

Patients Satisfaction Level on Tele Consultation Services during COVID-19 in Tertiary Referral Hospital South India

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ABSTRACT: Background: COVID-19 pandemic has made it difficult for people to seek medical attention in order to maintain social distancing and reduce the risk of infection. People can now easily access health-care services without getting any exposure to COVID-19 by teleconsultation. The purpose of this study was to evaluate the level of satisfaction on teleconsultation during COVID-19 in a tertiary care hospital. Methods: The purposive sampling method was used to select patients who received teleconsultation services in Jawaharlal Institute of Postgraduate Medical Education and Research from July 2020 to June 2021 during COVID-19 pandemic. The cross-sectional study was done in outpatient department of JIPMER hospital among 77 patients using the semi structured questionnaire which includes basic information of the clients and 10 item Telehealth Satisfaction Scale (TeSS). Result: According to this study, majority of participants (59.7%) were satisfied with teleconsultation services at a tertiary care hospital during COVID-19 pandemic. Among the 77 participants, 31.2% experienced language barriers, 49.4% experienced virtual physical examination as a barrier, 58.4% experienced connectivity issues, 51.9% were not satisfied in telling their complaints, 61% expressed lack in health talk, and 57.1% experienced a lack of a physical examination and 57.1% reported comfort issues as a barrier to teleconsultation services Conclusion: Telehealth has successfully lessened the geographical and temporal barriers to receiving care in traditional modalities. This study concluded that majority of participants were satisfied with teleconsultation with significant association between participants' degree of satisfaction with their profession.

KEYWORDS: Teleconsultation, satisfaction, COVID 19, Telehealth Satisfaction Scale (TeSS), tertiary care referral hospital.

Background

The World Health Organization announced COVID-19 pandemic on March 11, 2020. Many initiatives were taken to control the spread of COVID-19 infection such as social distancing, quarantine, isolation and use of safe protective and preventive measures which created great challenge to health care team in providing health services to people. Teleconsultation services came into spotlight to help the health care team to overcome all the hurdles faced by them while providing quality health services [1].

World Health Organization describes telemedicine as the delivery of health care services provided by all health care professional using available information and communication technologies for getting valid information regarding diagnosis, treatment, prevention of diseases, research and evaluation. It also helps in providing continuing education programme aiming at improving the health of individual and communities [2].

Telehealth has been utilized less frequently in healthcare delivery. However, because of the need for social distancing and protective measures as a result of COVID-19 pandemic which created disruption in delivering quality

health care services to common people in accordance to their health demands, the use of telehealth as a worldwide measure was began in an effective manner in addressing people's healthcare needs.

Telehealth provides various health care services such as medical care assistance, diagnosis, registration, consultation, medication prescription, evaluation, and follow-up of patients with various health conditions. Telehealth refers to remote relief. This not only helps patients to meet their needs, but also decreases the pressure on health care personnel to provide adequate healthcare service to persons living in remote areas and facing difficulties in availing quality health care services.

Earlier telemedicine was only focused on rural setting, as it is cost effective and efficient way in improving accessibility and providing quality health services, now it has spread its wing to all health institutions [3-4].

As a result, telemedicine has been used in various setting where traditional health care delivery system have encountered difficulty in providing quality health care services [5].

Telemedicine is not yet free from barriers. The barriers of telemedicine mainly involves technological aspects and we can overcome those

by providing adequate training to health care providers in improving the knowledge on telehealth and improving interaction between the health care provider and patients. Telemedicine is also widely used in large number of countries to eliminate proximity from the equation of care [6].

Patient satisfaction is a critical aspect in assessing the quality of care provided in any health care setting and by any means.

Hence, it is important to identify the impact of telemedicine over patient satisfaction level for further development and modifications. It also helps to establish the effectiveness of health services provided by health team using existing telehealth services [7].

We anticipate that this study will increase patient satisfaction on teleconsultation in tertiary care hospitals. The findings of the study will assist us in identifying the impediments to teleconsultation at tertiary care hospitals. This will assist us in overcoming the difficulties encountered by patients during teleconsultation and improving the modalities in the future for the benefit of the patients. Numerous studies have been already conducted on people's satisfaction levels in teleconsultation. This study aims to assess the level of satisfaction on teleconsultation and barriers experienced by patients.

Materials and Methods

It was a cross sectional study conducted during October 2021 and purposive sampling was used to select patients who received teleconsultation services in Jawaharlal Institute of Postgraduate Medical Education and Research from July 2020 to June 2021 during COVID-19 pandemic.

This study was approved by Institute Ethical Committee, JIPMER, Puducherry. Our questionnaire contains four sections including patient demographic data, information about registration and consultation, Tele health Satisfaction Scale (TeSS)-10 item Scale and experienced barriers. Tele health Satisfaction Scale (TeSS) was used with the permission of developer Debra G Morgan.

The study was conducted in Outpatients Department of JIPMER hospital which provides super specialty and tertiary care to patients from all over the country belonging to various backgrounds. The sample size was calculated [8] using open Epi Version 3.01 with 95% client satisfaction on teleconsultation with a level of

satisfaction of 5% and a confidence interval of 95%, yielding a sample size of 73. Participants in the study include individuals who availed teleconsultation at least once during COVID-19 in JIPMER, those who can speak Tamil and English. Data was collected by trained professionals from medical field after getting consent from participants.

In this study, independent variables are age, gender, occupation, marital status, income, language, religion, and the outcome variables are patient satisfaction and experienced barriers teleconsultation aspects.

Statistical Analysis

The distribution of demographical variables such as gender, educational qualification, marital status were expressed in terms of frequency and percentage. The association between level of satisfaction among patients on teleconsultation and their selected demographic variables were analysed using chi square test. Analysis was carried out with 5% level of significance and p value less than 0.05 considered as significant. TeSS, a 10 items scale was used in which score was interpreted as cut off point from 1-10 as strongly dissatisfied, 11-20 as dissatisfied, 21-30 as neutral, 31-40 as satisfied, 41-50 as strongly satisfied. The statistical analysis carried out using SPSS version 25.

Results

In total, 77 patients (32 males and 45 females) were selected for our study. The mean age of patients were of 44.95 ± 12.83 years in which majority of patients were in age group of 45-59 years (41.6%).

Most of the patients had only primary level of education (46.8%). Most of the patients were employed in private (27.3%) and few of them were engaged in agriculture (27.3%).

Majority of patients income was less than 10,000 (62.3%). 90.9% of patients were married and 92.92% spoke local language (Tamil).

Among 77 patients, 99.9% belonged to Hindu religion, 55.8% hailed from rural area and 44.2% from urban area (Table 1).

The level of satisfaction for teleconsultation among 77 patients was examined using a 10 item Telehealth Satisfaction Scale (TeSS). The results suggest that 19.5% of participants were strongly satisfied and 59.7% were satisfied with teleconsultation services in tertiary care hospital (Figure1).

Table 1. Description of the demographic variables among patients (n=77).

SL. NO	DEMOGRAPHIC VARIABLES	FREQUENCY (n)	PERCENTAGE (%)
1	Age (in years):		
	18-29	7	9.1
	30-44	28	36.4
	45-59	32	41.6
	>60	10	13
	Mean age	44.95±12.83	
2	Gender		
	Female	45	58.4
	Male	32	41.6
3	Education		
	No formal education	10	13
	Primary level	36	46.8
	Secondary level	13	16.9
	Graduate and above	18	23.4
4	Occupation		
	Unemployed	13	16.9
	Private	21	27.3
	Government	2	2.6
	Agriculture	21	27.3
	House wife	20	26
5	Income		
	<10000	48	62.3
	10001-20000	5	6.5
	More than 20000	5	6.5
	Nil	19	24.7
6	Marital status		
	Married	70	90.9
	Unmarried	7	9.1
7	Language		
	Bengali	1	1.3
	English	4	5.2
	Malayalam	1	1.3
	Tamil	71	92.2
8	Religion		
	Christian	5	6.5
	Hindu	70	90.9
	Muslim	2	2.6
9	Residence		
	Rural	43	55.8
	Urban	34	44.2

Note: shows frequency and percentage wise distribution of demographic characteristics among patients.

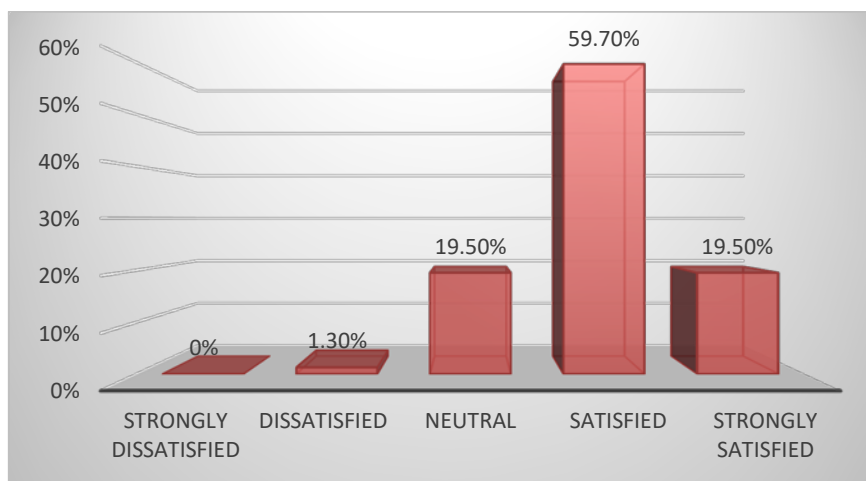


Figure 1. Level of satisfaction on teleconsultation during COVID 19 among patients.

Table 2. Frequency and percentage-wise distribution of perceived barriers to teleconsultation during COVID-19 among patients (n=77).

Perceived barriers	Frequency (n)	Percentage (%)
Language barriers	24	31.2
Physical examination	38	49.4
Connectivity issues	45	58.4
Able to express complaints	40	51.9
Prescription errors	11	14.3
Lacking of health talk	47	61
Access for diagnostic test	44	57.1
Financial burden	9	11.7
Security concern issues	16	20.8
Comfortability	44	57.1

Note: shows frequency and percentage wise distribution of perceived barriers on teleconsultation during COVID 19 among patients.

Among the 77 participants, 31.2% experienced language barriers, 49.4% experienced virtual physical examination as a barrier, 58.4% experienced connectivity issues, 51.9% were not satisfied in telling their complaints, 14.3% experienced prescription errors, 61% expressed lack in health talk, and 57.1% experienced a lack of a physical examination, 11.7% of participants reported financial strain, 20.8% reported security concerns, and 57.1% reported comfort issues as a barrier to teleconsultation services (Table 2).

Occupation have statistically significant association between levels of Satisfaction and their selected demographic variables among patients. The other demographic variables did not have statistically significant association between levels of Satisfaction and their selected demographic variables among patients (Table 3).

Table 3. Association between level of satisfaction and their selected demographic variables among patients (n=77).

SL. NO	DEMOGRAPHIC VARIABLES	LEVEL OF SATISFACTION						Chi-square X ²	Df	p-value
		DISSATISFIED		NEUTRAL		SATISFIED				
		N	%	N	%	N	%			
1	Age (in years):							8.41	9	0.493 NS
	18-29				0	5	10.9			
	30-44				33.3	18	39.1			
	45-59				60	18	39.1			
	>60	0	0	1	6.7	5	10.9			
2	Gender							1.98	3	0.575 NS
	Female	1	100	7	46.7	27	58.7			
	Male	0	0	8	53.3	19	41.3			
3	Education							10.73	9	0.295 NS
	No formal education	0	0	2	13.3	4	8.7			
	Primary level	0	0	9	60	23	50			
	Secondary level	0	0	1	6.7	10	21.7			
	Graduate and above	1	100	3	20	9	19.6			
4	Occupation							47.67	12	0.000 HS**
	Unemployed	0	0	0	0	9	19.6			
	Private	0	0	7	46.7	11	23.9			
	Government	1	100	0	0	0	0			
	Agriculture	0	0	4	26.7	12	26.1			
	House wife	0	0	4	26.7	14	30.4			
5	Income							9.83	9	0.364 NS
	<10000	1	100	13	86.7	25	54.3			
	10001-20000	0	0	0	0	5	10.9			
	More than 20000	0	0	1	6.7	2	4.3			
	Nil	0	0	1	6.7	14	30.4			
6	Marital status							2.103	3	0.551 NS
	Married	1	100	15	100	41	89.1			
	Unmarried	0	0	0	0	5	10.9			
7	Language							13.52	9	0.140 NS
	Bengali	0	0	0	0	0	0			
	English	0	0	0	0	1	2.2			
	Malayalam	0	0	0	0	1	2.2			
	Tamil	1	100	15	100	44	95.7			
8	Religion							3.86	6	0.695 NS
	Christian	0	0	0	0	3	6.5			

SL. NO	DEMOGRAPHIC VARIABLES	LEVEL OF SATISFACTION						Chi-square X ²	Df	p-value
		DISSATISFIED		NEUTRAL		SATISFIED				
		N	%	N	%	N	%			
	Hindu	1	100	15	100	42	91.3			
	Muslim	0	0	0	0	1	2.2			
9	Residence							0.976	3	0.807 NS
	Rural	1	100	9	60	25	54.3			
	Urban	0	0	6	40	21	45.7			

Note: **p* < 0.05 significant, ***p* < 0.001 highly significant, NS-Non significant.

Discussion

Telemedicine's appeal lies in its capacity to transmit medical information over long distances. In the first part of the 20th century, telemedicine was first documented in a published report as ECG transmission over telephone lines. Electrical telegraph and telephone inventions were key to the development of telemedicine as we know it today. The WHO recommends a doctor to patient ratio of 1:1000, whereas India now only has a doctor to patient ratio of 0.62:1000 [8].

Since training new doctors takes time and money, the doctor-to-patient ratio is likely to stay low for a very long time. The active telemedicine services in various sections of the nation help to fill this shortfall in part.

However, the use of teleconsultation services can be positively or negatively influenced by external or internal factors. External factors refer to the environment surrounding the system as well as the system itself, while internal factors refer to user behavior and motivation.

In our study, 59.7 percent of participants were satisfied with teleconsultation and 19.5 percent of participants were strongly satisfied, among those 58.4 percent were females.

Also, 58.4 percent had connectivity concerns, and 51.9 percent were satisfied in reporting their complaints.

57.1 percent said diagnostic tests were simple, while 61 percent said there was a lack of health talk.

In a cross-sectional study of 1734 patients conducted in United States, 95 percent reported that they are very satisfied with telehealth. Seventy percent of those who took part were women.

95 percent indicated that diagnostic tests were simple, 94 percent mentioned the presence of health talk, and 95 percent said it was simple to see and hear practitioners [9].

Our study found that telehealth and teleconsultation services are effective, helpful and highly satisfactory to the mankind in seeking essential health facilities and also adopting

healthy practices even during COVID 19 when social distancing and risk for infection were perceived as the major intimidating factors for delivering quality health care services to common public and people living in remote areas.

A cross-sectional patient satisfaction study found that 85.8 percent of patients utilizing the teleconsultation MedX mobile application at the cosmetic laser clinic were satisfied. Likewise, 59.7 percent of patients in our study were satisfied with the teleconsultation services given during COVID 19.

In Texas, a systematic analysis was conducted identified healthcare costs (8%), patient age (5%), and educational level (5%) as barriers of teleconsultation [10].

The investigation revealed constraints such as language problems, organisational changes, and consultation issues.

In comparison to this study, our study had 24% language obstacles, 39% physical examination difficulties, and 33% comfort issues.

A qualitative study on the barriers and enablers affecting telemedicine among patients was done to determine patient satisfaction with home online health consultation which discovered 17 external and internal facilitators as well as 8 impediments and pointed out that there were less impediments to the telehealth consultation system.

Similarly, our study found that 80.5 percent of participants had fewer barriers while using telemedicine services [11].

In our study 85.7% patients not experienced prescription errors during teleconsultation.

This indicates that even with teleconsultation we can minimize the prescription errors and improving accessibility to quality health care.

88.3% of the patient express that they did not faced any financial burden on teleconsultation indicating there was no significant expenditure for receiving medical care through teleconsultation services.

79.2% of patient expressed that there was no security concern issues, as they felt secured in their home during teleconsultation services.

Our study found that there was a lack of health talk/health education, lack of accessibility to diagnostic tests and free medication which were earlier provided by the hospital itself.

This study also addressed poor network connectivity which disrupted the flow of consultation and also resulted in distraction in communication between the patient and health care provider.

Health care professionals can take into consideration the enabling factors and minimize or remove the obstacles in order to ensure the effective delivery of online consultations to their patients at home.

As a result, it provides researchers with a clear road map for testing out new approaches to installing or utilizing telehealth services to treat patients with certain illnesses.

Limitations

Since this study was conducted in a tertiary health care referral centre in an urban setting, the results cannot be generalized to other health facilities or a health facility in a rural setting and the sample size was quite small.

The study was carried out during the COVID 19 pandemic for the first time in tertiary hospital which requires additional development in both technical and man power aspects.

Conclusion

With the same or greater effectiveness, telemedicine has successfully lessened the geographical and temporal barriers to receiving care in traditional modalities.

For the most part, telemedicine consultation services during pandemics were as good as or better than a typical visit.

This may be beneficial for people who struggle to find timely, convenient care beyond the pandemic period, which could help to lower healthcare costs.

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Conflict of interests

None to declare

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