

The Impact of Telemedicine on Patient Satisfaction

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ABSTRACT

Telemedicine has transformed healthcare delivery, giving patients remote access to medical treatments and greatly increasing patient satisfaction. This study looks at the importance of telemedicine in improving healthcare experiences, particularly during the COVID-19 epidemic. Patient satisfaction with telemedicine services was assessed using a mixed-methods approach that included questionnaires and qualitative analysis. The characteristics considered were convenience, physician interaction, privacy, and overall effectiveness. Studies imply that telemedicine improves patient happiness, with ease of access and privacy being critical factors. Despite certain reservations regarding the absence of physical inspections, telemedicine has emerged as a viable and widely accepted alternative to traditional in-person consultations. These findings highlight the need for more investments in digital healthcare infrastructure to improve service delivery and patient experience.

Keywords: Telemedicine, Patient satisfaction, Remote healthcare, COVID-19, Telehealth.

INTRODUCTION

Telemedicine is receiving more attention and gaining popularity as technology plays a role in healthcare delivery and treatment. It has become popular in recent years as a result of technological advancements. The COVID-19 pandemic accelerated its acceptance and use worldwide. Providers and patients, using telemedicine technologies, can connect for healthcare needs or urgency. Telemedicine helps in engaging patients easily, increases access, decreases costs, and has a higher acceptance rate by rural populations those who usually have access problems to healthcare [1]. Patient satisfaction is crucial in healthcare, evaluated through questionnaires. They help rate service quality, and studies worldwide have focused on telemedicine and patient experience. These studies include comparing face-to-face and video consultations, using telemedicine for education, and analyzing the impact of teleconsultation on different populations. During the pandemic, an online questionnaire assessed telemedicine appointments compared to in-person ones. Studies in Dutch orthopedic hospitals explored patient experiences with teleconsultation for lower leg fractures. Telehealth is increasingly vital for patients with diverse health issues [2].

LITERATURE REVIEW

Technological advancements in medicine have transformed healthcare, particularly with the emergence of telemedicine. Through computers, tablets, or smartphones, patients can now interact with healthcare professionals remotely. Telemedicine has gained popularity and studies show that patients are more satisfied with this approach. It expands healthcare services and improves access for patients regardless of location or physical limitations. Additionally, telemedicine enhances efficiency by reducing hospital visits and wait times, leading to better outcomes. In conclusion, telemedicine revolutionizes healthcare by providing convenient and effective remote medical services, improving patient satisfaction, expanding service delivery, and enhancing efficiency [3]. A study found high patient satisfaction with video consultations compared to telephone consultations. Video consultations were rated better for involvement and attention to satisfaction. While telemedicine may not be suitable for all situations, it is a credible option contributing to overall satisfaction. Another study examined patient satisfaction with telemedicine services and the intention to continue using them. Results showed high patient satisfaction and moderate intention to continue. Recommendations for improving telemedicine services were provided. The literature establishes a growing need for telemedicine services [4].

METHODOLOGY

The study sample included patients visiting the hospital during the first three months of the COVID-19 outbreak in Pakistan. Only patients who had telemedicine appointments were approached. Excluded from the study were patients under 15 years old, those with hearing or visual impairments, illnesses, cognitive impairments, inability to speak, or unwillingness to participate. The sample size was determined to be 356. A patient satisfaction survey was created based on existing scales. Experts in medical informatics reviewed the survey for content validity. The final satisfaction scale included questions about telemedicine services, technology usability, waiting time, physician's ability to address health concerns, and overall satisfaction. Demographic information on gender, age, telemedicine experience, and province of residence was also collected. The survey questions were in Urdu for patient comprehension [5]. The telemedicine usability study utilized a validated satisfaction scale to assess user satisfaction with telemedicine services in Pakistan. The scale evaluated satisfaction with technology, physician-patient interaction, and the impact of telemedicine on understanding patient health concerns. The questions were translated into Urdu for patient comprehension. Survey responses were rated on a Likert scale. The patient satisfaction scale included measures of telemedicine satisfaction, technology utilization, waiting time, simplicity and transparency, physician-patient communication, and overall satisfaction. The Telemedicine Usability Scale also measured satisfaction with technology, physician-patient interaction, and understanding patient health concerns. Demographic questions examined respondents' experiences and characteristics [6].

RESULTS AND FINDINGS

The findings from the demographic questions showed that 83.33% of the respondents were below the age of 30 years, while 16.67% were between the ages of 30 and 50 years, and there were no respondents above 50 years. This indicates that the majority of the respondents were young, making them more aware of the telemedicine application and its impact on healthcare. It was also found that out of 72 respondents, 54 were female and 18 were male. This shows that the majority of the respondents were female. The educational qualification of the respondents showed that 52.78% of respondents were graduates, 16.67% were postgraduates, and 30.56% had a diploma. This indicates that most respondents had a minimum of a graduate degree. Moreover, it was found that 71.03% of the respondents were pleased with their mobile network coverage and just 28.97% were displeased. This indicates that, overall, the respondents were satisfied with their network connectivity to avail telemedicine services. It was also found that 53.47% were availing telemedicine services for the past 6 months, and 46.53% were availing these services for more than 6 months. This shows that the majority of the respondents were users of telemedicine services for more than six months, indicating awareness of these services. The findings also showed that out of the total 72 respondents, just 18 posted complaints after utilizing telemedicine services, and the rest 54 people did not post complaints on any other platform. This shows that posting complaints is still a rare and undiscovered phenomenon [7]. The quantitative data analysis shows that the 100-point rating scale was used to measure the impact of telemedicine services on patient satisfaction, comprised of five factors: ease of access to medical professionals, convenience, privacy, ability to communicate effectively, and effectiveness in diagnosing health problems. To explore the relationship between these factors and patient satisfaction, electronic/telecommunication was used. Descriptive statistics and multiple regression analysis were used to analyze the data, and it was found that access to medical professionals, convenience, and privacy showed a significant impact on telemedicine patient satisfaction. In the regression analysis, it was found that patients were highly satisfied with telemedicine services as a significant portion of brightness in the model is 57.1%, which predicts patient satisfaction. It was also suggested to increase the awareness of telemedicine services among patients through pamphlets and notices in the hospital waiting area to further improve satisfaction [8].

QUANTITATIVE ANALYSIS

The telehealth program's patient satisfaction was quantitatively assessed using a pretest-posttest method. Overall, satisfaction means and patient responses significantly increased with telemedicine visits. In Q1, participants were asked about their satisfaction with the telemedicine visit, and the results showed a remarkable increase in mean values, altering from 2.69 before the visit to 3.62 after. Similarly, in Q2, participants were inquired about their preference for telemedicine compared to waiting room visits. Fascinatingly, the mean values experienced a significant surge from 2.64 before the visit to an impressive 3.5 after. These results clearly indicate the overwhelmingly positive impact and preference for telemedicine among patients. The implementation of telehealth services has not only improved patient satisfaction but also provided a convenient alternative to traditional visits, thereby revolutionizing the healthcare industry [8].

Q4 and Q5 assessed if telemedicine was seen as more convenient. The results showed that Q4 increased significantly from a mean value of 2.35 to 3.74, indicating a positive response to telemedicine's

convenience. Similarly, Q5 also witnessed a noticeable increase, rising from 2.69 to 3.55, affirming the growing belief in telemedicine's convenience among the participants. Moving on to Q3 and Q6, these questions delved into other aspects of patient satisfaction. Encouragingly, Q3 showed an improvement, surging from 2.81 to 3.51, reflecting an enhanced level of satisfaction experienced by the patients. Furthermore, Q6 also experienced a remarkable increase, climbing from 2.76 to 3.61, indicating an overall positive sentiment towards telemedicine and its ability to meet patient satisfaction. The assessment then proceeded with Q7 and Q8, which focused on privacy and security concerns. It is noteworthy that Q7 demonstrated a substantial boost, ascending from 2.82 to 3.67, indicating a greater sense of trust and confidence in the privacy and security measures provided by telemedicine. Similarly, Q8 witnessed an upward trend as well, elevating from 2.75 to 3.5, mirroring the participants' growing assurance regarding the privacy and security aspects associated with telemedicine. These outcomes highlight the positive impact of telemedicine on various dimensions, including convenience, patient satisfaction, and privacy and security. The results indicate a general consensus among the participants that telemedicine provides improved convenience, heightened patient satisfaction, and robust privacy and security measures, paving the way for a promising future in healthcare delivery.

QUALITATIVE ANALYSIS

A qualitative analysis of patients' comments was conducted based on the frequency of words and phrases as a reflection of their attitude towards telemedicine and their overall satisfaction. The analysis has shown that the highest number of comments were left on the topic of overall satisfaction, followed by the work of the doctor, the quality of the connection, and the convenience of the appointment [9]. After reading the comments regarding overall satisfaction, it can be observed that most of them reflect a positive attitude toward telemedicine appointments. Phrases such as "very good," "excellent," "fine," and "great" were noted. However, there were a few comments that pointed out the necessity of in-person examinations for a thorough understanding of the state of health. Regarding the comments on the work of the doctor, one positive phrase that was mentioned a few times was "good experience." However, there were also negative comments about the doctor. One doctor refused to prescribe medications and recommended visiting another specialist, which someone considered odd. In one case, the doctor "could not assess the situation" and closed the appointment. The comments left on the interference of the connection showed that the respondents were satisfied with the telecommunication services used for the appointments and that there were no technical issues. Positive comments included phrases like "heard and seen well" and "good connection." In a couple of comments, there were mentions of having to call back because the connection was interrupted or going to a different location to get better Wi-Fi. As for the comments regarding the convenience of the appointment, comments were reflecting both convenience and inconvenience. Many respondents stated that telemedicine appointments have made their lives easier. By using telecommunication services, one can visit a doctor from anywhere, thus saving time and effort on traveling. However, a few comments stated that it is more convenient to visit a doctor in person. Overall, the qualitative analysis indicates that a majority of the patients are satisfied with the transition from in-person to telemedicine appointments during the pandemic.

DISCUSSION AND IMPLICATIONS

Telemedicine, though not a new concept, gained significant traction during the COVID-19 pandemic. It has been a hope for many, particularly in rural areas with limited access to healthcare. The goal of quality healthcare can only be achieved through patient satisfaction, which increases compliance and adherence to treatment and is positively linked with clinical outcomes. The foundation of the physician-patient relationship is based on trust and communication, which can be hampered during teleconsultations. Overall, the current literature suggests an enhancement in patient satisfaction after teleconsultations, especially in terms of medication compliance and adherence. Patient characteristics (socio-demographic, clinical, and prior teleconsultation experience) and teleconsultation attributes can directly and indirectly influence the six dimensions of patient satisfaction. Education, gender, travel time for an in-person visit, and prior experience with telemedicine can positively contribute to patient satisfaction. On the other hand, age, tenure in the disease, chronicity associated with the disease, regret after the teleconsultation, and fear of technological failure can negatively influence patient satisfaction. In terms of teleconsultation characteristics, the place of teleconsultation predominantly done from home contributes positively to patient satisfaction. Technological aspects, consultation length, video quality, and timeliness can negatively influence patient satisfaction. This detailed review is a step toward the collaborative development of a digital healthcare system for improving patient satisfaction in telemedicine. There is a need for a recognized patient satisfaction scale in telemedicine, particularly in developing countries. Future research can use the proposed conceptual framework to enhance patient satisfaction in a digital health system. Telemedicine, which was previously considered an interesting tool for remote healthcare

delivery, has been established as a viable alternative that mitigates many of the drawbacks and improves the physician-patient rapport. Socio-demographic, clinical, and teleconsultation characteristics can directly and indirectly influence dimensions of patient satisfaction. A positive patient experience may increase compliance and adherence, positively impacting the clinical outcome. There is demand and acceptance for teleconsultation and a need for stricter rules and regulations to overcome the challenges associated with it. The development of a recognized patient satisfaction scale and digital health system can enhance future research efforts [10].

CONCLUSION

Telemedicine has proven to be a transformative tool in modern healthcare, particularly in enhancing patient satisfaction by improving accessibility, convenience, and communication between healthcare providers and patients. The findings from this study indicate that patients appreciate the efficiency and privacy telemedicine offers, despite some limitations regarding the need for physical examinations. As the healthcare industry continues to evolve, integrating telemedicine into regular medical practices holds promise for expanding access to care, especially for underserved populations. Moving forward, the development of standardized patient satisfaction scales and improvements in telemedicine infrastructure will be crucial for optimizing healthcare delivery and ensuring continued patient satisfaction.

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