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Original Research Article

A cross-sectional study on satisfaction with teleconsultation in people with diabetes during the COVID-19 pandemic in semi-urban and village parts of Kerala

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ABSTRACT

Background: Since the emergence of the pandemic situation, there has been a gradual paradigm shift in the clinical management of diabetes, wherein, the scheduled clinical visits have been converted into teleconsultations. Patient satisfaction is an important parameter which is not well understood. The aim of the study was to assess patient satisfaction with diabetes management through teleconsultation in these populations.
Methods: This cross-sectional study was conducted in the Safe Care clinic in Tirur, Kerala from March 2021 to August 2021. This study included 163 T2D patients who availed of teleconsultation. Patient satisfaction was obtained through an online 12-item questionnaire developed by the authors and administered online via a survey tool.
Results: In this study, 60% of the patients were male. The majority of the teleconsults occurred in the 41-60 years age group. Of the 163 responses obtained, 145(88.9%) of patients were satisfied with the explanation provided by their physician about their condition, while 148 (90.7%) were satisfied with the duration of the consultation. Further, 158 (96.9%) would be happy to use teleconsultation again, while 155 (95%) would recommend teleconsultation to their friends and family. Around 150 (92%) feel their confidentiality is maintained similar to in-clinic face-to-face consultation and 98 (60%) opined they would continue to use teleconsultations even after face-to-face interactions resume post-pandemic.
Conclusions: The patient satisfaction results of the study indicate that telemedicine is there to stay during and beyond the COVID-19 pandemic for the management of diabetes in the sub-urban and village populations in Kerala.

Keywords: Teleconsultation, Diabetes care, Patient satisfaction

INTRODUCTION

The prevalence of type 2 diabetes mellitus (T2DM) has risen exponentially in India in recent decades. The 2019 International Diabetes Federation Atlas estimates that India is home to approximately 77 million of the world's 463 million adults with diabetes.[1] Technology is not only changing diabetes care but also the way healthcare is delivered. Telemedicine means 'healing at a distance' or telehealth. It uses telecommunication systems such as computers and mobile devices to improve access to healthcare services.[2] Telemedicine can overcome the distance and location barrier and further enable high-quality healthcare services. Thus, benefiting the patients located in remote areas of the country with limited accessibility to doctors. This has the potential to save a lot of money as well as time.[3] Diabetes is a chronic condition. Diabetes care thus requires regular monitoring of blood sugar levels. Any delay in screening, diagnosis, or treatment may worsen the condition and lead to

diabetes-related complications. This is the existing gap in diabetes care that telemedicine tools can fill.[4,5] The quality, delivery, and efficiency of healthcare services are being transformed by telehealth technology. Telehealth, or telemedicine, refers to the use of telecommunications and information technologies to provide healthcare services across distances. Patient satisfaction with telemedicine is an important research focus because it is a critical aspect of quality of care and health outcomes and assessing the acceptability of services is in line with the growing emphasis on patient-reported outcomes.[6] This study was planned to assess patient satisfaction with teleconsultation in diabetes care during the COVID-19 pandemic.

METHODS

This cross-sectional study was conducted in the SafeCare clinic in Tirur, Kerala between March 2021 to August 2021. A total of 163 persons with type 2 diabetes with age >18 years who availed of teleconsultation services were included in this online survey. Patients who were not willing to sign a digital informed consent were excluded. This online survey was based on a 12-item questionnaire, developed by the authors adapting from the telehealth usability questionnaire.[7] The statistical analysis was done using the SPSS tool. Patient identity was always kept confidential.

Table 1: The teleconsultation satisfaction questionnaire parameters.

Questions	Responses			
How satisfied are you with	**Poor**	**Fair**	**Good**	**Excellent**
The quality of discussion with your physician?	-	-	-	-
Your personal comfort in using the teleconsultation system?	-	-	-	-
The voice quality using the equipment?	-	-	-	-
The duration of your consultation?	-	-	-	-
The explanation provided for your condition?	-	-	-	-
The thoroughness, carefulness and skilfulness of the physician and his/her staff?	-	-	-	-
The courtesy, respect, sensitivity and friendliness of the physician and his/her staff?	-	-	-	-
Your overall treatment experience at using teleconsultation?	-	-	-	-
Would you use teleconsultation again?	Yes		No	
Do you feel your confidentiality is maintained similar to in-clinic face-to-face consultation	Yes		No	
Would you recommend teleconsultation to your friends and family?	Yes		No	
Would you still prefer teleconsultation once the COVID-19 pandemic gets back to normal	Yes		No	

RESULTS

The study included 163 patients with T2DM (97 males, 59.5%; 66 females, 40.5%). The majority of 95 (58%) of the tele-consults occurred in the 41-to-60-year age group (Figure 1). Satisfaction with the quality of discussion with the attending physician via teleconsultation, 90 (55.21%) and 55 (33.74%) opined to be excellent and good respectively (Figure 2).

Personal comfort in using a teleconsultation system, 85 (52.14%) opined it to be excellent and 63 (38.65%) stated it to be good (Figure 3). Duration of the consultation parameter, 85 (52.14%) responded as excellent and 56 (34.35%) responded as good. Overall satisfaction of the patient during the consultation 72 (44.17%) stated it was excellent, 81 (49.69%) as good, 8 (4.90%) as fair, and 2 (1.22%) considered it to be poor (Table 1). In the preference for teleconsultation again 158 (96.93%) patients are willing to consider teleconsultation for theircondition. 60.12% are willing to have teleconsultation once the pandemic is back to normal (Table 2).

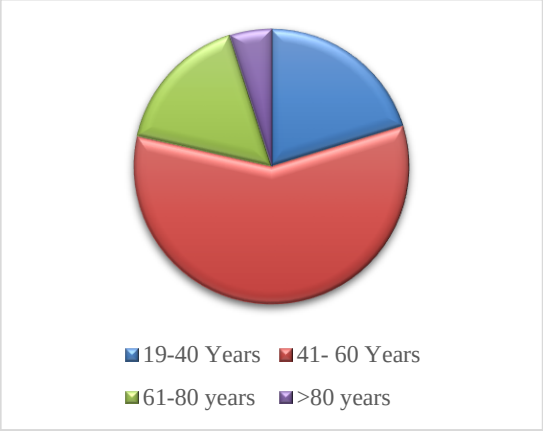

Figure 1: Age distribution of the responders.

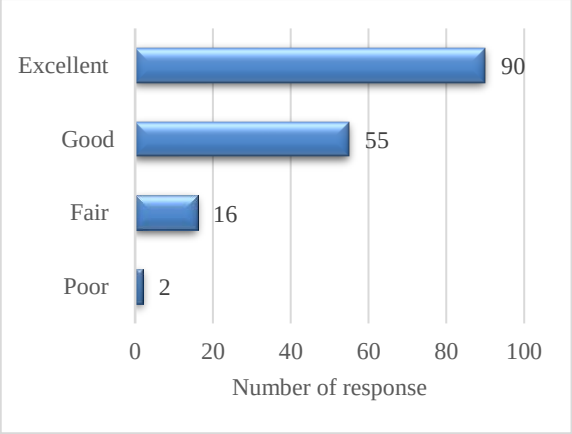

Figure 2: Quality of discussion.

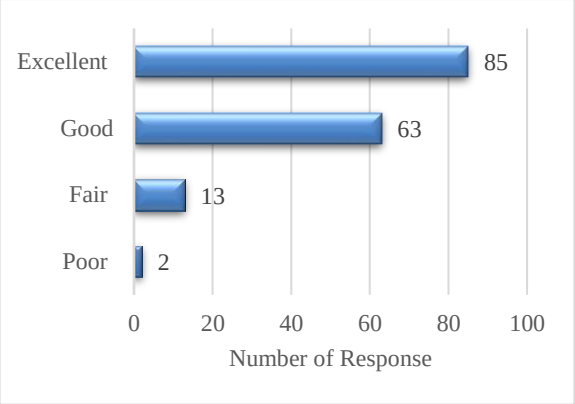

Figure 3: Personal comfort in using a teleconsultation system.

Table 2: Patient satisfaction on duration, the explanation provided, audio-video, and overall experience.

Parameters	Poor	Fair	Good	Excellent
Duration of consultation	6 (3.6)	16 (9.81)	56 (34.35)	85 (52.14)
Audio and video quality	5 (3.06)	15 (9.20)	83 (50.92)	60 (36.80)
The explanation provided for your condition	5 (3.06)	23 (14.11)	60 (36.80)	75 (46.01)
Courtesy, respect, and friendliness of the physician and his/her staff	1 (0.61)	5(3.06)	55 (33.74)	102 (62.57)
Overall experience	2 (1.22)	8 (4.90)	81 (49.69)	72 (44.17)

Table 3: Patient preference for teleconsultation.

Parameters	Yes	No
Preference for teleconsultation again	158 (96.93)	5 (3.06)
Recommend teleconsultation to your friends and family	155 (95.09)	8 (4.90)
Preference for teleconsultation once the COVID-19 pandemic gets back to normal	98 (60.12)	65(39.87)
Maintenance of confidentiality	150 (92.02)	13 (7.97)

Table 4: Summary of advantages and pitfalls in teleconsultation.[12,13]

Advantages of teleconsultation	Pitfalls of teleconsultation
Easy accessibility to diabetes care, early detection and treatment of diabetes and complications, provides individualized health information, enhances decision making in clinical management, increases awareness of diabetes through education, facilitates remote monitoring and information delivery and availability of diabetes care facility at doorstep	Poor internet connectivity, hardware availability-no smartphone availability in rural areas, disability-elderly patients have a degree of deafness and poor sight resulting in challenges with understanding, disturbances- background noise or disturbance resulting in poor communication, interface issues and tech issues and security and privacy issues, while accessing patient data over the internet

DISCUSSION

Traditionally, health care consultations between a provider and a patient have occurred face to face in a physical location. The Internet and technology revolution has made it possible for health care to be delivered digitally, providing new avenues for medicine to improve the value of care.

Teleconsultation saw its boom in India due to the current COVID-19 pandemic. Telemedicine is a new, and potentially disruptive, innovation and must be shown to be safe, effective, patient-centered, timely, and efficient.[8] Telemedicine satisfaction surveys are essential in understanding and improving the provider-patient relationship, especially as technology continues to evolve in the healthcare industry. Our study is the first of its kind study done evaluating patient satisfaction with teleconsultation in diabetes care during the COVID-19 pandemic in India.

When asked about the satisfaction with the quality of discussion with the attending physician via teleconsultation, 90 (55.21%) and 55 (33.74%) opined to

be excellent and good respectively. In terms of personal comfort in using a teleconsultation system, 85 (52.14%) opined it to be excellent and 63 (38.65%) stated it to be good. Duration of consultation is an important parameter in patient satisfaction, this will reflect in adapting the teleconsultation in future, in our study 85 (52.14%) and 56 (34.35%) responded as excellent and good respectively. This shows that around 86.5% were satisfied with the duration of consultation provided for the teleconsultation. When asked about the explanation provided for the condition during the consultation 75 (46%) stated it to be excellent and 60 (36.80%) considered it to be good, it is evident that around 82.8% of the responders were satisfied with the explanation provided by the doctors for their condition. Earlier studies showed that clinical consultations conducted through video consultations are associated with high patient satisfaction.[9,10] In our study 60 (36.80%) and 83 (50.92%) opined that the audio and video quality of their teleconsultation were excellent and good respectively. Over 87.7% are satisfied with the audio and video quality. Empathy increases both patient satisfaction and compliance and enhances a practitioner's ability to treat patients.[11]

The rapid adoption of technologies has altered communication patterns and disrupted the expression of empathy, specifically in digital conversations. The empathetic social filter that accompanies traditional communications is almost eliminated.

In our study when asked about the courtesy, respect, and friendliness of the physician and his/her staff during teleconsultation 102 (62.57%) opined it to be excellent and 55 (33.74%) considered it to be good. It is to be observed only 1 (0.61%) of responses opined to be poor. When asked about the overall satisfaction of the patient during the consultation 72 (44.17%) stated it was excellent, 81 (49.69%) as good, 8 (4.90%) as fair, and 2 (1.22%) considered it to be poor.

Though telehealth/teleconsultation has major advantages it is also important to focus on the risks. For telehealth to succeed, privacy, security, and confidentiality risks must be identified and addressed. In our study majority of the patients, 150 (92.02%) feel their confidentiality is maintained during the teleconsultations.

Regarding the preference for teleconsultation once again during the pandemic 158 (96.93%) patients opined that they are willing to consider teleconsultation for their condition. Further 155 (95%) of patients responded that they would recommend teleconsultation to their friends and family. This is also great to know that 98 (60.12%) stated that they will preference of teleconsultation even if the COVID-19 pandemic gets back to normal. These results are heartening as teleconsultation and telemedicine are here to stay and adopting the current normally is very important for patient care.

Limitations

Limitations of the study include the fact that it was undertaken in a small geographical area and was conducted with a small sample size.

CONCLUSION

The majority of patients are satisfied with the teleconsultations that have become the norm during the pandemic. The quality of conversations, the explanation of their condition, and the time provided were rated as excellent by most of the patients, which is gratifying in these tough times for humankind. Policymakers and health care providers should be mindful to accept the advantages of delivering care through virtual mode in this digitalized world. Should encourage the development of policies and guidelines on the subject in an urgent mode to support the uptake of telemedicine in an efficient manner.

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REFERENCES

1. Diabetes Atlas 9th ed. Available at: https://www.diabetesatlas.org/en/. Accessed on 20 August 2021.
2. Telemedicine-Opportunities and developments in member states. 2nd ed. Geneva, Switzerland. Available at: https://www.who.int/goe/publications/goe _telemedicine_2010.pdf. Accessed on 20 August 2021
3. Mohan V, Prathiba V, Pradeepa R. Tele-diabetology to screen for diabetes and associated complications in rural india: the chunampet rural diabetes prevention project model. J Diabetes Sci Technol. 2014;8(2):256-61.
4. Kesavadev J, Saboo B, Shankar A, Krishnan G, Jothydev S. Telemedicine for diabetes care: An Indian perspective - feasibility and efficacy. Indian J Endocr Metab. 2015;19:764-9.
5. Aberer F, Hochfellner DA, Mader JK. Application of telemedicine in diabetes care: the time is now. Diabetes Ther. 2021;12(3):629-39.
6. Nguyen M, Waller M, Pandya A, Portnoy J. A review of patient and provider satisfaction with telemedicine. Curr Allergy Asthma Rep. 2020;20(11):72.
7. Parmanto B, Lewis AN, Graham KM, Bertolet MH. Development of the telehealth usability questionnaire (TUQ). Int J Telerehabil. 2016;8(1):3-10.
8. Schwamm LH. Telehealth: seven strategies to successfully implement disruptive technology and transform health care. Health Aff. 2014;33(2):200-6.
9. Sabesan S, Simcox K, Marr I. Medical oncology clinics through videoconferencing: an acceptable

telehealth model for rural patients and health workers. Intern Med J. 2012;42(7):780-5.
10. Dorsey ER, Venkataraman V, Grana MJ, Bull MT, George BP, Boyd CM, et al. Randomized controlled clinical trial of "virtual house calls" for Parkinson disease. JAMA Neurol. 2013;70(5):565-70.
11. Neuwirth ZE. Physician empathy--should we care? Lancet. 1997;350(9078):606.
12. Hjelm NM. Benefits and drawbacks of telemedicine. J Telemed Telecare. 2005;11(2):60-70.
13. Iyengar K, Jain VK, Vaishya R. Pitfalls in telemedicine consultations in the era of COVID 19 and how to avoid them. Diabetes Metab Syndr. 2020; 14(5):797-9.

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