

Study of Awareness and Acceptability of Telemedicine Portals in India

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Abstract

The purpose of the study was to understand the level of awareness and acceptability of telemedicine portals in India. In the methodology, both government and private portals were considered. The survey instrument was a questionnaire and 112 respondents were surveyed in the study. The questionnaire was quantitative in nature. The results showed that while most of the consumers used smartphones, there was limited awareness and acceptability for the telemedicine portals. The study offers opportunity to the telemedicine portals to create awareness and gain acceptability in the market.

Keywords: telemedicine, awareness, acceptability, portal

Introduction

Telemedicine, a term that has gained prominence in recent years, represents a transformative approach to healthcare delivery. It leverages modern technology to bridge the gap between healthcare providers and patients, enabling remote consultations, diagnosis, treatment, and monitoring. As the world grapples with the challenges posed by limited access to healthcare, increasing healthcare costs, and the need for more efficient healthcare delivery, telemedicine emerges as a promising solution. Telemedicine, often used interchangeably with telehealth, encompasses a range of healthcare services delivered remotely through electronic communication channels. This can include video consultations, phonecalls, secure messaging, and the exchange of medical data and records over the internet. Telemedicine employs various technologies, such as videoconferencing, mobile apps, wearable devices, and electronic health records (EHRs), to facilitate healthcare interactions between patients and providers.

Advantages of Telemedicine

Increased Access to Care: Telemedicine provides great help in breaking down the geographical barriers and allows patients to access healthcare services from any location. This is highly beneficial for the citizens of rural or underserved areas in India who have very limited access to medical facilities.

Convenience: Telemedicine provides the convenience to patients of meeting their doctors without travelling to a physical healthcare facility, saving them time and money. This is particularly valuable for individuals with mobility issues, busy schedules, or those who live far from medical facilities.

Reduced Wait Times: In traditional healthcare settings, patients often face long wait

times for appointments. Telemedicine can reduce these delays, enabling patients to receive timely care and medical advice.

Cost Savings: Telemedicine is cost-effective for both patients and healthcare providers. Patients get to save the transportation cost and potentially avoid emergency room visits for non-emergency issues, which are often costly. Healthcare providers can save on administrative costs and overhead expenses.

Improved Monitoring: Telemedicine allows for continuous monitoring of patients with chronic conditions, such as diabetes or hypertension. Remote monitoring devices can transmit data to healthcare providers, enabling timely interventions and reducing the risk of complications.

Specialist Access: Telemedicine makes it easier for patients to consult with specialists who may be located far away. This is especially beneficial for rare or complex medical conditions where expertise is limited. For instance, it's easier to access mental health services through Telemedicine as it enables individuals to receive care in the privacy of their own homes as which also helps them in avoiding stigma associated with mental health. Moreover, increased adoption of telemedicine services has been observed for treating a variety of mental health disorders, such as anxiety, depression, substance use disorders, and others efficiently and effectively, especially after the pandemic.

Prescription Refills: Patients can easily request prescription refills through telemedicine, avoiding the need for an in-person appointment for routine medication management. Many telemedicine platforms provide the facility to individuals where they can manage, refill and transfer their prescriptions easily online.

Enhanced Follow-Up Care: Telemedicine facilitates follow-up care after hospital discharges or surgical procedures, ensuring that patients receive the necessary post-treatment support and monitoring.

Reduced Exposure to Illness: Especially during pandemics or outbreaks, telemedicine minimizes the risk of exposure to contagious diseases by reducing the need for in-person visits. According to the All India Institute of Medical Sciences (AIIMS) New Delhi director, in 2020 during the pandemic, the government increasingly used telemedicine to prevent exposure of doctors on COVID-19 duty with patients.

Patient Engagement: Telemedicine often leads to increased patient engagement in their healthcare. Patients have easier access to their medical records, test results, and can actively participate in virtual consultations.

Healthcare Integration: Telemedicine can be integrated into electronic health records (EHR) systems, which help the healthcare professionals in accessing patient information and provide coordinated care.

Emergency Consultations: In emergencies, telemedicine can provide quick access to medical professionals who can assess the situation, offer guidance, and determine if a physical visit is necessary.

Health Education: Telemedicine platforms often offer educational resources and tools to help patients better understand their conditions and make informed healthcare decisions. Face-to-face contacts are time-consuming and expensive in the long run, which can be avoided through telehealth education. Virtual education materials that

include, health-related surveys, and prescription reminders are beneficial to patients. After completing a virtual training program, patients with diabetes, for instance, exhibit significant changes in fasting blood sugar, average glucose control, and postprandial glucose levels.

Review of Literature

India Telemedicine Market: Overview

The telemedicine market in India has displayed steady growth and was expected to continue expanding. Factors such as increased internet penetration, absence of good doctors and medical specialists in rural areas, Strategic Expansion by global players, Government Initiatives, and the COVID-19 pandemic's impact on healthcare delivery accelerated this growth. According to the report published by NITI Aayog in 2021, the India Telemedicine market was valued at US\$ 142 million in 2015 and is anticipated to be valued at US\$ 5,410 million (nearly US\$ 5.5 billion) in 2025 with a CAGR of 31% during 2020 to 2025.

Government Initiatives

Indian government had initiated several measures to promote and regulate telemedicine in the country. Below mentioned are some of the government initiatives taken by the Government to support the telemedicine services in India.

- **Telemedicine Practice Guidelines:** In March 2020, the Ministry of Health and Family Welfare in India issued the "Telemedicine Practice Guidelines." These guidelines provided a regulatory framework for telemedicine services in the country. They outlined the legal, ethical, and technical standards that healthcare providers and telemedicine platforms should adhere to while offering teleconsultation.
- **National Digital Health Mission (NDHM):** Launched in August 2020, the NDHM is a comprehensive initiative aimed at creating a unified digital healthcare ecosystem in India. It includes the creation of health IDs for citizens, the development of personal health records (PHR), and the promotion of telemedicine services.
- **Telemedicine Helpline:** In November 2019, eSanjeevani, the telemedicine initiative of Ministry of Health, was launched by the Ministry of Health and Family Welfare. Later, the second iteration, eSanjeevani OPD, was launched on April 13, 2020, during the first lockdown when all OPDs across the nation were shut down. Furthermore, in February 2023, eSanjeevani app was also launched by the Ministry of Health and Family Welfare (MoHFW). According to the Ministry of Health and Family Welfare (MoHFW) around 13,91,61,458 teleconsultations have been carried out up till 19th July, 2023.
- **Launching new programs:** The Union government launched a "National Tele Mental Health" program (NTMHP) in the union budget (2022–23), taking into account the effects of the Covid-19 pandemic on citizens' psychological and emotional health. The National Institute of Mental Health and Neurosciences (Nimhans) will serve as the program's nodal centre, and IIIT Bangalore will provide technical support. The initiative will include 23 telemental health centres. The NTMHP also plans to integrate tele-mental

health services with other government-run health-related programs and services, such as the e-Sanjeevani platform and the Ayushman Bharat Digital Mission, which aim to nationalize the digitization of health records and services. Additionally, in April 2021, the government's Principal Scientific Advisor's Office introduced the "MANAS Mitra" smartphone app, which aims to promote people's mental wellbeing.

- **EHR Standards:** The government has been working on establishing electronic health record (EHR) standards to facilitate the sharing of patient information securely across the healthcare system. EHRs are crucial for maintaining patient records in telemedicine.
- **Telemedicine Adoption by Government Hospitals:** Several government hospitals and healthcare facilities have started integrating telemedicine services into their offerings. This includes the All India Institute of Medical Sciences (AIIMS) and various state-run hospitals.

Furthermore, in August 2021, the Government announced that it is planning to offer incentives in order to provide support to nearly 75 start-ups in the field of telemedicine, digital health and artificial intelligence.

Challenges and Disadvantages

Despite its benefits, telemedicine faced challenges in India, including issues related to digital literacy, internet connectivity, and access to smartphones or computers. Not everyone has equal access to telehealth services, particularly in rural areas.

- **Technology Barriers:** Some patients may lack access to the necessary technology or have limited digital literacy, which can hinder their ability to participate in telemedicine.
- **Security and Privacy Concerns:** The exchange of sensitive medical information online raises concerns about data security and patient privacy.
- **Licensing and Regulation:** Telemedicine often involves crossing state or international borders, creating regulatory challenges related to licensing and reimbursement.
- **Diagnostic Limitations:** In some cases, physical examinations and diagnostic tests are essential, making telemedicine less suitable for certain medical conditions.
- **Quality of Care:** The quality of care in telemedicine depends on the capabilities and training of healthcare providers, leading to variability in the patient experience.

Despite of all the challenges, the future of telemedicine market in India appears to be promising. Factors such as on-going technological advancements, expanding internet infrastructure, and increasing awareness about telehealth services were expected to contribute to its continued growth. The market was likely to evolve with innovations such as remote patient monitoring and integration with electronic health records (EHRs) to provide more comprehensive healthcare solutions.

Research Methodology

Design of the Study

An open, self-administered survey was created for collecting the data. The survey designed was through online channel. The survey was based for the urban population living in any state in India. The respondents were given the flexibility to complete the online survey on their own convenient time.

The survey comprised of 25 questions which were categorized into three parts. Part one focused on understanding the demographics characteristics of the respondents such as gender, age, education, income, and others. Part two was dedicated to understand that how difficult for the respondents to procure medical services in their busy schedules and if they would prefer having an option of procuring medical services from their homes. Part three represents the most important aspects of the study, where the questions were designed to understand the consumer perspective associated with the telemedicine services and determine the brand awareness for different telemedicine platforms available in the India market including public and private telemedicine platforms. Moreover, part three of the survey also focused on comparing the consumer preferences for public telemedicine services and private telemedicine services.

The survey took nearly 8 to 10 minutes to complete and included basic question formats such as likert scale, multiple choice questions and binary (yes or no) questions. The respondents faced no significant challenges while filling the survey.

Sampling

The technique used for sampling in the study is Random Sampling. Since random sampling is the statistical method used to choose a portion of people or things from a bigger population so that each person or thing has an equal probability of being included in the sample. Obtaining a representative, unbiased sample that accurately reflects the characteristics of the complete population is the main reason for using random sampling for this study.

A sample size of 112 urban citizens pan India was chosen for conducting the survey. The participants were informed before starting the survey that all data collected would be used solely for research purposes and the participation was voluntary. Additionally, none of the participants were reimbursed for completing the survey.

Collecting the Data

Since, Google Forms provides a user-friendly interface for creating and conducting surveys, making it a popular choice for various research, feedback, and data collection purposes. Hence, the survey was conducted online by creating a questionnaire on Google forms. The survey was open and accepting responses from July 20th 2023 to September 20th 2023. The responses were automatically collected through Google forms.

Results

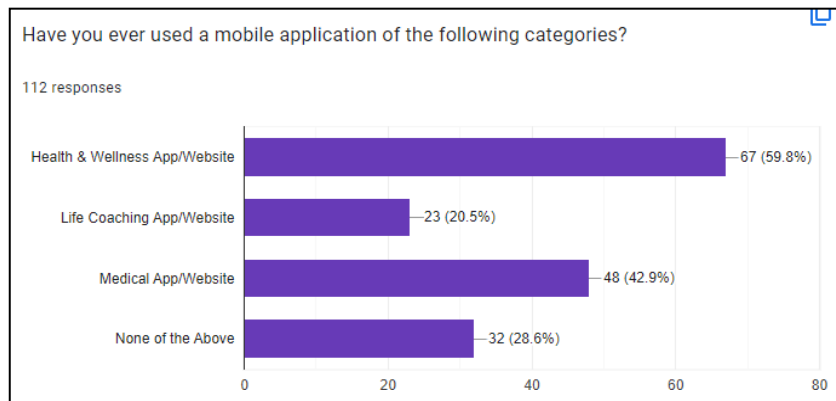
Respondent Demographics and other Characteristics

Around 112 respondents completed the survey, out of which 56.3% (n=63) were men and 43.8% (n=49). Majority of respondents, 38.4% (n=43), belonged to the age group 26 – 34 years, 29.5% (n=33) belonged to the age group 18 – 25 years, 16.1% (n=18) were between age 35 – 44 years, 14.3% (n=16) belonged to the age group 45 – 54 years, while

the remaining 1.8% (n=2) were of age 55 and above. Considering education level, majority of respondents, 61.6% (n=69) were post-graduates, 33.9% (n=38) respondents did graduation, 2.7% (n=3) were PhD holders while remaining 1.8% (n=2) were high school graduates. Most of the respondents, 25.9% (n=29) are earning INR 51,000 to INR 1,00,00 per year, 25% (n=28) earn INR 1,00,000 and above monthly, 17.9% (n=20) respondents are earning INR 30,000 to INR 40,000 per month, 16.1% (n=18) are earning INR 30,000 and below, whereas the monthly income of remaining 15.2% (n=17) respondents is INR 41,000 to INR 50,000.

Furthermore, all the respondents, 100% (n=112), use smartphones out of which 71.4% (n=80) strongly agreed that they are familiar with using mobile applications, 23.2% (n=26) agreed for the same, while 4.5% (n=5) opted to be neutral. Just 0.9% (n=1) respondent disagreed on the familiarity of using the mobile application. Furthermore, the respondents were also asked if they have used health based applications and 59.8% (n=67) have used Health and wellness based apps, 42.9% (n=48) have used Medical Apps, while 20.5% (n=23) have used life coaching Apps. However, 28.6% (n=32) of the total respondents have never used any healthcare based app.

Figure 1: Using Healthcare based App/website



Respondents' Opinion on Seeking Medical Help

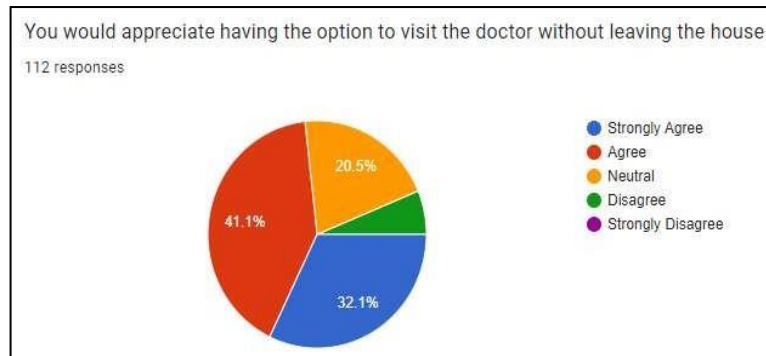
Out of 112 respondents, 46.4% (n=52) agreed and 19.6% (n=22) strongly agreed that they have busy schedule which makes it difficult for them to visit doctor. 21.4% (n=24) chose be neutral about it, while 8.9% (n=10) disagreed and 3.6% (n=4) strongly disagreed that they have a schedule which makes it difficult for them to visit the doctor

Figure 2: Opinion on Visiting the Doctor



41.1% (n=46) agreed and 32.1% (n=36) strongly agreed that they would appreciate having the option to visit the doctor without leaving the house. 20.5% (n=23) chose to be neutral about it, while remaining 6.3% (n=7) disagreed and would be less likely to prefer having the option to visit the doctor without leaving the house.

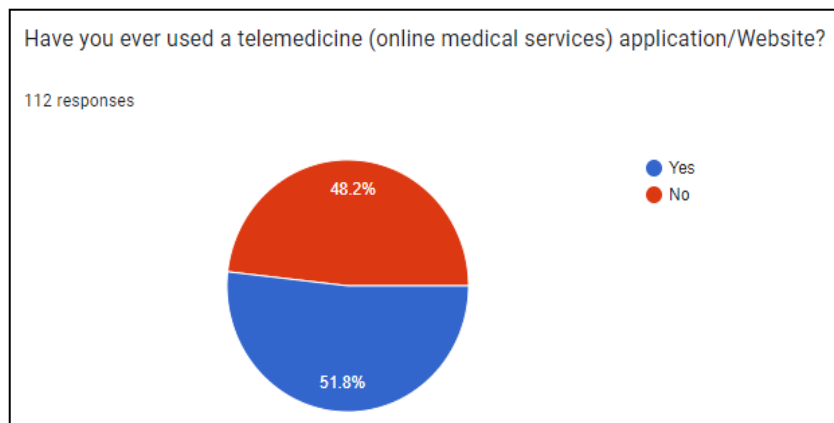
Figure 3: Opinion on having the option to visit the doctor without leaving the house



Adoption of Telemedicine Services

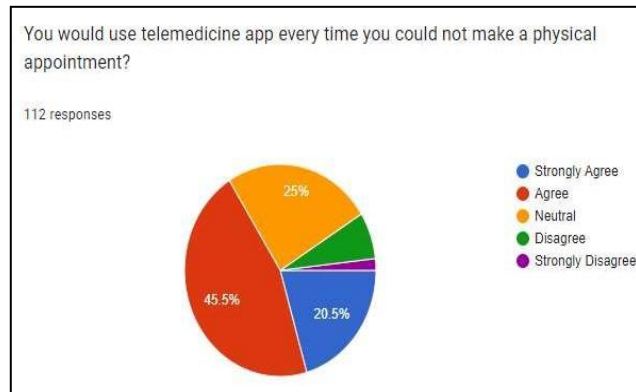
Respondents were asked if they have used telemedicine application or website before. 51.8% (58) out of total respondents said that they have used telemedicine application/website before whereas 48.2% (n=54) respondents have never used telemedicine application/website.

Figure 15: Using Telemedicine in the Past



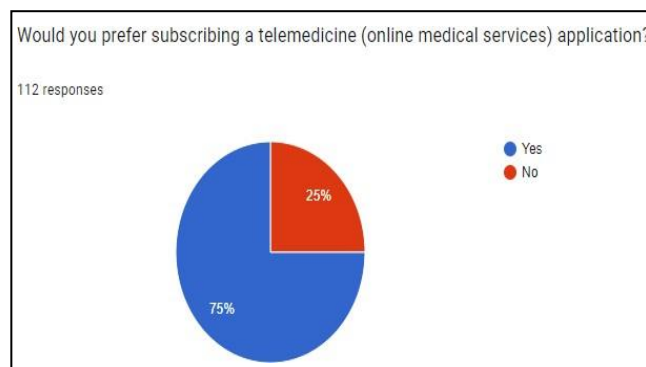
The respondents were requested to share their opinion whether they would use telemedicine app every time they could not make a physical appointment to which 45.5% (n=51) agreed and 20.5% (n=23) strongly agreed, 25% (n=28) chose to remain neutral whereas 7.1% (n=8) disagreed and 1.8% (n=2) strongly disagreed.

Figure 5: Opinion on using telemedicine service in case physical appointment is not possible



It was also asked to the respondents that whether COVID-19 pandemic has increased the adoption of telemedicine services to which 48.2% (n=54) agreed and 42.9% (n=48) strongly agreed, 8% (n=9) remained neutral about it while only 0.9% (n=1) strongly disagreed.

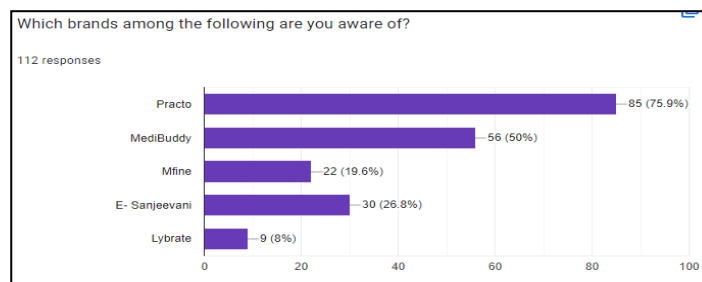
Figure 6: Subscribing Telemedicine Application



Brand Awareness

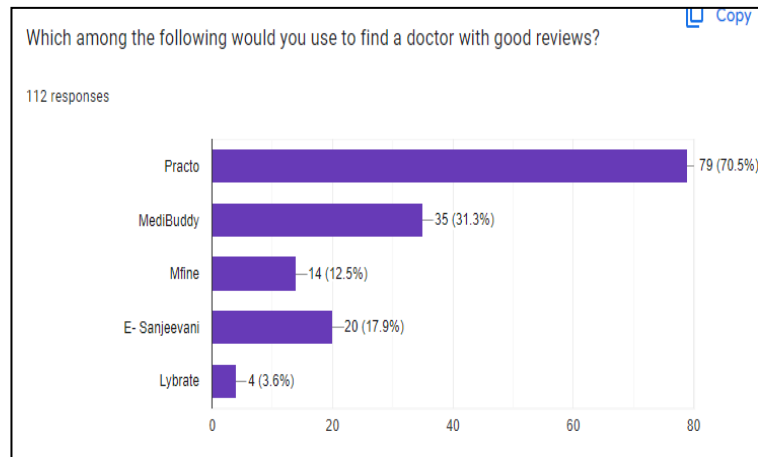
The respondents were given a list of five telemedicine brands which are Practo, MediBuddy, Mfine, E- Sanjeevani, and Lybrate. The respondents were asked which amongst the mentioned brands they are aware of. 75.9% (n=85) selected Practo, 50% (n=56) knew about MediBuddy, 26.8% (n=30) were aware of E- Sanjeevani, 19.6% (n=22) chose Mfine, whereas only 8% (n=9) were aware of Lybrate.

Figure 7: Telemedicine Brand Awareness



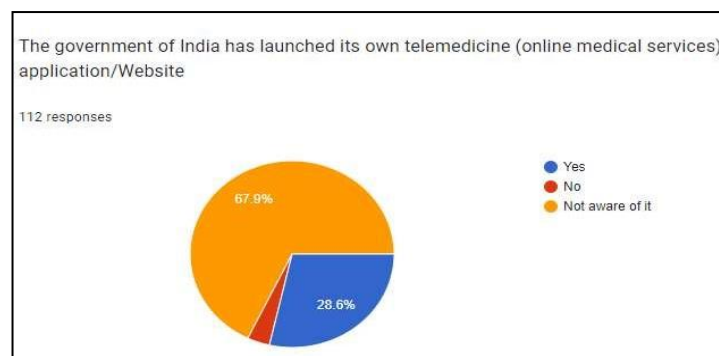
The respondents were also asked which brand they would use to find a doctor with good reviews in order to understand the brand recall. Again, majority of respondents 70.5% (n=79) chose Practo, 31.3% (n=35) selected MediBuddy, 17.9% (n=20) went with E- Sanjeevani, 12.5% (n=14) stated Mfine while only 3.6% (n=4) selected Lybrate

Figure 8: Telemedicine Brand Recall



The respondents were also asked whether they are aware that the Government of India has also launched a telemedicine portal, E- Sanjeevani, which provides free teleconsultation to the India citizens. 67.9% (n=76) of total respondents were not aware that the government of India has launched a telemedicine portal, while 3.6% (n=4) stated that no telemedicine portal has been launched by the Government of India. Only 28.6% (n=32) respondents were aware of E- Sanjeevani telemedicine services

Figure 9: Awareness of Public Telemedicine Portal



Furthermore, majority of respondents 71.4% (n=80) agreed that after this survey they would search if Government of India has really launched a telemedicine portal which provides telemedicine services free of cost while 18.8% (n=21) already knew about it. Only 9.8% (n=11) said that they would not prefer search about it.

Conclusion

In order to understand recent trends in telemedicine market, adoption, brand awareness,

and their perspectives associated with public and private telemedicine portals in India, this study surveyed more than 110 urban citizens in India. The study indicates that all the respondents are using smartphones and majority of them are comfortable with using different applications. Additionally, most of the respondents have used healthcare based applications or website.

Usage of Telemedicine Services in India

According to the results from the study, adoption of telemedicine portals is on the rise, most of the respondents have already used telemedicine portals and would even opt for subscribing one. The study indicates increased acceptability of telemedicine services as most of the respondents find telemedicine as the best option in cases where they are unable to make physical visits to their doctors.

Brand Awareness and Recall

The study depicts that out of the five telemedicine portals, Practo, MediBuddy, Mfine, E- Sanjeevani, and Lybrate included in the survey, Practo is the brand which majority of the respondents are aware of whereas Lybrate is the brand which got least response. Additionally, according to the study results, most of the respondents prefer using Practo for finding a doctor with good reviews. Hence, through the study it was inferred that the telemedicine portals which holds highest brand awareness and brand recall is Practo while Lybrate hold the lowest brand awareness and brand recall.

The study also provided a valuable insight associated with the awareness of public based telemedicine portal. More than 65% of the total respondents were not aware that Government of India has launched a telemedicine portal which provides telemedicine services free of cost. However, more than 70% respondents showed interest in getting to know if the Indian Government has launched a telemedicine portal for the Indian Citizens.

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