

KNOWLEDGE AND ATTITUDE TOWARDS TELEMEDICINE AMONG DOCTORS OF CHENGALPATTU DISTRICT: A CROSS SECTIONAL STUDY

Community Medicine

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ABSTRACT

Introduction: Telemedicine is a hopeful approach to make health care services available to all population. Challenges faced globally like improving the quality of services and making cost effective healthcare available to all can be achieved by implementation and appropriate use of telemedicine. **Methodology:** It is a cross sectional study done between July 2021 and August 2021 among Doctors of Chengalpattu district. Using convenience sampling method 120 doctors were included in this study. Detail written Informed consent was obtained from the participants prior to collecting data. The data was collected using a self designed, pretested questionnaire consisting of Socio-demographic factors followed by Questions on Knowledge and Attitude towards Telemedicine. Collected data was analysed using SPSS, v21.0. **Results:** In this study to assess the Knowledge and Attitude towards Telemedicine among Doctors of Chengalpattu district, 120 doctors were included in this study among which 58(48.3%) were males and 62(51.7%) were females. Around 116(96.7%) doctors were in the age group of 21-30 years and most of them were Postgraduates 61(50.8%). Mean score was used to assess the Knowledge and Attitude towards telemedicine. Majority of them had good knowledge on Telemedicine 75(62.5%). Among 120 Doctors, 64(53.3%) of them had good level of Attitude while remaining 56(46.7%) doctors had poor attitude towards Telemedicine system. **Conclusion:** The study shows good knowledge and attitude towards telemedicine among doctors. However proper training of them in delivering healthcare services through telemedicine is needed for successful implementation in healthcare system.

KEYWORDS

INTRODUCTION:

Field of Technology has transformed our world to a wider extent, although its application in the health care and practice of medicine has not reached so far. World Health Organization (WHO) describes telemedicine as a reasonable use of Information and Communication Technologies (ICT) to aid in areas of health care such as healthcare delivery system, patient care, research and educational purpose.¹ Telemedicine also helps to promote distant healthcare, health education and health monitoring to the patients from the comfort of home.² Challenges faced in health care system globally like improving the quality of health services and making cost effective services accessible to everyone could be overcome by the application of telemedicine in the field of health.³ This Telemedicine is one hopeful approach which makes healthcare accessible to areas where there are inadequate facilities in health industry. The Covid-19 pandemic has affected the usual hospital based health care services to a wider extent globally. Therefore newer approaches of delivering health care including telehealth and telemedicine must be considered for a hassle free health care service for the patients.⁴ Many countries worldwide have already implemented the use of Telemedicine even before the pandemic. Although developed countries have used the Telemedicine technology to a much extent in the field of healthcare services, its concept and application in developing countries is still on margin.⁵ In developing countries like India where there are limited medical resources and many obstacles in accessing the healthcare services, Telemedicine could pave a way for optimum utilization of services. A survey in US showed that more than half of them had one or more health related applications in their mobile phones which indicates an open minded approach by the general population towards telemedicine.^{6,7} In order to make use of this technology, it is essential to consider the knowledge and attitude of the patients as well as the healthcare professionals regarding telemedicine. The physician's appropriate use of telemedicine can benefit the patients by providing healthcare services at the comfort of their homes without having to visit the hospital. Moreover it also reduces the risk of acquiring communicable infections from the hospital.⁸ Therefore the objectives of this study were to assess the knowledge and attitude regarding telemedicine among the doctors and their perception towards the barriers in the use of telemedicine.

Methodology:

It was a cross sectional study and the study participants were doctors in the areas of Chengalpattu district. Data was collected between June

2021 to August 2021. Convenience sampling technique was used and 120 doctors who were willing to participate were included in the survey. Detail written Informed consent was obtained from the participants prior to collecting data. The data was collected using a self designed, pretested questionnaire formed after various literature reviews on the topic. It consisted of two parts- socio demographic factors of the participants including age, gender, years of experience, designation and basic questions about Telemedicine followed by separate set of questions for assessing the knowledge and attitude towards telemedicine respectively. Knowledge was assessed using 7 questions and Attitude section consisted of 13 questions graded on Likert scale. Data collected was entered in Microsoft excel spread sheet. Collected data was analyzed using IBM-SPSS, v21.0. Categorical data was expressed as frequency and percentiles.

RESULTS:

In this study to assess the Knowledge and Attitude towards Telemedicine among Doctors of Chengalpattu district, 120 doctors were included in this study, out of which 58 were males and 62 were female participants. Majority of them belonged to age group of 21 to 30 years. All of the participants had professional experience of less than 5 years. Socio-demographic profiles of the participants are described in Table 1.

Table 1: Socio demographic distribution of Participants (N=120):

Variable	Frequency (n)	Percentage(%)
Gender	Male	58
	female	62
Age	21-30	116
	31-40	4
Designation	Assistant Professor	9
	Postgraduate	61
	Medical officer	18
	General practitioner	25
	Others	7
Years of experience	<5	120
		100

When questioned whether they have heard and seen telemedicine system, majority of them responded that they have heard about telemedicine (90.8%) system but only small percentage of the participants (40.8%) have seen it personally.

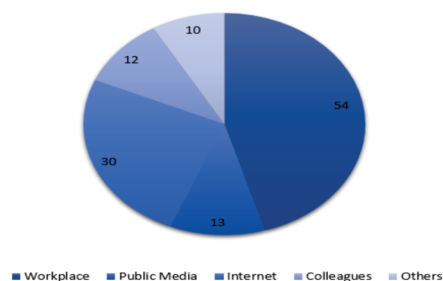


Figure 1: How did they get to Know about Telemedicine

Considering the Knowledge and Attitude on Telemedicine, mean score was calculated and those who were above mean score were considered to have good knowledge and attitude while those below mean were considered to have poor knowledge and attitude respectively. Around 62.5% of the participants had good knowledge towards telemedicine while the attitude towards telemedicine was at a lower level of 53.3%(Table 2).

Table 2: Distribution of knowledge and attitude towards Telemedicine (N=120):

Variable		Frequency	Percentage
Knowledge towards Telemedicine	Good	75	62.5
	Poor	45	37.5
Attitude towards Telemedicine	Good	64	53.3
	Poor	56	46.7

When the participants were asked if they were willing to try and use a telemedicine system, most of them gave a positive answer that if a opportunity was given they would like to try telemedicine in their field.(Figure 2)

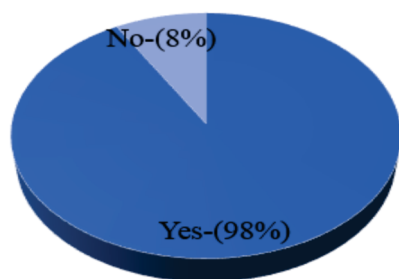


Figure 2: Would you like to try Telemedicine?

DISCUSSION:

The use of Information technology in the field of medicine is necessary for making healthcare services accessible to all. However the effectiveness of the technology use also depends on the user's knowledge and perception towards telemedicine system.

Our study was conducted among 120 doctors from Chengalpattu district, to assess the Knowledge and attitude towards telemedicine among the doctors. Most of the participants were between age groups of Twenty three and thirty and experience of less than 5 years which might be due to convenience sampling used in the study. The results showed that most of them have a basic idea on what is telemedicine. This is higher than seen in a previous study by Malhotra et al⁹, with only 19% of the participants aware of basic idea on telemedicine. Also in another study done in North West Ethiopia by Kirubel et al¹⁰ good level of knowledge on telemedicine was reported by only 37.6% of them, of which most of them were male respondents and 64% respondents had demonstrated good attitude toward telemedicine. This values are also slightly lower than that demonstrated in our study. In our study more than three fourth of the participants have said that they have heard about telemedicine system in their workplace but they have not seen it functioning.

Similar to some of the previous researches by Dongre.P et al¹¹ conducted in Vijayawada town of India and another study by Olok et al¹² in Uganda population, our study also showed good knowledge and attitude towards use of telemedicine by the participants. In a study conducted in Puducherry among teaching faculties of a hospital, the knowledge level was good with 41% of them, while 35% and 24% had

fair or poor knowledge respectively.¹³ Similarly around 60% of the respondents had good attitude towards telemedicine which was also in par with our study where 50 % of them reported good attitude towards telemedicine. In our study the doctors have good attitude towards telemedicine but their technical skills on application of the same in health care delivery is not up to the needed levels. This might be owing to the fact that their main domain which is the healthcare is not very well related to IT field and a training of the healthcare workers in the application of telemedicine could be an approach to overcome this limitation. Similar results were also seen in previous literatures. No statistically significant difference was found on knowledge and attitude toward telemedicine among the participants based on gender, age groups or designation.

Majority of the respondents in the study were willing to apply Telemedicine in their healthcare delivery service. However lack of proper organisational structure from administrative side and lack of appropriate educations and skills among physicians were the hindering factors leading to underutilization of Telemedicine in healthcare services.¹⁴

CONCLUSION:

Telemedicine is an emerging concept in healthcare services in India, while the implementation and application of it in delivering health care services to patients is not fully successful. Based on our study findings there is a good knowledge and attitude among doctors towards the use telemedicine. In order to make appropriate use of this technology in making healthcare accessible to all, it is important to educate the healthcare workers and also proper training programs can be structured for them for future utilization of telemedicine. Further awareness programs are also needed to educate the general population regarding utilization of this telemedicine in health care services.

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