropological focus on embodied contexts of practice and daily life (Miller, Daniel 2018).

Traditional holistic ethnography, which tries to comprehend how people interact with everything that affects their lives, is a fundamental part of anthropology. We continue to focus on the larger context of people's non-digital lives in order to understand how they interact with digital technologies, as nobody lives entirely online. Due to the fact that they are generic ethnographies of populations, the focus will also be on the digital culture forms that have spread widely.

While accessing online health information may be considered information collection, consuming online health information may be considered information management, a mental and open interaction in which health information seekers assess and understand the data they obtain from online sources (Brashers, D.E, D. J. Goldsmith and E. Hsieh, 2002). Notwithstanding the actual retrieval of information, the study additionally took a look at the mindset of online health information seekers. Health information seekers share their desire to talk about health information with their doctors, friends, family, and loved ones, and in the process, take time to comprehend the data they collected and consider what the ramifications could be. More than 80% of respondents showed the utilization of online health information, exhibiting a high cognitive degree of use. This conclusion is consistent with the prevailing rhetoric of health consumers, in which internet users are now active participants in their health-related choices and decisions rather than passive consumers.

T. Lewis (2006) discusses the growth of empowered and informed persons who consider health-related choices and decisions in their life. Direct-to-consumer advertising (DTCA) is an example of how pharmaceutical companies and healthcare organizations seek to influence people's perceptions of their own health. A study conducted by Polen, H. H., N. M. Khanfar and K. A. Clauson (2009) uncovered that over a portion of the studied respondents accepted that DTCA on television had given customers more control over their health management. While further research is needed to determine the benefits of such communication on consumers, it does imply that therapies and information that portray health information seekers as partners rather than patients may be key in effectively communicating healthy messages. These concepts should be taken into account in future research and practice.

The internet has become a ubiquitous medium for health and well-being. The number of digital health interventions available has grown exponentially in recent years. From the popular fitness trackers on one's cellphone to virtual reality training programs for back pain and chronic disease management, the digital space is full of resources that promise to improve one's physical and mental well-being.

While the internet offers an unprecedented number of tools for improving health and well-being, it is important to acknowledge that the technology itself is not a cure for illness and should not be viewed as a replacement for conventional health care. When used appropriately, however, the internet can complement traditional medicine and improve access to health information and services. For example, digital tools can be used to help manage chronic conditions like diabetes and high blood pressure, provide support for mental health conditions like anxiety and depression, and promote physical activity and healthy eating habits. There are also numerous online programs that help individuals quit smoking and manage chronic pain, improve sleep habits, manage diabetes, and even lose weight. As technology continues to advance, the number of resources available will continue to grow. It is crucial to make wise choices when selecting online resources to ensure they are credible and trustworthy. It is also important to note that some digital health interventions may not be appropriate for specific populations or may not produce the desired results. Working with a physician or qualified health professional before adopting any new health-related practices is essential to ensure you are getting the appropriate

advice and treatment. It is also important to stay informed about the potential risks of using digital tools and follow the recommended usage guidelines. These measures will help minimize potential risks and ensure that you get the most out of the online health tools available.

Digital health technology is here to stay. New apps and websites offering an array of tools and services are constantly being developed, and it can be challenging to sort through them all to find the information that is relevant to you. While some online programs can be effective in improving health and well-being, others may not be as effective and may not be safe to use.

All these lead to the argument that internet health information seekers have become more of their health condition, making them 'informed' consumers. What makes an 'informed' consumer? Finding reputable and comprehensible information is the first step in navigating the multitude of information. Considering that certain websites might not be reliable or might not offer the most recent or generally recognized medical information. The second step is to look for specific websites or videos created for particular diseases or illnesses. The third step is to understand the drugs prescribed to you. Ask for detailed instructions on how to take the medication and any potential side effects without hesitation. Should it be taken before bed or first thing in the morning? Whether with or without food? The efficacy of the medication may vary depending on these ostensibly minor aspects. The more knowledgeable one is as a consumer, the more authority one has as a part of their healthcare. Likewise, the ideal quality of life is possible when you and your family comprehend a diagnosis and how to take care of themselves. One may use this knowledge to apply to make better healthcare decisions and choices by obtaining reliable and timely health information, reading and comprehending it, and, in the process, making them better-informed consumers.

The findings of this study might be especially critical considering ¹ the discussion about rules to control online health information content. There is a developing feeling among researchers that contends that guideline for online health information is important to safeguard against deception and that general society ought to have certain ¹ rules provided by public organizations (Eaton, L 2002). In any case, with the exception of ¹ health information for vulnerable populations (HIV/AIDS and cancer patients, for example), the question that arises is how much public assets

should be used for managing general health information content, assuming that health information seekers are aware of the importance of taking the information they find online with a grain of salt. As a result, the most critical responsibility for health communicators is ensuring that awareness and education become a priority for health practitioners and users of online health information.

In India, the total health expenditure (THE) has remained between 1.2%-1.6% (from 2008-2020) of its gross domestic product (GDP), a small fraction of the World Health Organization's (WHO) moderate recommendation of 6.5% of GDP for underdeveloped nations. Even more concerning is the fact that public health expenditure (PHE), which is the state contribution over time, has risen from 0.9% of GDP in 2015-16 to 1.8% of GDP in 2020-21 (Statista, 2022), hovering near to that of the world's worst five countries (Demands for grants 2021-2022). These numbers clearly show that, even in highly developed nations where the ordinary citizen's ability to support his/her own health services freely is extremely high, the state considers funding healthcare to be a critical component of government. Surprisingly, the state in India has implicitly abdicated this duty on the specious grounds that we cannot afford the sector's resources (Chowdhury, Javid 2015). Therefore, to improve health problems across the country, the government must take the initiative further to increase the budget for the health infrastructure in India.

All in all, essentially expanding internet access is probably not going to diminish variations in medical services and in medical services interactions that contribute to disparities. Internet use, alongside different variables involving social class (i.e., education and income), may essentially duplicate benefits for certain patients during clinical interactions. Thus, the researcher's challenge is to identify and doctors to utilize communication strategies to address the relating problems to which the internet contributes to diminishing health care disparities.

Closing Thoughts

The internet appeals to the younger generation by allowing them private and anonymous access to information resources on sensitive topics such as HIV/AIDS. With the proliferation of internet health information, the importance of having access to trustworthy and reliable information cannot be stressed. The lack of clear rules for health content providers, the lack of set indicators

to assist and guide health information seekers toward reliable material, and the potential risks of inaccurate or misleading information for vulnerable groups all make it difficult to ensure universal access to credible online health information. Users, on the other hand, may be aware of what constitutes reliable information or how to determine if the information provided to them is from a legitimate source, and they may routinely share that knowledge within their own network. According to the findings of this study, health information searchers who use websites that are widely regarded as credible report being wary about the source of information and the writers of the websites they visit. Furthermore, they provide and get recommendations of genuine and dependable health-related websites from family and friends.

In addition to queries regarding improved access, health professionals, educators, and providers must examine the following key issues: Does increasing access to internet health information benefit health information searchers in general? Is some information preferable than no information? What effect could information at any point over-burden or falsehood have on the general health scenario, especially considering increasing health costs and costly preventive tests? Furthermore, which role will medical services providers at any point play in guaranteeing harmony between online health information seekers and health professionals?

Way forward

Healthcare must be a collaborative effort between healthcare professionals, health information seekers, and educators for an effective public health system to function, with individual self-care plans combining an information stream comprised of a discussion between health officials and patients/consumers.



CERTIFICATE

This is to certify that the thesis entitled "Role of Internet in Health Decisions and Health Choices" submitted by VIKHEPU. V bearing registration number 09SAPH02 in partial fulfillment of the requirements for the award of Doctor of Philosophy in the School of Social Science is a bonafide work carried out by him under my supervision and guidance.

The thesis is free from plagiarism and has not been submitted previously in part or in full to this or any other University or Institution for award of any degree or diploma.

Parts of the thesis has been published in the following publication

1. Modernity and Contemporary History of Medicine: Internet as an Emerging Source of Personal Health Management Information System; A Study Among Educated Adult in Hyderabad. Journal of Modern Thamizh Research, Vol. 10, No. 1, January-March 2022, Pp: 323-330.

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SL No.	Name of the Course	Credits	Pass/Fail
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2	SA601 : Advanced Research Methods	4	Pass
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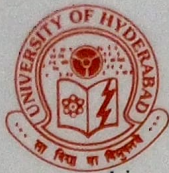
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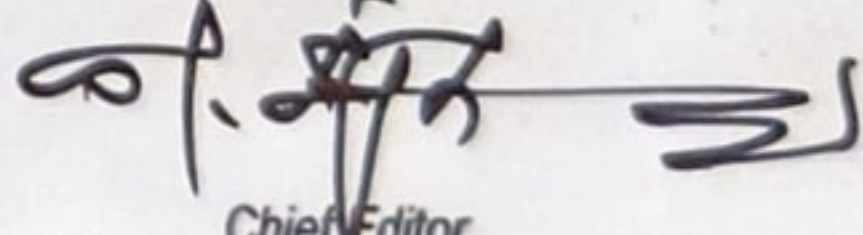
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MODERNITY AND CONTEMPORARY HISTORY OF MEDICINE: INTERNET AS AN EMERGING SOURCE OF PERSONAL HEALTH MANAGEMENT INFORMATION SYSTEM : A STUDY AMONG EDUCATED ADULT IN HYDERABAD

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Abstract

Since the initiation of the industrial revolution, health and health management processes have been transforming rapidly. Modern life, in many ways, is dependent on the internet. Further, digital platforms such as Facebook, Twitter, WhatsApp, and Instagram are popular social networking places that have already replaced the traditional means of sharing and receiving information from friends and peer groups. Seeking health information is one among these most important activities which is gradually shifting to the internet. In this context, the present study made an attempt to identify and understand the key motivating factors among the youth in Hyderabad for using the internet as a primary source to seek personal health management information.

Keywords: *Internet, Health, Educated Adult, Health Information, Perceptions, Personal Health Management, Health choices and Health Decisions*

Background

The technological revolution has significantly changed the way we live in the 21st century. In particular, the use of the internet is increasingly growing in its scope, and people from across the regions are getting accustomed to it. It is estimated that little more than half the world's population is accessing the internet across the countries in

2020². This is mainly because of the various utilities of the internet, including news, entertainment, financial transactions, businesses, conferences and webinars etc. When it comes to health and healthcare, the internet is gradually becoming a necessary tool. It is progressively becoming a habit for people to browse the internet and access health-related information before booking an appointment or meeting a doctor, unlike the old days when people used to totally depend on health professionals and practitioners for all health-related needs³. The increasing access to health-related information online made users somewhat independent from health practitioners. This phenomenon, in return, influenced people's attitudes towards health management both at individual and institutional levels. It is natural for a researcher to develop a set of questions when changes are taking place in society. In this context, some of the most critical questions will be: (1) What are the patterns of usage of the internet for health management purposes (2) How the usage of the internet has brought changes in health management both at an individual level as well as at the institutional level (3) what are the socio-economic impacts of usage of internet for health management? The present research is aimed to unpack these realities by providing cases from the field.

However, before going further with the aforementioned aspects, it is appropriate to mention the importance of studying the internet.

lower in less industrialized countries. One of the motives for this is that internet usage demands literacy and supporting infrastructure, and industrialized countries have both. It is agreed that, despite the stated differences across the counties, the use of the internet is constantly growing. However, there is an urgent need to research in order to fill the gap in terms of internet literacy and infrastructure. But, most notably, the study of the internet is essential to understanding and exploring the possibilities and opportunities that can be created for local communities and internet users⁵.

Internet and Healthcare and Health Management

Mittman, R., and M. Cain⁶ in their study "On the Future of the Internet in Healthcare" said that healthcare had discovered the internet, and the internet has discovered health care. They point out that the patients create online communities that provide peer support, information on the latest studies, and their stories and experiences. Besides, doctors or health professionals also utilize the internet for their research, latest information, consultations with colleagues, and keeping in touch with their patients.

Information is vital for effective health care delivery⁷. Today, with one click of the mouse, we can gather information on anything we need. In no other field has the internet proved its high

users is changing. Also, in order for the internet to become useful to ordinary consumers, complementary innovations had to take place, such as in the area of business models. This innovation has been occurring at a great pace, so that now there are many businesses designed to sell products, services, or information that people want to buy or access online", (2006; p.69). The internet has thus established itself as the must in our present condition, where almost everything, including social, political, and economical, is entirely dependent on its availability.

Studies on Internet Influences Over Healthcare and Management

Parker, M., and J. A. Muir Gray⁸ find the internet popularity is because of its role in health care practice, which is seen in the form of an increasing number of health-related websites as consumers seek health information to supplement the information they get from traditional sources, local doctors, doctors, and friends or family members. Cline, R.J.W and K.M. Haynes, 2001; Mittman, Robert and Mary Cain, 2001; Murray, Elizabeth et al., 2003, they all share a vision that the internet amenities which is readily available, help in communicating with doctors, purchase medicine, support groups, behavioural change programs, obtain information on medical issues, and deliver a variety of tasks relevant to the health management.

Klein, Richard⁹ uses the term e-health to refer to the emerging trend in information and communication technology, i.e., the internet, which improves the overall management of health care. Klein said the internet as a whole provides easy and open access in regards to their health knowledge, disease, medicine, management and research findings without digging into our pocket. As a result, the consumer's knowledge of health problems has created a rift between the patient and the professionals. Klein also points to the growing number of disease groups that act and provide support, advice and platform to share experiences. Similarly, DiMaggio, P. et al.¹⁰ stresses the need for a common ground for health practitioners, local groups, and government to come together and utilize the internet for the overall benefit of society.

Penson, Richard T. et al.¹¹ also agrees with them, adding that the internet, especially broadband services, has significantly improved and created the perfect platform for consumers to better health care services and management. Levy, J.A., and Rita Strombeck¹² find that the internet has established itself as a primary form of communication linking millions of people worldwide in the last two decades. These sources may include various media such as television, radio, cinemas, newspapers, and magazines, which constantly bombard us with information directly or indirectly into our present society¹³.

In line with other researchers, Cotten, S. R., and Sipi S.Gupta¹⁴ explain that the internet, which provides a vast volume of health information, can vastly improve the individual's health management. Thus, based on the above studies, one can safely conclude that the growth of the internet is empowering people to become more active participants in caring for their health and offering them the necessary information to make

sound judgments and engage in behaviour, improving the quality of life as a whole.

Significance of the Research

Medical Anthropology, since the beginning, has undergone numerous changes, but its applied focus remains the same. Its methods and goals have expanded since its introduction, advocated by W.H. Rivers and the Torres Straits Expedition of 1899. After their work, there is a demand for ethnographic studies, emphasizing collaborative research between indigenous and biomedical practitioners.¹⁵ Thus, the importance of this research has several practical applications. Firstly, the data collected will create awareness among the educated youth and how to utilize the information available on the internet properly. Secondly, it will help the institutions, administrations, social scientists, doctors, and parents to the growing issues and adaptability of the internet and how it can be adequately accessed, utilized and built a bridge created by these technological advancements. Last but not least, the data collected will help researchers in the near future to develop better theories and conduct extensive fieldwork in this area.

The Study Area

The fieldwork was conducted in Hyderabad, the capital of two states, i.e. Telangana and Andhra Pradesh. This research aims to critically examine the role of the internet and how it influences our health decisions and health choices among the educated and techno-savvy youth in Hyderabad. In other words, this study attempts to understand the internet influences on health implications, its changes in our everyday way of life, and our dependence on the internet.

Respondents include educated working professionals in various multi-national companies (MNCs) based in the Hitech City area and

Gachibowli in Hyderabad, including selected postgraduates and research scholars in the University of Hyderabad.

Since the nature of the study demands to explore the key motivating factors behind the usage of the internet for accessing personal health management information, an exploratory research design was considered for the study. This provides for exploring the extent and intensity of the influence of the internet on the psyche of youth in the context of their health issues. The study used primary data to address the research questions and understand the importance of internet health implications, uses, and changes in their daily lives. In this study, both primary and secondary sources were used.

As mentioned above, the unit of analysis of my study are 150 (one hundred and fifty) IT professionals, research scholars, and students' respondents, comprising of both women and men in the age group of 20-40 years old who are residing in Hyderabad. The primary sources include data collected from individual interviews,

case studies, observations and survey methods. Methods such as survey, case study (20 case study was collected) and individual interviews were used to collect the relevant information. The fieldwork started on April 4, 2012, spanning over two years.

Key Factors that are Motivating Educated Adult to Use the Internet for Personal Health Management Information

The analysis of the responses from 150 respondents shows that there is a trend of relying on online health information. The respondents have acknowledged that the usage of online health information is helpful for them to know what to do and what not to do in certain health conditions. The online information changes their perception of a health condition in a positive way. Accordingly, online health information is helpful to make changes in their lifestyle. For example, they are making modifications/changes in eating habits. Table 1.1 show the statistics of the responses of the respondents.

Table 1.1: Use of Online Health info for Different Health Choices and Decisions

Frequency	Dos and Don'ts		Make Changes in Lifestyle		Changes in Eating Habits		Make Changes in Prescriptions	
	Men	Women	Male	Female	Male	Female	Male	Female
Always	15	15	5	4	4	3	4	3
Sometimes	33	32	31	36	31	31	30	23
Rarely	14	12	20	10	10	16	16	19
Do not Know	9	0	13	10	11	7	7	5
No	10	7	12	9	25	12	24	19
Total	81	69	81	69	81	69	81	69

It can be seen from Table 1.1 that the majority of the respondents acknowledged that the online information on Dos and Don'ts with reference to health is helpful to make the right decisions. Further, they have also acknowledged that the internet positively influences their perceptions, lifestyle, and food habits. Contrary to this, a

considerable number of respondents have acknowledged that online health information is neither helpful for them to change their behaviour nor perception. Nevertheless, there is no significant difference between men and women respondents in both categories.

When it comes to the method of using online health information, most of the respondents acknowledged that it is handy to use. However, they acknowledged that they could not make meaningful decisions based on the information accessed from just one website. Instead, they usually cross-check by accessing similar

information from multiple websites before making a decision.

However, the surveyed internet users neither entirely depend upon the internet nor are fully satisfied with online health information. The information provided in Table 1.2 gives a detailed statistical picture of the same.

Table 1.2: Reliability, Satisfaction and Bias of Online Health Information

Frequency*	Reliability		Satisfaction		Bias	
	Respondents	Per cent	Respondents	Per cent	Respondents	Per cent
Always	17	11.3%	37	24.7%	6	4%
Sometimes	84	56%	67	44.7%	56	37.3%
Rarely	29	19.3%	26	17.3%	23	15.3%
Do Not Know	17	11.3%	10	6.6%	47	31.3%
No	3	2%	10	6.6%	18	12%
Total	150	100%	150	100%	150	100%

**Note: The categories given in the 'Frequency' columns in Tables wherever mentioned, were defined as the following: Always – more than 90 per cent frequency; Sometimes - 50 - 90 per cent frequency; Rarely – less than 50 per cent but not Zero per cent; Do Not Know - either do not want to give a response or they do not have knowledge about it; No – Zero per cent frequency.*

There seem to have two main reasons that contribute to why the respondents could not entirely rely upon and satisfy online health information, i.e.... One, the abundance of information which was often causing the user in a way that he/she feels like the information is incomplete. It feels like there is more to explore. For instance, one of the respondents shared his experience browsing for online health information for his diet plan; he said that he felt like there was more to read/know even after hour-long extensive reading on the subject. He opined that it is just because there is almost never-ending information available online on the topic.

Two, according to the opinion of another respondent, online information cannot rely upon every single time we go for it. This is because

there is an abundance of information available online, making it more complex to make a decision. Most importantly, there is contrasting and juxtaposing information on the same topic. The respondent cited the example of dengue fever and viral fever, which have similar symptoms but require different treatment in terms of the medicine and the diet process. So, it becomes challenging for a user to decide which piece of information is authentic and which one is not.

Similar trends were shown when the responses of the 150 surveyed respondents were analyzed concerning satisfaction with the online health information. The majority of them opined/expressed that the information available on the internet is informative, but people are often not wholly satisfied or convinced. However, a significant percentage of respondents were opined that they are always satisfied with the information, as shown in Table 1.2.

However, when it comes to the bias of online health information, the surveyed population is more on the side of saying it is not biased. Only a tiny percentage of the respondents said that online

information is always subjective concerning food consumption culture and obesity. Here the respondents find that information given reducing weight through a specific diet such as a keto diet or consumption of particular tea or combination of honey and other ingredients such as ginger and lemon could help balance weight. The information here works primarily as product placements and often conceal specific health hazard related to such practices. The detailed statistical analysis of the opinions of the respondents is given in Table 1.2.

Here it can be summarized that there is a certain degree of concordance between satisfaction and reliability. The informativeness of certain content on a medical issue increases the satisfaction level and the reliability of the source information, the internet content. Compared to the view that online information is biased, the argument that internet sources are satisfactory and reliable is more pronounced if not overwhelming. What influences the respondent's judgment is their fine sense of judgment since they benefit from education, which enables them to distinguish between which content or source is reliable. However, this does not mean that their knowledge is equivalent to the medical professional, and this is also indicative of instances where people are carried away by certain information which are not normatively true. On the flip side, this contributes to the formation of the perception that internet sources provide bias content.

Key Findings

From the above data analysis, a few points can be drawn to arrive at some understanding about the public's perceptions on seeking virtual information mainly related to health. The issues are as the following.

- A large section of the respondents has shown positivity towards the reliability and satisfaction of online health information. The

reasons could be multiple for their positivity, which needs further intensive research to unpack the ground realities.

- An overwhelming majority of the respondents acknowledged that they consider the internet as a learning tool as well as a networking tool as there is a huge possibility to explore and learn/get informed about much useful stuff specially related to health. The respondents considering it as a learning tool make sense because they have reliability and satisfaction with what the internet is offering concerning health in the first place.
- Though the respondents showed positivity on the available health information provided by certain health-related websites, they did not confine their enthusiasm to just that. They are open to exploring more in order to cross-check the already available information and learn more. They do not just confine to visiting popular websites for information but also explore alternative websites for the purpose of cross-checking. This means that most users have the habit of taking a second opinion as far as the health issues and online health information is concerned.
- Users highly care about their privacy but also show positivity towards online health info, which basically tells that the surveyed population think that websites they access for health information are secure with respect to personal privacy and provide reliable guidance to make decisions on health-related matters.
- Respondents did not show interest in discussing with doctors, people with similar health issues, or friends. But they preferred to cross-check the information by themselves by exploring more information that is available online. This situation, in a way, tells two things. One, vastly presence of health information

online is actually encouraging and empowering the user to explore until he/she is satisfied and convinced. Two, it gives privacy from making health issues public as online health information emerges as a potential option besides consulting doctors, experienced persons and friends and family.

- However, when they are ill, they inevitably depend on family and friends for help.
- It is found that there is little digital divide existing (in terms of possession and accessibility of computers and usage of the internet) despite wide diversity among the surveyed populations. Though the observation is actual in the context of the given surveyed population, more research in this direction can bring in stable and more reliable findings. However, it should be noted that the studied population is considered from the technologically happening localities, and as the survey moves farther to the technologically not happening places or localities, the findings may vary drastically.
- It is noted that the surveyed respondents are spending a significant percentage of time on seeing online health information from the total time spent on internet usage. This shows that internet users are well aware of their health.
- One more observation is that the trend of usage of online health information did not show considerable gender discrimination between men and women. Therefore, one can say that seeking online health information not only reduces the difficulties which may cause when seeking health information offline and works in a way that the gender gap is reduced while seeking health information online.
- In spite of the overwhelmingly positive response of internet social media in personal health decisions and choices making, there is

no direct evidence in the process and dynamics through which the health information seekers are influenced.

- In the light of these findings, it is noted that one should presume the above data regarding health information sought cannot be universally applied to all regions.

Conclusion

Therefore, to conclude, based on the analysis of the responses of the surveyed population, the perception of an average user towards seeking online health information can be interpreted as Nicola Bulled¹⁶, who suggested that these people seek health information online to gain greater control over their health care process. And thus, what can be said about the user here is a conscious and informed attempt to make meaningful health decisions without surrendering privacy and without spending much.

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by Vikhepu V

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