

POST-PANDEMIC HEALTH COMMUNICATION:

Adoption of digital technologies in health care by residents of Mumbai

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Abstract

Digitalization has become an important part of human lives that occurs in many fields, ranging from education to Health care. Digital technologies are one of the priorities in the development of the healthcare sector worldwide. During the COVID-19 pandemic, patients became more engaged about medical communication and used digital technologies than ever. Health professionals started using more online/digital platforms for providing prescriptions to the patients, checking patients' report. This paper is aimed at examining various forms of digital platforms on health care, which is used by patients for consultation with health professionals. This study is an exploratory observational study in which researcher conducted a semi-structured interviews in Mumbai suburban housing society. The objectives were to understand nature of health communication post pandemic, perception of family about health and which digital platforms they are using? How are digital platforms being helpful in day-to-day life? Study found that majority of respondents still using an online option of consultation with their doctors, pharmacy and lab investigation. The reasons for using digital platforms in spite of scope for physical outreach are time, money and energy savings. They visit hospital or doctor's clinic in emergency or on unavoidable situations. It was also found that some organizations who pays medical benefits to their staff, they also started collecting medical prescriptions via WhatsApp. The study emphasizes the importance of digital platform, time and health communication in post pandemic world. Majority respondent were satisfied with the digital platforms and would like to continue in the future. Among all digital platforms "WhatsApp" was most popular and used, which is still getting used in India. The respondents had significant impact by the use of digital platforms. Although some respondents showed concern related to data privacy. This also indicate shift from oral, face to face communication to mediated digital communication in Asian societies.

Key words: Health communication, Post Pandemic, Covid-19, digitalization, health care, Post pandemic, Mumbai

INTRODUCTION

The COVID-19 pandemic, like all global crises in human history, caused unprecedented health and economic disruptions in many countries. However, at the same time, this new situation is favouring the transition to digital solutions in many industries and in society as a whole. One example of this transition is education (Robbins et al 2020); this entire sector, from primary schools to universities, has developed new strategies for teaching remotely, shifting from lectures in classrooms to live conferencing or web-based courses (Gewin V.2020). Similarly, health care organizations have responded to the COVID-19 pandemic through the rapid adoption of digital solutions and advanced technology tools. During a pandemic, digital technology can mitigate or even solve many challenges, thus improving health care delivery.

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Digital tools have been applied to address acute needs that have arisen as a direct or indirect consequence of the pandemic (eg, apps for patient tracing, remote triage emergency services). However, many of the solutions that have been developed and implemented during the emergency could be consolidated in the future, contributing to the definition and adoption of new digital models of care. The pandemic has shifted the values and lifestyles profoundly, which has deep and widespread effects on both people and sustainable growth. The widespread economic and social shutdown resulted in reduced ecological impact by cutting downscaling that enabled people to decouple business. To counterbalance the gloom of the global pandemic, one dim light shows how data and digital technologies may be used to enhance hope for the future (Horgan et al., 2020).

Digitalization has had a significant impact on global social and economic activity. Information processing through the central route takes place when the recipient evaluates a persuasive message based on critical thinking about the message content (Naryoso, Febriyani, & Kaloka, 2021). Due to the rapid expansion of the Internet, computers, laptops, tablets, and smartphones during the past two decades, we now live in a "digital" or "virtual" world. People nowadays are able to have new types of communication in order to maintain connections with others. In the wake of the coronavirus shutdown, all the digital platforms and social media were aware of the rise in people's usage of online tools because of the unprecedented digital activity of the population. Communication technologies (particularly the internet) may have a tendency to bridge or disconnect people depending on the circumstances. In face-to-face encounters, a greater number of nonverbal social signals like facial expressions, voice, and touch aid us in conveying information. Because online communication lacks these indications, it results in a more impersonal exchange of information. (Ashiqha Sultana 2021)

The last two decades have witnessed a trend towards diverse technological changes, not only in business, but also in public systems and on the individual level (Brem et al., 2021; Jafari-Sadeghi et al., 2021). In 2020 and 2021, Covid-19 has been like a storm that led to scaling-up of technological changes and fueling digital entrepreneurship in many parts of the world to address different challenges (Iivari et al., 2020; Secundo et al., 2021). Even in established businesses, the ones those invested in digital operations before Covid-19 fared better than those that did not opt for digital transformation (Volberda et al., 2021; Zahra, 2021). In fact, for many companies today, the continuity of their business depends strongly on their digital capabilities (Datta and Nwankpa, 2021). Even governments are encouraging and moving towards digital innovation and the adoption of new technologies to help the environment and develop new ecosystems (Bai et al., 2021). These digital ecosystems embrace

the requirements of digital labor and bots, and the Covid-19 pandemic has accelerated this shift towards greater automation (Brem et al., 2021).

Before the COVID-19 pandemic, it was expected that digital transformation in health care would have been as disruptive as that seen in other industries. However, as stated by Hermann et al. 2018 “despite new technologies being constantly introduced, this change had yet to materialize”. It appeared the spread of COVID-19 has finally provided an ineludibly sound reason to fully embrace the digital transformation. Moreover, simulations show that many countries will probably face several waves of contagions and new lockdowns will probably occur. (Kissler et al. 2020). Therefore it becomes necessary to review the digital technologies that have been used during the emergency period and possibly consider them for continued use over time or cyclically in the event of recurring outbreaks.

Digital Healthcare

Digital health technologies and digital health interventions such as smartphone apps and wearable technologies can transmit data to health care providers. These technologies have enormous potential to improve care, offering patients, providers, and caregivers greater access to and information about illness management, treatment monitoring and medication adherence, and outcomes for a breadth of various conditions. (Batra et al. 2017)

A. Diagnostics

Covid-19 impacted the healthcare sector the most, thus offering opportunities for digital entrepreneurship in this sector. From medicine and vaccine manufacturers to labs, pharmacies, and hospitals, each stakeholder is compelled to innovate (Jnr, 2020). Most healthcare operators have to be quick during Covid-19 to stay relevant. Sometime there is a large gap between the actual incidence of Covid-19 cases and the reporting, so technology-driven solutions such as AI and machine learning can speed up the process of clinical diagnosis and offer opportunities for digital entrepreneurship.

B. Virtual care

Virtual care focuses on services in terms of interactions with healthcare professionals and online consulting with clinicians. This sector offers significant potential to address the issues of healthcare accessibility. Improved management of a disease requires monitoring of the acute condition and daily routine. This is used to design better care for patients in their homes. During Covid-19, the government placed great emphasis on telemedicine and witnessed a significant reduction in consultation time and greater efficacy through different

digital platforms (Janssen et al., 2018). Telemedicine platforms are quite popular where well-qualified practicing clinicians are used and patients also have the option of getting a consultation from a selected clinician (Schiavone et al., 2021). Virtual care platforms are further integrated with e-pharmacies, where in one click patients and customers can order medicines after a prescription is verified.

C. WhatsApp-An Overview:

During the initial days of Covid-19, people were spending a total of 15 billion minutes on WhatsApp daily. However, after the lockdown, and closure of workplaces and educational institutions, this usage remarkably increased (Andjelic 2021). By the end of March 2021, 54.0% of WhatsApp are millennials, and more than a third (36.0%) of WhatsApp are baby boomers (Bucher 2020). Likewise, as internet penetration remarkably increased (11 million) between 2019 to 2020, the number of WhatsApp users also increased by 9.6 (6.2%) million from January 2019 to January 2020 (Kemp 2020).

Post-pandemic health communication has transformed into a dynamic and responsive approach that draws on the lessons learned during the COVID-19 crisis. With an emphasis on trust, transparency, and empathy, this new era of communication aims to provide accurate, actionable information to the public while addressing emerging health challenges. It recognizes the importance of striking a balance between providing essential information and preventing information overload, ensuring that individuals can make informed decisions about their health. By incorporating digital tools, community engagement, and a hybrid approach that blends online and in-person interactions, post-pandemic health communication seeks to build resilience, foster behavioral changes, promote mental health awareness, and prepare societies for future health crises. This communication paradigm emphasizes the power of collaboration, adaptable strategies, and a human-centered approach to facilitate informed choices and promote overall well-being.

Material and methods

This study was conducted through a web-based survey. The data collection was facilitated by the use of questionnaire posted on the Google Forms platform (<https://www.google.com/forms>). The survey questionnaire was sent by email and Whatsapp. To examine the research questions regarding “Adoption of Digital Technologies in Health Care by residents of Mumbai”, in this study a well-designed online questionnaire was validated by 30 residents from Mumbai. This study sought to investigate the trajectory of technology adoption in the monitoring , treatment and various other options in the healthcare.

The questionnaire was sent to 40 respondents and received responses from all 40 but researcher removed 10 responses as they were incomplete.

Results and discussion

This study shows a positive shift towards technological advancements that are mainly focused on digital/ online health care services during and after pandemic. Survey was carried out among 30 Indian citizens from Mumbai, both male and female, who belong to different age groups. This particular study explains that the younger generation is highly inclined to the digital communication technologies emerged in high degree due to the pandemic and it continued post pandemic. Of the 30 respondents who participated in this study, 70% respondents were employed, 17% home maker , 10%student, whereas one respondent with master degree was unemployed post covid.

Table 1 Sociodemographic characteristics of the respondents

Demographic variables		Frequency (N = 30)	Percentage
Gender	Male	18	60.0
	Female	12	40.0
Age	25-34	7	23.3
	35-44	10	33.3
	45-54	11	36.7
	55 and above	2	7.0
Education Level	Senior Secondary	3	10.0
	Bachelor's Degree	8	26.7
	Master's Degree	14	46.7
	Master's Degree & above	5	16.7
Employment	Student	3	10.0
	Unemployed	1	3.0
	Employed	21	70.0
	Home maker	5	16.7

Majority (27 of 30) respondents used any digital health technologies (mobile apps, telemedicine, wearables, etc.) since the COVID-19 pandemic began while 3 have not used any.

Table 2 Digital health technologies used by respondents

Nature of technologies	Frequency (n=30)
Health monitoring apps	16
Telemedicine consultations	11
Prescription refill apps (Online Pharmacy)	11
Wearable fitness trackers	11
Online health forums	10
Others	3

Majority of respondents used health monitoring applications whereas other used telemedicine, pharmacy and wearable fitness trackers.

Table 3 Participants' response frequencies of the five-level Likert scale question about satisfaction with digital health technologies (N = 30)

Likert Scale	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Responses	5	18	4	2	0

Table 4 Factors influenced respondent's decision to use digital health technologies

Reasons for usage of digital technologies	Frequency (n=30)
Convenience	20
Reduced need for in-person visits	14
Safety concerns related to COVID-19	16
Availability of remote consultations	12
Better access to healthcare information	14
Recommendations from healthcare professionals	9

Table 5 Respondent's response frequencies of the five-level Likert scale question about satisfaction with digital health technologies (N = 30)

Likert Scale	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Satisfaction with Digital Technologies in Health care	9	15	6	0	0

Table 6 Respondent's response on channels for health-related information

	Frequency (n=30)
Official government websites	25
Healthcare provider websites/apps	13
Social media platforms (Facebook, Twitter, etc.)	8
News websites	13
Health-focused mobile apps	10
Online forums/communities	5
Others	2

What improvements would you suggest for enhancing post-pandemic health communication through digital technologies? Out of 30 only 21 responded as they are satisfied. Some specific responses are as :A responders found as “Refer to official government websites as many people tend to spread false information”, “Remote digital access from health care professionals” whereas other said “Validate and share only authentic news for betterment”. It was experienced by a respondent as “More informative, detailed analysis and feedback on pre, post occurrence of health conditions along with precautionary steps and health care tips”.

One respondent expressed view as “ Sustainability of these platforms and applications, integration of in person and teleconsulting data and ehr-emrs. Right now two are still in separate platforms clouds servers or databases and are disaggregated. To know my medical history in the covid interim. Period my physician has to ultimately rely on

patient or caregiver history. Which is useless and a waste During covid, in tele consults, my past medical history and records from medicine and medicinal history was not integrated and had to be given or relayed to the physician by the patient or caregiver, again was useless as it was not efficient and or foolproof. At the end of the day none were integrated to insurance making claims the cost nightmare”

A respondent never experienced anything and wrote as “I haven’t had any experience bout digital communication so cannot suggest any now”

Some respondents found it as “Leverage the power of social media to communicate about health related issues, especially mental health” and “Digital prescription(paperless)”

Others have respondent as “Counselling and upto date knowledge should be given to public in advance”, More authentic and relevant information.

A respondent shared that “I do hope they continue with their work with genuine concern for the community and only if required use digital consulting, otherwise a face to face if possible is always a better option”. Others found it as “Awareness to be more authentic”, “It's really nice but can be made better” Used for Herbal. Ayurveda. Homeopathy, Day to day Health updates.

A respondent showed concern that “Some control on social media to communicate about health-related issues, especially mental health”.

Future Preferences and Concerns Regarding Digital Health Technologies

In this section, responses received from 19 respondents regarding their future preferences and concerns related to the usage of digital health technologies post-pandemic. The respondents were asked to share their thoughts on various aspects of these technologies.

Usage of Digital Health Technologies:

- 90% of respondents reported using various digital health technologies following the pandemic.

Privacy Concerns:

- Data privacy emerged as a significant concern among respondents.
- Concerns included the sharing of personal health information with third parties.
- Some respondents expressed concerns about receiving unwanted advertisements and suggestions.
- One respondent mentioned apprehensions about their health data being stored and potentially supplied to third parties.

Reliability and Information Overload:

- 50% Respondents raised concerns about the reliability of digital health technologies.
- Some felt overwhelmed by the abundance of health information, which can vary depending on an individual's body type.
- Dependencies on these technologies were also mentioned as a concern.

Integration and Accessibility:

- Several respondents highlighted issues related to the lack of seamless integration among different platforms and applications.
- Concerns regarding access to one's medical and treatment records, which might be dispersed across various platforms, were expressed.

Data Safety and Security:

- Data safety and security were prominent concerns, indicating the importance of safeguarding health-related information.

Relevance and Authenticity:

- Some respondents questioned the authenticity of information provided by digital health technologies.
- Others emphasized the importance of relevance in the context of their specific health conditions.

Challenges in Diagnosis:

- Respondents acknowledged that digital health technologies may not always provide accurate diagnoses, particularly in cases of infections or serious health conditions.
- Diagnosis accuracy was noted as a challenge that can vary depending on the individual and the specific health issue.
- While many respondents expressed interest in using digital health technologies, their concerns related to data privacy, reliability, and integration should be considered in the development and implementation of these technologies.

The study had a question- Would you be willing to pay for premium digital health services or features? 55% agreed to pay and 45% denied.

Positive Experiences:

- 60% Respondents expressed that they believe digital health technologies allow them to keep track of their physical activity, they had more exposure to health knowledge, possibly due to increased access to health-related information through digital means.
- Easy access to medical consultation for certain conditions was cited as a positive aspect of digital health technologies.

Mixed Experiences:

- One respondent mentioned that they had a positive experience with online doctor consultation during the pandemic but emphasized that it was essential to get a physical checkup afterward for a skin problem.
- The reliability of digital health technologies was questioned by some respondents, suggesting a need for improvements in this area.

Limited or No Experiences:

- 30% respondents did not have any personal experiences to share regarding digital health technologies or post-pandemic health communication.

In summary, respondents highlighted both positive and mixed experiences with digital health technologies. While some appreciated the convenience and access to health knowledge, others expressed concerns about reliability. It's clear that digital health technologies have played a role in post-pandemic health communication, but there may be room for improvement in ensuring reliability and effectiveness. Further discussions and research on this topic may be valuable.

Post-Pandemic Use of WhatsApp in Healthcare

In this section, survey respondents were asked to answer questions about the WhatsApp uses as one of health digital platform. In response of question- Have you noticed a change in your use of WhatsApp for healthcare-related purposes since the pandemic? 66.7% agreed that there is change in use of WhatsApp post pandemic while 33.3% have not noticed. The reasons for uses of WhatsApp post pandemic are as follows:

Table 7 Respondents response on WhatsApp uses

1	Increased communication with healthcare providers	14 (58.3%)
2	More frequent receipt of appointment reminders	9 (37.5%)
3	Sharing health-related updates with family/friends	7 (29.2%)
4	Greater reliance on WhatsApp for medical advice	7 (29.2%)
5	Active participation in health support groups	6 (25%)

Benefits of Whatsapp uses in healthcare in post pandemic

It was found that respondents were much comfortable using WhatsApp in health care. 55.5% respondents find it for improved health care, 52% for prompt communication with health care professionals.

Challenges and Concerns

About one third of the respondents had some concerns or challenges to be shared whereas rest did not have any concern and challenges. Half of the respondents would like to continue using WhatsApp and half respondents was not sure about it.

Desired Improvements or Features for WhatsApp in Healthcare (18 Responses):

1. Nothing: One Response
2. Upgrade Privacy Related Issues: One respondent who want WhatsApp to enhance its privacy features
3. Not Sure: Four respondents who were unsure about specific improvements.
4. Source of Information: Two respondents who suggested improvements related to the source of healthcare information.
5. Sharing and Broadcasting Controls: One respondent who highlighted the need for controls to prevent the sharing of fake and forwarded information.
6. Storage and Integration of Medical Information: One respondent who want better storage and integration features for medical information.
7. Inbuilt Fact Checker: One respondent who mentioned the desire for an inbuilt fact-checking feature.
8. Video Content for Common Illnesses: A respondent who suggested the inclusion of video content for common illnesses.

9. Generic Substitute Information: One respondent who emphasized the need for information on generic substitutes for expensive medicines.
10. Call Verification for Spam: Two respondents who suggested a feature similar to True caller to verify calls for spam.
11. Alarm Clock: One respondent expressed who mentioned the desire for an alarm clock feature]
12. Data Privacy: four respondents who emphasized the importance of data privacy.

Frequency of WhatsApp uses

40% respondents use WhatsApp very frequently, 55% frequently and 5% rarely.

Awareness of healthcare institutions who provides medical services via WhatsApp- 75% are aware, 10%not sure, 15% not aware of any

WhatsApp for official medical services

64.3% respondents have used medical services via WhatsApp whereas 35.7% have not used any and the reasons for using are as follows:

1. Easy Consultation with the Doctor: Five respondents who found it easy to consult with a doctor using WhatsApp.
2. No Response: Two of respondents who did not provide a clear response.
3. Ease of Connectivity and Faster Resolution: One respondent who highlighted the ease of connectivity and faster issue resolution.
4. Tele consults, Prescriptions, and Discussions: Three respondents who mentioned engaging in teleconsultations, receiving prescriptions, and having medical discussions.
5. Easy Contact: Six respondents who found it easy to contact medical professionals.
6. Consultation and Recovery: Six respondents who reported using WhatsApp for consultations and experiencing recovery
7. Sessions with Psychologist: One respondent who had WhatsApp sessions with psychologists and found it convenient and timely.
8. Family Physician Communications: [Number of respondents who used WhatsApp for communication with their family physician]
9. Sharing Reports with Doctors: Eight respondents who mentioned sharing medical reports with doctors.

10. Skin Care Consultation: One respondent who consulted with a skin specialist through WhatsApp and found it helpful.

11. Convenience and Timeliness: Majority of respondents who emphasized the convenience and timeliness of using WhatsApp for medical services.

This information highlights the positive aspects of using WhatsApp for healthcare communication and its various applications in medical services during the post-pandemic period in India. **Majority 90% of respondents agreed on ease of connectivity and faster resolution**

45.8% respondents found that whatsapp uses in medical service is much more effective, 37.5% somewhat more effective, 9% were not sure

Future of Medical Services via WhatsApp

Respondents' visions for the future of official medical services delivered through WhatsApp and their desired improvements or additional features, 19 responses received as follows:

1. Global Specialist Consultation: One respondent who envisioned WhatsApp allowing patients to consult specialist doctors worldwide. Suggestion for a medical/healthcare feature for easy access to health professionals.
2. Privacy Concerns: One respondent who expressed concerns about privacy issues but generally found the concept good.
3. No Response : Four respondents who did not provide clear responses.
4. Safety, Security, and Identity Confidentiality: Two respondents who prioritize safety, security, and identity confidentiality in future medical services on WhatsApp.
5. Discontinuation (Hope for Discontinuation): Three respondents who hope for the discontinuation of medical management or teleconsultations on WhatsApp, expressing that it's not a suitable platform for such services.
6. Video Calling Feature: One respondent who expects the inclusion of a video calling feature.
7. Quick Service: Two of respondents who anticipate quick and efficient service in the future.]
8. Accessibility and Coverage: Five respondents who expect WhatsApp to become more accessible to all, with expanded coverage in remote areas and guidance for app usage.
9. No Comments: Three respondents who did not provide specific comments.
10. Nothing in Particular: Two respondents who did not specify any particular expectations.
11. No Idea: One respondent who has no specific ideas about the future of medical services on WhatsApp.

12. Potential for Improvement: One respondent who see potential for improvement in WhatsApp's role in healthcare.]

Future of Medical Services via WhatsApp

Here are potential limitations and challenges that might arise as the use of WhatsApp for official medical services becomes more widespread:

1. **Leaking of Confidential Health Information and Data:** Three Respondents expressed concerns about the security of confidential health information and data when transmitted through WhatsApp, potentially leading to data breaches.
2. **Preference for Online Consultation vs. Physical Consultation:** Some individuals may prefer online consultation over physical visits to healthcare providers, which could have implications for the quality of care and the potential for misdiagnosis.
3. **Scams:** One Respondents mentioned the possibility of an increase in healthcare-related scams as the use of WhatsApp for official medical services becomes more common.
4. **Identity Theft:** Easy access to personal information through potential data leakage could lead to identity theft.
5. **Legal and Data-Related Concerns:** Challenges related to legal compliance, data security, confidentiality, data leaks, and sharing of data without consent may arise.
6. **Communication Gap:** There is a possibility of miscommunication or gaps in communication when using WhatsApp for official medical services, which could affect the quality of care.
7. **Server Downtime:** Respondents noted that if WhatsApp servers experience downtime, it could pose problems for emergency cases that rely on the platform.
8. **Privacy Concerns:** Privacy concerns regarding the handling of personal health data and information on WhatsApp were raised as a potential limitation.
9. **Uncertainty about Data Privacy:** Some respondents expressed uncertainty about the privacy of their data when using WhatsApp for medical services.
10. **Reduced Effort for Physical Consultation:** While WhatsApp can be beneficial for bedridden patients, it may discourage some individuals from seeking physical consultations, potentially impacting their overall health.
11. **Usefulness:** Some respondents simply mentioned that WhatsApp could become very useful in the future, without specifying potential limitations.
12. **None:** A few respondents did not identify any limitations or challenges.

It's important to note that these concerns highlight potential issues that need to be addressed as WhatsApp and similar platforms are increasingly used for official medical services. Ensuring data security, privacy, legal compliance, and effective communication will be critical in overcoming these challenges and maximizing the benefits of telehealth services through WhatsApp.

CONCLUSION

This study found that majority of respondents are satisfied with the digital technology and would like to continue in the future. They also showed concern related to privacy /security issues of data used by various applications provider company. The rapid and significant influence of the COVID-19 pandemic is accelerating the adoption of digital solutions. It is advisable to monitor the current ideas and proposals to establish effective practices and care models for the future. Utilizing the momentum generated by the ongoing crisis, it is worthwhile to implement certain solutions suggested in scientific literature, particularly within national health systems that have historically shown resistance to digital transitions. This proactive approach prepares us for potential future national and international emergencies.

In conclusion, the concerns raised by users regarding the potential invasion of privacy in health telecare services in Mumbai shed light on the crucial need for technological advancements to ensure a secure and confidential environment. The apprehension surrounding privacy underscores the importance of developing a 100% safe telecare application that guarantees the protection of sensitive health information. Additionally, implementing measures such as conducting virtual consultations in a closed room without the presence of third parties, mirroring the privacy protocols followed in face-to-face clinics, could further enhance the trust and recommendation of health telecare services.

Addressing the second concern voiced by users, it becomes evident that the perceived limitations in remote diagnoses may impact the overall quality of care provided through telehealth platforms. To bridge this gap, it is essential to consider the incorporation of extra diagnostic devices for special cases, ensuring that doctors can comprehensively perceive the symptoms of the disease in the patient. Furthermore, introducing the concept of mobile clinics or designated safe spaces where patients can visit for in-person consultations, protected against the risk of contagion, would serve as an alternative solution. This hybrid approach can enhance the effectiveness of health telecare services, offering a flexible model that accommodates both remote and in-person care based on the specific needs of the patient and the nature of the

medical condition. In doing so, the telehealth system can evolve into a more holistic and patient-centric healthcare solution, addressing both privacy concerns and the perceived limitations in remote diagnostics.

Research limitations/implications

It is crucial to acknowledge the limitations of the research data collection conducted in a specific Mumbai housing society, where all residents have access to the internet and smartphones. While the findings provide valuable insights into the perceptions and experiences of this particular demographic, it's important to recognize that these results may not be representative of the entire population of the country.

The homogeneity of the sample, characterized by a shared socioeconomic status and access to technology, could potentially limit the generalizability of the study's conclusions to a broader and more diverse population. Therefore, caution should be exercised when attempting to apply these findings to different segments of society with varying levels of technological access, economic status, and cultural backgrounds.

To address this limitation, the researcher expresses the intention to extend the study in the future. By broadening the scope of the research to include a more diverse range of participants from various socioeconomic backgrounds and geographical locations, the study can aim for greater external validity. This expansion will enable a more comprehensive understanding of how health telecare services are perceived and utilized across different demographic groups, contributing to a more nuanced and representative body of knowledge. It is crucial for researchers to recognize the context-specific nature of their initial findings and take steps to enhance the study's applicability to a wider population in future research endeavors.

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