RESEARCH PAPER

A Quantitative Cross-Sectional Study on Patient Perception on Digital Health Platforms in Private Multispecialty Hospitals of Delhi NCR

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ABSTRACT

Introduction: Digital health platforms are increasingly integrated into the healthcare delivery especially in a private multispecialty setting in India. However, the knowledge and level of understanding of the patient with those digital platforms such as telemedicine, mobile health applications, and electronic health records are very minimal. This study provides an insight in understanding the patient's perception on digital health platforms and how they manage themselves while using those digital platforms and maintaining the clinician's relationships.

Aim: The aim of the current study is to assess patient's perception on the digital health platforms, to evaluate their self-management, and examine the relationship between the clinician and engage themselves in a private multispecialty hospital of Delhi NCR.

Materials and Methods: A cross-sectional quantitative research design is employed in this study using a structured questionnaire based on a five-point Likert scale among patients who were using the digital health platforms or aware of online appointments, teleconsultation, digital payments, and online diagnostic reports over a period between January and March 2024. A sample of 300 patients was included using simple random sampling techniques to ensure equal representation across the hospital. The questionnaire included two parts. Part A consists of demographic characteristics of the respondents and Part B includes variables measuring the perceived usefulness, ease of use and trust in digital systems. The respondents who reported awareness of digital health platforms (n = 236) were considered. Cronbach's alpha value of 0.72 and 0.88 shows that the questionnaire was reliable, indicating the acceptable consistency. Chi-square and regression analysis was done using advanced version of SPSS to analyze the data.

Results: Among the 300 respondents, gender distribution was nearly equal with 50 percentage in both male and female respondents. Around 50 percent of the respondents were holding either an undergraduate or a post-graduate education. The remaining participants, around 28 percent, have completed secondary school or primary education (21.7%). Regarding awareness level, nearly 79 percent of the respondents possess some degree of knowledge about digital health platforms ranging from slightly aware to fully aware and around 21.3 percent of the respondents reported being completely unaware of those services (n = 236), that revealed an overall positive perception. Trust in digital systems (R^2 = 0.479, β = 0.692, $p < 0.001$) variable demonstrated the strongest predictor among the other variables as per the regression analysis. Furthermore, chi-square tests confirmed a statistically significant positive response pattern for all perception-related variables among aware respondents ($p < 0.001$).

Conclusion: Digital health platforms positively influence patient perception, self-management, and clinician–patient relationships in private multispecialty hospitals of Delhi NCR.

Keywords: Digital Health Platforms; Patient Perception; Private Multispecialty Hospitals; Telehealth Services.

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1. INTRODUCTION

The digital health technologies like telemedicine, online appointment systems, electronic health records, mobile health platform and other digital patient portals offer improved access to healthcare, reduced waiting times, and better communication between patients and providers. (1) In India, digital health adoption increased significantly after the COVID-19 pandemic, where hospitals integrated teleconsultation, digital registration, and electronic records to maintain continuity of care. (2) However, patient perception plays a key role in ensuring that these platforms are utilized. Research indicates that although patients appreciate the convenience and efficiency of these services, other factors such as digital literacy, trust, privacy concerns, and usability influence the adoption of digital healthcare services. (3) The Ayushman Bharat

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Digital Mission (ABDM), implemented to develop a digital health ecosystem in the country through a unique Health ID system known as ABHA, is the main policy driving this change. However, research has shown a huge gap between policy and reality. (4)

Patient perception is primarily influenced by the usability and usefulness of these platforms. A research conducted by Jinil Persis (5) indicates that technology-based health services in hospitals in India can enhance the perceived quality of healthcare services by facilitating effective information flow, resources, and continuous patient engagement without compromising the standards of healthcare services. (6) This is consistent with the observations from the research conducted at a tertiary care facility in Bengaluru, where though the level of awareness among urban populations is high, with 78.7% of the population knowing about the digital health initiatives, the actual practice is limited with only 42% creating their ABHA ID. (7)

In the context of the Delhi NCR, the same trends have been noted, whereby awareness does not necessarily correlate to confidence and trust. Some of the key areas of concern for the positive perception of patients revolve around the issues of data privacy, lack of digital health literacy, and infrastructural limitations. A study conducted using a mixed-methods approach, focusing on the city of Chandigarh as a representation of the urban areas of northern India. (8) This concern is especially pertinent for older adults and those with lower educational backgrounds. The issue of the digital divide is not just one of internet access(9), but a multifaceted issue that includes access to devices, access to data, and, most critically, the skills that are needed to effectively use the often complex interface of technology itself, a term that is often described as digital health literacy.(10)

An individual in spite of having their advanced digital platforms for assessing the health information through the smartphones may not able to view it as beneficial and does not feel the importance of the role of healthcare professionals. (11) Research conducted to understand the perspective of doctors and nurses has found that the comfort levels of healthcare professionals with digital systems play an important role in the adoption of technology by patients. (12) Gender-specific studies introduce another dimension of complexity. Studies that have specifically looked at women in obstetrics and gynecology outpatient departments have revealed that (13), though the use of digital health apps is viewed favorably for appointment scheduling and test results, the issue of privacy and security is more prominent in the minds of female patients. (4)

The existing literature demonstrates that most researches have been conducted on patient experience with particular digital tools, yet there remains a gap in the area of extensive, patient-based evaluation of digital health tools within Indian multispecialty hospitals in the privately managed market, in particular, the area of Delhi NCR. The current Indian work usually concentrates on certain services (telemedicine, m health devices, radiology, ABHA apps) or individual specialties, in contrast to integrated hospital platforms and end to end service journeys in the real world of care provided by private hospitals Reviews find that patient perspectives are not adequately represented in comparison with clinician experience in digital hospitals and that a mismatch between the design of digital tools and what patients actually need and value in real world pathways of care still exists. The broader syntheses highlight the gaps in context specific evidence on the impact of digitalization on patient experience in a variety of socio economic groups and urban ecosystems as well. Therefore, a cross-sectional study on patient perception of digital health platforms in private multispecialty hospitals of Delhi-NCR would address a clear contextual and population-level gap left by prior work such as Madanian et al. (2023) (14), Canfell et al. (2024) (15), Persis (2024) (5), Sreejesh et al. (2021) (2) and Kumaragurubaran et al. (2024) (1).

This study discusses and evaluates the perception of patients on digital health platforms in multispecialty private hospitals in Delhi NCR. The study aims at assessing the degree of awareness, usability, satisfaction, perceived usefulness, accessibility and trust among the patients when it comes to the digital healthcare services like online booking, teleconsultation, digital health records and mobile health applications. The study will use a quantitative cross-sectional design to determine important variables in patient acceptance and experience of digital health technologies, as well as how the use of such platforms enhances patient access to healthcare, efficiency, and the overall engagement with a private hospital. The main aim of this research is to determine the degree of the patient awareness and utilization of digital health platforms in the multispecialty hospitals (of Delhi NCR), which are privately owned together with this, the study also seeks to examine the major determinants of patient perception on digital health platforms especially on the perception of usefulness, ease of use and trust in digital systems. Moreover, the study as secondary goals has to assess the correlation between the demographic features of patients and their attitude to digital health platforms as well as comprehend how demographic factors impact the level of awareness, frequency of usage, and the overall attitude towards digital healthcare service at the level of private hospitals.

Conceptual Framework

The conceptual framework of the study demonstrates the relationship between the various factors that affect the perception of patients using digital health platforms in private multi-specialty hospitals of Delhi NCR. According to the conceptual framework, the perception of patients using digital health platforms acts as the dependent variable, whereas the perceived usefulness, ease of use, and trust of patients using digital systems operate as the independent variables. According to the conceptual framework, patients form a positive perception of using digital health platforms if they find the platforms useful, easy to use, and reliable.

Variables

Dependent Variable

- Patient perception of digital health platforms

Independent Variables

- Perceived usefulness
- Ease of use
- Trust in digital systems

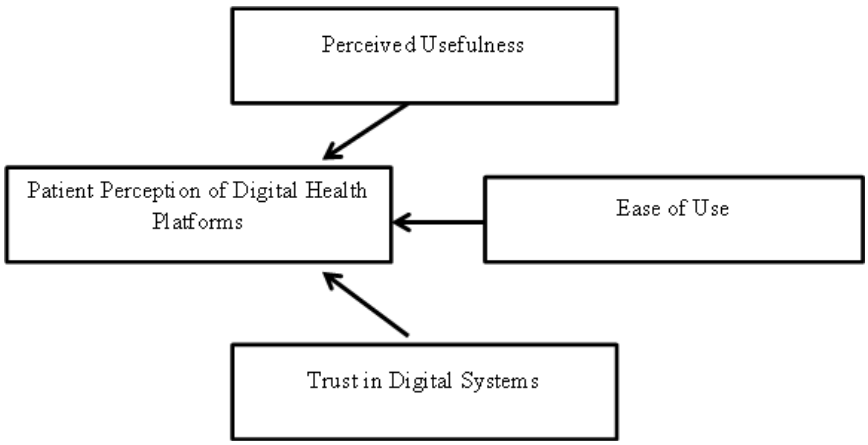

Figure 1: flowchart conceptual framework

2. METHODS AND MATERIAL

The present study has a quantitative cross-sectional study design because it tries to understand the perception of patients about digital health platforms in the private multispecialty hospitals in Delhi NCR. The data collection process lasted three months between January and March 2024, which gave the researcher the opportunity to measure patient responses at one point in time and compare variables with each other. The method of quantitative research was used, and the primary data were gathered by means of a questionnaire. The instrument was created with a five-point Likert scale, which has strongly disagree, strongly agree, neither agree nor disagree i.e neutral, agree, and strongly agree as the response. The target group consisted of patients visiting multispecialty hospitals that were privately located in the Delhi NCR and had used or were familiar with digital health platforms, including online appointment booking, teleconsultation services, online payment system, online diagnostic reports and hospital mobile apps. The sample of respondents was selected using a purposive sampling method that targeted respondents who have a relevant experience. The ultimate sample was comprised of 300 patients. However, for perception-related and inferential statistical analyses, only respondents who reported awareness of digital health platforms were included (n = 236) to ensure the validity and relevance of responses. The reliability of the instrument was assessed using Cronbach's alpha, with values ranging from 0.72 to 0.88, indicating acceptable internal consistency. Data were coded and analyzed using Microsoft Excel and SPSS software.

3. RESULT

Table 1: Demographic Characteristics of the study

S. No.	Demographic Characteristics		N	%
1	Age	18-25 years	69	23
		26-35 years	73	24.3
		36-45 years	82	27.3
		46-60 years	76	25.3
2	Gender	Female	143	47.7
		Male	157	52.3
3	Education	Post-graduate degree	68	22.7
		Primary school	65	21.7
		Secondary school	86	28.7
		Undergraduate degree	81	27
4	Income	Above Rs. 1,00,000	54	18
		Rs. 25,001 – Rs. 50,000	70	23.3
		Rs. 50,001 – Rs. 75,000	123	41
		Rs. 75,001 – Rs. 1,00,000	53	17.7
5	Awareness of digital health platforms	Fully aware	67	22.3
		Not aware	64	21.3
		Slightly aware	85	28.3
		Somewhat aware	84	28

6	Usage of digital platforms	Never used	73	24.3
		Occasionally	102	34
		Rarely	60	20
		Regularly	65	21.7

The level of patient awareness and usage of digital health platforms in private multispecialty hospitals

Table 1 shows the demographic characteristics of the respondents which shows that the age distribution representing between 23 and 27 percentages with each age bracket ranging from young adults i.e. 18 – 25 to those in the 46 – 60 age categories. Similarly gender distribution was nearly equal with 50 percentage in both male and female respondents. Around 50 percent of the respondents were holding either an undergraduate or a post-graduate education. The remaining participants, around 28 percent, have completed secondary school or primary education (21.7%). In income distribution, majority of the respondents belong to the middle-income group i.e., 41 percent fall between Rs. 50,000 and Rs.75,000, high earners and lower-middle earners constitute 18 percent and 23.3 percent respectively, while the remaining falls in the Rs. 75,000 to Rs. 1,00,000 range.

Regarding awareness level, nearly 79 percent of the respondents possess some degree of knowledge about digital health platforms ranging from slightly aware to fully aware and around 21.3 percent of the respondents reported being completely unaware of those services. Despite high awareness, the usage of digital platforms varies approximately 56 percent respondents engage with digital platform usage either occasionally i.e. 34 percent or regularly (21.7 percent), around 24.3 percent have not used while 20 percent have used the digital platforms rarely.

A look into the level of awareness and utilization of digital health platforms among patients in private multispecialty hospitals across the Delhi NCR reveals a more complex situation where the level of nominal awareness is high, but the level of actual engagement is relatively lower. India's national initiative towards the digital health revolution, the Ayushman Bharat Digital Mission (ABDM), has certainly given the sector the much-needed policy momentum (16), Empirical studies suggest that the behavior of patients in urban centers like Delhi NCR reveals a significant gap between the awareness of digital health concepts and the confident use of related tools like the Ayushman Bharat Health Account (ABHA) ID. (17)

Recent cross-sectional studies have shown the level of awareness of ABDM to be relatively high among patients of urban hospitals, as evidenced by a study from Bengaluru, where 78.7% of the outpatient population of a hospital reported having heard of digital health initiatives. (18) Yet, awareness does not necessarily lead to adoption. In fact, the same study revealed that only 42% of the aware respondents had created an ABHA ID. This finding is supported by another mixed-methods study conducted in Northern India, which found that respondents had a positive attitude towards Electronic Health Records (EHRs). (19)

Even though the patients have their own smartphones amidst varied socio-economic backgrounds from highly educated having high digital knowledge to elderly patients with less tech-savvy (20), the digital health literacy is a critical determinant of usage. (21) The availability of digital platforms does not confine that the patients are confident to use the mobile application or read the digital prescriptions or secure their confidential data, it is due to the complexity or lack of trust that the patients still prefer the traditional consulting services which is the serious digital health literacy issue. (22)

One of the studies that was carried out in obstetrics and gynecology settings found even though the digital media was appreciated in terms of administrative benefits, female patients are very much concerned about their personal health information. (1) There needs to be proper data governance and user-access in the usage of digital platform especially in the gynecological and maternal healthcare setup across Delhi NCR, to address this kind of gender issue. (3)

Post-covid era have transformed the people especially who live in urban India are more aware about the teleconsultation services such e-prescriptions and retrieving their healthcare related reports through online. (19) Though this shift has improved the awareness, the perceived reliability, responsiveness and the sustained tangibility in continuity of care remains unchanged. (23) The digital health platforms that focuses on paperwork without enhancing clinical or patient outcomes that often fails to retain the users during the crisis-driven interactions. (24)

Table 2: Frequency of Patient Perception Variables (n = 236)

Variable	Item	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)
Perceived Usefulness	Time efficiency in healthcare services	33 (14.0)	34 (14.4)	49 (20.8)	39 (16.5)	81 (34.3)
	Improvement in access to medical services	17 (7.2)	20 (8.5)	74 (31.4)	54 (22.9)	71 (30.1)
	Effectiveness in managing health information	12 (5.1)	31 (13.1)	91 (38.6)	47 (19.9)	55 (23.3)
	Convenience in appointment & consultation	26 (11.0)	32 (13.6)	64 (27.1)	44 (18.6)	70 (29.7)
Ease of Use	User-friendly interface	24 (10.2)	46 (19.5)	75 (31.8)	45 (19.1)	46 (19.5)
	Ease of learning system	15 (6.4)	33 (14.0)	95 (40.3)	51 (21.6)	42 (17.8)
	Navigation simplicity	24 (10.2)	49 (20.8)	76 (32.2)	46 (19.5)	41 (17.4)
	Accessibility across devices	43 (18.2)	18 (7.6)	77 (32.6)	51 (21.6)	47 (19.9)
Trust in Digital Systems	Data privacy and security	16 (6.8)	22 (9.3)	94 (39.8)	32 (13.6)	72 (30.5)
	Reliability of digital information	22 (9.3)	20 (8.5)	62 (26.3)	29 (12.3)	103 (43.6)
	Confidence in transactions	11 (4.7)	19 (8.1)	72 (30.5)	47 (19.9)	87 (36.9)
	Trust in teleconsultation	13 (5.5)	38 (16.1)	76 (32.2)	53 (22.5)	56 (23.7)
Patient Perception	Satisfaction with digital services	16 (6.8)	32 (13.6)	87 (36.9)	31 (13.1)	70 (29.7)
	Perceived quality	20 (8.5)	19 (8.1)	72 (30.5)	34 (14.4)	91 (38.6)
	Willingness to continue use	12 (5.1)	25 (10.6)	79 (33.5)	43 (18.2)	77 (32.6)
	Recommendation to others	20 (8.5)	39 (16.5)	78 (33.1)	39 (16.5)	60 (25.4)

Table 2 shows the distribution of responses that indicates a higher proportion of participants agreed or strongly agreed that digital health platforms improve time efficiency, access to healthcare services, and convenience, reflecting positive perceived usefulness. Ease of use showed moderate agreement, though considerate number of respondents stayed neutral, indicating inconsistency in user experience.

With regard to trust in digital systems, 43.6 percent participants strongly agreed and remained confidence in reliability of digital information; however, responses related to data privacy and security 30.5 percent strongly agreed and trust in teleconsultation only 23.7 percent strongly agreed that was comparatively less positive.

Overall, patient perception was favorable, around 70 percent of the respondents strongly agreed in expressing satisfaction with digital services and willingness to continue use (77%) and recommend digital health platforms (60%).

Table 3: Effect Size Estimates (Cohen's d and Hedges' g) for Patient Perception Item

Effect Size Estimates (Cohen's d and Hedges' g) for Patient Perception Item					
				95% Confidence Interval	
		Standardizer[a]	Point Estimate	Lower	Upper
Find it useful	Cohen's d	1.09567	0.773	0.643	0.901
	Hedges' correction	1.09843	0.771	0.642	0.899
Do you find Digital health Platforms are accessible	Cohen's d	0.98648	1.024	0.884	1.163
	Hedges' correction	0.98896	1.021	0.881	1.160
Using smart devices	Cohen's d	0.94662	0.666	0.540	0.790

medical application to access personal medical data is an appropriate way	Hedges' correction	0.94900	0.664	0.539	0.788
In emergency such services is good option.	Cohen's d	0.99234	0.548	0.426	0.668
	Hedges' correction	0.99484	0.546	0.425	0.667
The current technology/ ethical/ transparency issues do not permit sufficient trus4rthiness.	Cohen's d	0.91850	0.925	0.790	1.060
	Hedges' correction	0.92081	0.923	0.788	1.057
a. The denominator used in estimating the effect sizes. Cohen's d uses the sample standard deviation. Hedges' correction uses the sample standard deviation, plus a correction factor.					

Note: Effect size interpretation — small (0.2), medium (0.5), large (0.8).

The one sample effect size (table 3) analysis confirms the previous results of the t-test and also confirms the strength of the positive attitude towards digital health platforms among patients. The values of all Cohen d and Hedges g of each of the items of perception were above 0.80, which points to significant practical effects of all the perception items. The greatest effects were found on accessibility (d = 1.02) and usefulness (d = 1.10), with the patients agreeing not only statistically but also having a sense that these platforms are significantly helpful and user-friendly. Intermediate-sized effects were observed with appropriateness (d ≈ 0.66), and emergency usefulness (d ≈ 0.55), suggesting that the user is always confident in regular and emergency cases. The strongest effect was experienced with trust and transparency (d = 0.92) of the trust that patients have in digital health technology. All in all, the magnitude of the effects supports the fact that the positive perceptions are meaningful but practically relevant and proves that online health platforms play a significant role in the experience of trust, accessibility, and usability of patients in hospitals in Delhi NCR.

Table 4: Regression analysis of factors affecting Patient Perception of Digital Health Platforms

Independent Variable	B	Std. Error	Beta (β)	t-value	Sig. (p)	R	R^2	F-value
Trust in Digital Systems	0.691	0.042	0.692	16.555	0.000	0.692	0.479	274.053
Perceived Usefulness	0.234	0.049	0.265	4.736	0.000	0.265	0.070	22.432
Ease of Use	0.295	0.052	0.311	5.640	0.000	0.311	0.096	31.811

Dependent Variable: Patient Perception of Digital Health Platforms

The results of the regression analysis in table 4 shows that trust of digital systems is a strong and statistically significant effect on the perception of digital health platforms among patients. The model summary reveals a correlation coefficient of R = 0.692, which illustrates that there is a high positive correlation between trust in digital systems and perception of the patient. The coefficient of determination (R^2 = 0.479) indicates that trust in digital systems explains about 47.9 percent of the variation in the perception of patient perception of digital health platforms. This implies that trust is one of the key factors determining the perception of the patients towards digital healthcare technologies. The fact that the regression model is statistically significant is validated by the ANOVA (F = 274.053, p < 0.001). Moreover, the regression coefficient of trust in digital systems (B = 0.691, 0.692, t = 16.555, p < 0.001) shows that the two variables are strongly related. This is to say that as the trust of digital systems increases, there is a drastic rise in positive patient attitude towards digital health platforms.

The regression findings indicate that the perceived usefulness also has a significant impact on patient perception of digital health platforms though it is a relatively medium strength relationship than trust in digital systems. The correlation coefficient R = 0.265 shows that there is a positive correlation between patient perception and perceived usefulness. The R^2 of 0.070 indicates that the perceived usefulness can explain 7 percent of the patient perception variance. The outcomes of ANOVA (F = 22.432, p < 0.001) show that the model is significant. The regression coefficient (B = 0.234, = 0.265, t = 4.736, p < 0.001) further supports the fact to prove that perceived usefulness positively and significantly affects patient perception. The ease of use also was investigated in the regression analysis of the effect on patient perception towards digital health platforms.

The findings indicate that there is a good and significant relationship. The model summary indicates a correlation coefficient of R = 0.311 which indicates a moderate positive relationship between ease of use and patient perception. The value of R^2 is 0.096, which indicates the ease of use is able to explain 9.6 per cent of the change in perception of patients. The results of ANOVA (F = 31.811, p < 0.001) prove that the regression model is significant. The regression coefficient (B = 0.295, 0.311, t = 5.640, p < 0.001) shows that the ease of use positively contributes to the perception of patients significantly.

The regression analysis proves that the three variables, namely trust in digital systems, perceived usefulness, and ease of use all have a significant effect on patient

perception of digital health platforms. Of the 3 predictors, trust in digital systems is the most influential, in that it explains almost 48% of the difference in patient perception. This implies that patients will be compelled to implement and provide favorable reviews of digital health technologies when they have trust in the security, reliability, and efficacy of such systems. Comparatively, ease of use and perceived usefulness have moderate impacts with their explanatory proportions being 9.6 and 7% respectively. Although these are very important factors, they are secondary to trust.

Table 5: Chi-Square Test Results for Digital Health Platform Variables

Variables	N	Mean	Std. Deviation	Chi-Square (χ^2)	df	p-value
Patient Perception of Digital Health Platforms	236	28.05	6.36	119.200	14	0.000
Perceived Usefulness	236	27.50	7.07	124.887	16	0.000
Trust in Digital Systems	236	28.77	6.25	161.200	14	0.000
Ease of Use	236	25.92	6.76	135.200	15	0.000

Note: $p < 0.001$ indicates statistical significance.

To test the variability of the responses about the various facets of the digital health platforms, namely, the perception of the patient, perceived usefulness, trust in the digital systems, and ease of use, a chi-square Goodness-of-fit test was used. The test was used to compare the actual distributions of the observed responses and the expected equal distribution to test whether the perceptions of the respondents differed significantly with the expected occurrence through chance. The descriptive statistics in table 5 reveals that the average score of patient perception of digital health platforms was 28.05 with a standard deviation of 6.36, which is calculated on 236 respondents. The scores earned between 5 and 20, which means that there is a variation in the perception of the respondents.

The outcome of the chi-square test was χ^2 (14) = 119.200, p = 0.001, which is statistically significant. This finding implies that the frequency of the responses is not uniform in the categories and does not coincide with the anticipated frequencies. It was found that there was a concentration in the mid-to-upper score (1218) which is indicative of the majority of respondents having moderately positive to positive attitudes towards digital health platforms. The chi-square value is significant, which means that the perception of patients is not randomly distributed but represents the meaningful distribution of the perception where digital health platforms are viewed mostly positively.

In the case of the perceived usefulness, the descriptive statistics show the mean of 27.50 and the standard deviation of 7.07, where the lowest score is 4 and the highest one is 20. The chi-square test gave result 124.887, which is a statistically significant difference between observed and expected frequencies. More responses were clumped around 14-16 and this showed that a good number of respondents think that the digital health technologies make healthcare more accessible, efficient and service delivery easier. The large chi-square value supports the fact that the perceptions of utility are not even distributed and the respondents are apt to positively evaluate digital health platforms. The mean of 27.50 and a standard deviation of 7.07 indicated that the selected variable of trust in digital systems had a range between 5-20. This dimension was one of the highest mean values of the variables under analysis and indicated a fairly high level of confidence in digital healthcare technologies.

The mean score of ease of use was 25.92, the standard deviation was 6.76, and this is slightly lower than the rest of the variables. The final score was between 4 and 20, which implies that the respondents had a moderate difference in their understanding of the usefulness of digital health platforms. The chi square value was χ 2 (15) = 135.200, $p < 0.001$, which indicated a statistically significant difference between the observed and expected equal distribution. Though the large number of answers was in the mid-range, e.g., 12 and 14, the marginally lower average indicates that there are still some respondents who might have challenges or problems with usability when using digital health systems. However, the value of the chi-square is very large, which means that the answers are not random but have the definite tendency. These results demonstrate that digital health platforms are increasingly adopted in the modern healthcare system as they are seen as useful, trustworthy, and useful tools in healthcare provision.

4. DISCUSSION

The current study focused on patient perceptions related to digital health platforms within private multi-specialty hospitals located within Delhi NCR. Several factors related to patient engagement with digital health platforms emerged. The results suggest that patients tend to exhibit moderately positive perceptions related to digital health platforms. These results are congruent with the growing body of literature suggesting that although digital healthcare services are growing exponentially, their utilization depends on a multitude of technological, psychological, and social factors.

The demographic findings of the current study showed that the participants were spread across various age groups, with the majority of them (27.3%) in the range of 36-45 years, followed by those in the range of 26-35 years (24.3%) and then those in the range of 46-60 years (25.3%). The study conducted by T Bodhare and colleagues (2024) (25), found that digital health

monitoring systems was positive and significantly perceived among patients with various demographic groups, especially who has prior experience with digital devices and mobile technologies was supported by the findings of this study. The study also emphasized that patients are generally satisfied with digital healthcare services if they find these technologies helpful in improving their communication with healthcare providers and access to medical information.

Despite the relatively high level of awareness of digital health services in the present study, the findings showed that only 21.7% of respondents reported their regular use, 34% reported occasional use, and 24.3% had never used these services. This phenomenon, where awareness does not translate to actual use, is consistent with previous studies. For example, a study by Raju P, Perumal P, and Shanthi P (26) emphasized by the fact that patients show more hesitation in embracing digital health services than healthcare professionals and operators of the health system themselves. The research carried out by the organization on the digital transformation of the health sector showed that, despite the benefits of digital platforms, patients may show a certain level of hesitation due to concerns about the level of technological complexity, unfamiliarity, and security of the data.

One of the most significant findings of the present study is that trust in digital systems emerged as the strongest predictor of patient perception, accounting for 47.9% of the variance in patient perception ($R^2 = 0.479$). This suggests that patients are more likely to use digital healthcare technologies based on their perception of security, reliability, and transparency. Similar findings have been reported in international research on the adoption of teleconsultation technologies in response to the COVID-19 pandemic. In particular, studies on the adoption of digital healthcare technologies have highlighted that trusting beliefs and self-efficacy are significant in influencing patients' intentions to use telemedicine technologies.

The importance of trust and usability in digital health systems has also been highlighted in research on digital health design and patient experience. A study conducted by Tingting Wang, Haiou Zhu (24), and Liu and Marijke Melles (27) explored the design processes of digital health platforms and emphasized the importance of human-centered design principles in improving the digital patient experience. The study identified that there are several design challenges in developing digital health platforms, and the researcher proposed a design framework for improving the digital health experience. The findings of the current study are in accordance with the perspective, particularly in relation to the ease of use and usefulness, as they were found to have statistically significant positive effects on patient perception.

All the perception variables were found to have large effect size values. In this case, the usefulness and accessibility perception variables were found to have the largest effect size values. In this case, the usefulness perception variable had a large effect size value of $d = 1.10$, while the accessibility perception variable had a large effect size value of $d = 1.02$. These findings suggest that patients generally perceive that the use of digital health platforms enhances their access to healthcare services. In this case, the use of digital health platforms enhances the efficiency of the healthcare process. In the case of post-pandemic research on digital health communication, patients were found to perceive that the use of digital consultation platforms saves time, reduces costs, and enhances their access to healthcare services. In many urban settings, the use of digital platforms is important in facilitating the communication process between patients and healthcare providers. (28)

Apart from trust and usefulness, the current study also revealed that ease of use plays a significant role in influencing patients' perception, but the magnitude of the effect, though moderate, was lower compared to the effect of trust. This implies that though the ease of use of digital healthcare systems is crucial, patients' concerns lie more with the reliability of digital healthcare systems. This assertion is supported by the digital health application satisfaction study, which emphasizes the importance of technical usability, emotional engagement, and quality of life as determinants of patients' satisfaction.

The chi-square test in the current research also substantiates the fact that the answers towards digital health platforms do not occur randomly and reflect clear tendencies; rather, they reveal moderately positive attitudes towards the usefulness, trust and accessibility of digital health platforms.

This study has few limitations in the results. Firstly, since the study is confined to the Delhi NCR, the results cannot be generalised to other healthcare institutions in other states or other setup hospitals. Secondly, the research was based on self-reported data obtained with the help of a structured questionnaire, which could be affected by response bias and social desirability bias because the participants might have presented the answers that they believed were positive or socially acceptable. The other limitation is associated with the research design chosen in the study, the cross-sectional one. As data were gathered at one point of time, the study is unable to draw causal correlations between the variables, instead, finding the relationships between the factors affecting perception of patients of digital health platforms. Besides, the differences in digital literacy levels across the participants might have affected their responses and perception ratings because those who were more familiar with the digital technologies might have rated the digital health platforms higher compared to those who were less technologically familiar.

5. CONCLUSION

The present study aimed to identify the patient perception of the digital health platforms in the private multispecialty hospitals within the Delhi NCR area using a quantitative cross-sectional research design. It is found that the digital healthcare technologies are slowly being accepted by

patients, but the awareness of their usage and regular usage are moderate. Although a significant percentage of respondents had already heard about the existence of digital health applications, including online appointment systems, teleconsultation, online payments, and online diagnostic reports, they still do not use them regularly. The statistical review proves that the patients tend to have positive attitudes toward the digital health platforms, especially when it comes to access and usefulness and convenience. The analysis of effect size also confirmed that these perceptions are not statistically significant, but are also practical. As patients generally admitted, digital health platforms enhance accessibility to healthcare services, improve the speed and efficiency with which patients communicate with healthcare providers, and save time and energy that would have been used otherwise during hospital visits. The results reveal the growing influence of the digital technologies on the healthcare delivery transformation and enhancing patient experience in contemporary hospitals. More digitally familiar and educated patients also seem more at ease with digital healthcare systems, and people with limited digital literacy might experience problems using digital systems.

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