



KNOWLEDGE, ATTITUDE, AND PERCEPTION RELATED TO TELEMEDICINE AMONG MEDICAL, DENTAL & NURSING UNDER GRADUATES AT ANIL NEERUKONDA EDUCATIONAL SOCIETY (ANES), VISAKHAPATNAM.

Medical Science

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ABSTRACT

Telemedicine primarily looks into the diagnosis, treatment and monitoring of patients (including history and appropriate examination) by means of electronic technology. All this is done through electronic exchange of health information including the collection, transmission and interpretation of patient data, via patient portals, tablets and cell phones.

A cross-sectional survey study was conducted after approval of Institutional Ethics Committee. The study was primarily aimed to understand and investigate the knowledge and secondly to assess their attitude and perception regarding the effectiveness and implementation of telemedicine in dealing with the concerns of the patients, among the young future doctors (both medical & dental) and nurses, studying in NRI Institute of Medical Sciences (NRIIMS), Anil Neerukonda Institute of Dental Sciences (ANIDS) and American NRI College of Nursing (ANRICON) respectively, which are integral part Anil Neerukonda Educational Society (ANES), located in the district of Visakhapatnam, in the south-eastern state of Andhra Pradesh, in India. Study was conducted from May 2021 to July 2021 by using a self-administered questionnaire and the results analysed.

Majority of individuals reported positive perception and willingness toward using the telemedicine in their future career. Thus, it is necessary to show a proper, effective route and awareness to young students for improvement of telemedicine services in India in future.

KEYWORDS

Telemedicine, technology, medical and dental graduates, nursing

INTRODUCTION:

Telemedicine primarily looks into the diagnosis, treatment and monitoring of patients (including history and appropriate examination) by means of electronic technology. All this is done through electronic exchange of health information including the collection, transmission and interpretation of patient data, via patient portals, tablets and cell phones. World Health Organization (WHO) defines telemedicine as a branch of medicine involved in the holistic approach to health care, as "The delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies to exchange valid information for the diagnosis, treatment, and prevention of diseases and injuries, research evaluation, and the continuing education of health care providers all in the interest of advancing the health of individuals and their communities."¹

Telemedicine can offer the ease and cost-effective solution to the patient. Patients can have the taste of up-to-date technology leading to complete access of their health data and helps in having an organized and synchronous/asynchronous, audio/video consultations on time with their doctors live. This patient-doctor bond through telemedicine portals is on the rise through different web portals/apps all over India since the Covid-19 pandemic broke in 2020 and lead the country into lockdowns. This rise in numbers gives the need & necessity for the undergraduates to be well acquainted with Telemedicine before they successfully complete their graduation and start practicing. Complete legalized guidelines for telemedicine were released by Govt. of India on 25th March 2020.¹

Although telemedicine offers solutions for basic access to health care in the midst of the current pandemic, it is not yet uniformly integrated into regular health-care systems and, as a 'disruptive process', it necessitates major adaptations to existing frame works². In the midst of these major changes, clinicians are still responsible for ensuring patients receive the care they need, as well as understand the limitations of telemedicine visits³.

Telemedicine services are being utilized by the public of many developed countries for minor alignments, diagnostic reports, review of reports and for review consultations. It is helpful both to reduce the rush and administrative problems in hospitals and is saving a lot of consultant's time, which can be better utilized for the care of admitted patients. The ultimate goal of telemedicine services is to uplift the health care standards of each and every one, including those residing in inaccessible areas. Many studies have proved that healthcare quality has tremendously improved throughout the world by utilizing telemedicine services in regular consultation programs.⁴

Last few years have seen the rise in the use telemedicine applications among the health care professionals and in various hospitals across India. NRI Institute of Medical Sciences (NRIIMS) and attached Anil Neerukonda Hospital (ANH) under Anil Neerukonda Educational Society (ANES) are not behind and had taken this opportunity of telemedicine and launched Dr@ANH App both in Android & IOS platforms, catering its services to the general public. Dr@ANH App services were also extensively utilized for patients who were discharged from covid-19 disease from ANH (Covid-19 District Hospital in Visakhapatnam along with other medical colleges of the district). The present study was done to understand the knowledge and to assess their attitude and perception regarding the effectiveness and implementation of telemedicine in dealing with the concerns of the patients, among the young future doctors and nurses.

MATERIAL AND METHODS:

A cross-sectional survey study was conducted after approval of Institutional Ethics Committee. The study was primarily aimed to understand and investigate the knowledge and secondly to assess their attitude and perception regarding the effectiveness and implementation of telemedicine in dealing with the concerns of the patients, among the young future doctors (both medical & dental) and nurses, studying in NRI Institute of Medical Sciences (NRIIMS), Anil Neerukonda Institute of Dental Sciences (ANIDS) and American NRI College of Nursing (ANRICON) respectively, which are integral part Anil Neerukonda Educational Society (ANES), located in the district of Visakhapatnam, in the south-eastern state of Andhra Pradesh, in India. Study was conducted from May 2021 to July 2021. A self-administered questionnaire was formulated through using latest technology of "Google Forms" and had been circulated through Emails and Whats App to 450 MBBS, 350 BDS, 150 Nursing students (Total 950) from second, third and fourth years, who have been exposed to clinical exposure through their clinical postings with patients after taking consent physically. Those who didn't gave the consent were excluded from the study. A total of 617 study subjects were included in this study after fulfilling the selection criteria. Self-administered questionnaire consisted of mainly five sections: (1) Demographic characteristics; (2) General information related to literacy and accesses to digital tools; (3) Knowledge; (4) Attitude; and (5) Perception about telemedicine. The questions rating for knowledge were measured by three Likert type scale, 1= low; 2= moderate and 3= high. Similarly, Attitude and Perception were measured by a scale; 1= agree and 2= disagree. The neutral values were omitted in this study.

Statistical Analysis:

Data entry and statistical analysis were performed using Microsoft

excel 365 and SPSSv.24 (SPSS Inc., Chicago, IL, USA). All parameters were expressed in frequencies and percentages. For comparison of categorical data, chi square test was used and p value < 0.05 was considered as statistically significant.

RESULTS:

In the present study, 82.3% (508/617) belonged to the age group of 18 to 22 years, 17% (105/617) belonged to the age group of 23 to 26 years and 0.7% (4/617) belonged to the age of more than 27 years. Males were 24.8% (153/617) and females were 75.2% (464/617). Among males and females, 81.7% (125/153) and 82.5% (383/464) belonged to the age group of 18 to 22 years respectively.

MBBS students were 48% (296/617); BDS students were 28.8% (178/617) and Nursing students were 23.2% (143/617).

Usage of smart devices was increased in this decade and every student had a personal smart device. 7.1% (44/617) had more than 3 personal smart devices, 21.6% (133/617) had 2 personal smart devices. Remaining students had one personal smart device.

Among knowledge questionnaire consisting of 10 questions, 10 score was considered as low knowledge, 11-29 score was considered as moderate knowledge and 30 score was considered as high knowledge. 1.5% (9/617) had low knowledge, 98.3% (607/617) had moderate knowledge and 0.2% (1/617) had high knowledge on telemedicine.

Among attitude questionnaire consisting of 8 questions and among perception questionnaire consisting of 8 questions, 8 score was considered as good. 42.8% (264/617) and 35.8% (228/617) showed good attitude and good perception towards telemedicine

Table 1: Distribution of study subjects based on their literacy and access to digital tools

	Always or Often		Sometimes or Rarely		Never	
	n	%	n	%	n	%
How often do you use personal computer or lap top at home	111	18.0	306	49.6	200	32.4
How often do you shop online	146	23.7	415	67.3	56	9.1
How often do you search for medical related information online	317	51.4	271	43.9	29	4.7
As an undergraduate of medical fraternity, how often do u interact through E-mails with your Doctors/ Teachers?	38	6.2	343	55.6	236	38.2
Have you ever consulted doctors through online web portals for any disease?	15	2.4	152	24.6	450	72.9

Table 2: Distribution of study subjects based on their knowledge on telemedicine

	Low		Moderate		High	
	n	%	n	%	n	%
To what extent are you familiar with Telemedicine technology?	211	34.2	385	62.4	21	3.4
To what extent are you familiar with medical applications of telemedicine technology?	279	45.2	324	52.5	14	2.3
How often are conferences, speeches or meetings held in your institute regarding telemedicine technology?	263	42.6	315	51.1	39	6.3
To what extent are you familiar with telemedicine guidelines?	311	50.4	294	47.6	12	1.9
To what extent are you familiar with the use of telemedicine in other countries?	318	51.5	251	40.7	48	7.8
To what extent, continuous training in the use of telemedicine necessary for medical, dental and nursing graduates?	109	17.7	326	52.8	182	29.5
Is it economical and time saving to collect diagnostic test results through internet?	67	10.9	290	47.0	260	42.1
Many patients in emergency/ER can be helped by telemedicine?	141	22.9	295	47.8	181	29.3
Diagnosis and Treatment are more accurate through telemedicine?	180	29.2	384	62.2	53	8.6

Telemedicine would be most helpful for elderly and chronic patients	97	15.7	330	53.5	190	30.8
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Table 3: Distribution of study subjects based on their attitude towards telemedicine

	Agree		Disagree	
	n	%	n	%
Telemedicine is feasible only in big cities because of internet facilities	544	88.2	73	11.8
Telemedicine is economical and reduces visits to doctors	548	88.8	69	11.2
Patient - Doctor confidentiality is better by telecommunications	406	65.8	211	34.2
Telemedicine system can be integrated within the existing system	538	87.2	79	12.8
The implementation of telemedicine technology is appropriate due to the present conditions of pandemic	595	96.4	22	3.6
You would like to implement telemedicine technology in your practice after graduation?	518	84.0	99	16.0
As a student I would like to be able to watch a procedure as it is taking place	588	95.3	29	4.7
I suggest and use telemedicine services for myself/family & friends?	534	86.5	83	13.5

Table 4: Distribution of study subjects based on their perception on telemedicine

	Agree		Disagree	
	n	%	n	%
Telemedicine is a viable approach for providing medical care services to patients	543	88.0	74	12.0
There is a potential role of Information, Communication and Technology (ICT) in health care	581	94.2	36	5.8
The applications of ICT in health care are already available	473	76.7	144	23.3
The use of telemedicine systems can save time and money	570	92.4	47	7.6
It is useful to monitor serious patients through Telemonitoring	301	48.8	316	51.2
Teleconferencing is very helpful among physicians and patients and with other colleagues	559	90.6	58	9.4
Telemedicine is going to be the major change in near-future clinical practice	553	89.6	64	10.4
Telemedicine department should be established soon in each hospital to facilitate patients	580	94.0	37	6.0

Table 5: Gender wise comparison based on their literacy and access to digital tools

	Male (n=153)			Female (n=464)			P Value
	Always or Often	Sometimes or Rarely	Never	Always or Often	Sometimes or Rarely	Never	
How often do you use personal computer or lap top at home	39	59	55	72	247	145	0.002
How often do you shop online	31	110	12	115	305	44	0.37
How often do you search for medical related information online	69	74	10	248	197	19	0.14
As an undergraduate of medical fraternity, how often do u interact through E-mails with your Doctors/ Teachers?		84	56	25	259	180	0.37
Have you ever consulted doctors through online web portals for any disease?	7	46	100	8	106	350	0.01

Table 6: Gender wise comparison based on their knowledge on telemedicine

	Male (n=153)			Female (n=464)			P Value
	Low	Mod erate	High	Low	Mod erate	High	
To what extent are you familiar with Telemedicine technology?	56	86	11	155	299	10	0.006
To what extent are you familiar with medical applications of telemedicine technology?	73	73	7	206	251	7	0.051
How often are conferences, speeches or meetings held in your institute regarding telemedicine technology?	62	76	15	201	239	24	0.12
To what extent are you familiar with telemedicine guidelines?	79	70	4	232	224	8	0.71
To what extent are you familiar with the use of telemedicine in other countries?	77	60	16	241	191	32	0.36
To what extent, continuous training in the use of telemedicine necessary for medical, dental and nursing graduates?	31	77	45	78	249	137	0.60
Is it economical and time saving to collect diagnostic test results through internet?	20	73	60	47	217	200	0.50
Many patients in emergency/ER can be helped by telemedicine?	46	65	42	95	230	139	0.04
Diagnosis and Treatment are more accurate through telemedicine?	56	85	12	124	299	41	0.06
Telemedicine would be most helpful for elderly and chronic patients	27	75	51	70	255	139	0.43

Table 7: Gender wise comparison based on their attitude towards telemedicine

	Male (n=153)		Female (n=464)		P Value
	Agree	Disagree	Agree	Disagree	
Telemedicine is feasible only in big cities because of internet facilities	129	24	415	49	0.06
Telemedicine is economical and reduces visits to doctors	134	19	414	50	0.33
Patient - Doctor confidentiality is better by telecommunications	90	63	316	148	0.02

Table 9: Comparison based on their literacy and access to digital tools among different courses of students

	MBBS (n=296)			BDS (n=178)			NURSING (n=143)			P Value
	Always or Often	Sometimes or Rarely	Never	Always or Often	Sometimes or Rarely	Never	Always or Often	Sometimes or Rarely	Never	
How often do you use personal computer or lap top at home	63	168	65	40	97	41	8	41	94	0.001
How often do you shop online	81	196	19	49	113	16	16	106	21	0.001
How often do you search for medical related information online	163	127	6	101	74	3	53	70	20	0.001
As an undergraduate of medical fraternity, how often do u interact through E-mails with your Doctors/Teachers?	16	150	130	6	105	67	16	88	39	0.001
Have you ever consulted doctors through online web portals for any disease?	8	74	214	3	40	135	4	38	101	0.83

Table 10: Comparison based on their knowledge on telemedicine among different courses of students

	MBBS (n=296)			BDS (n=178)			NURSING (n=143)			P Value
	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	
To what extent are you familiar with Telemedicine technology?	104	185	7	60	110	8	47	90	6	0.73
To what extent are you familiar with medical applications of telemedicine technology?	139	152	5	85	87	6	55	85	3	0.27

Telemedicine system can be integrated within the existing system	124	29	414	50	0.008
The implementation of telemedicine technology is appropriate due to the present conditions of pandemic	147	6	448	16	0.47
You would like to implement telemedicine technology in your practice after graduation?	114	39	404	60	0.001
As a student I would like to be able to watch a procedure as it is taking place	141	12	447	17	0.03
I suggest and use telemedicine services for myself/family & friends?	124	29	410	54	0.01

Table 8: Gender wise comparison based on their perception on telemedicine

	Male (n=153)		Female (n=464)		P Value
	Agree	Disagree	Agree	Disagree	
Telemedicine is a viable approach for providing medical care services to patients	122	31	421	43	0.001
There is a potential role of Information, Communication and Technology (ICT) in health care	142	11	439	25	0.26
The applications of ICT in health care are already available	117	36	356	108	0.51
The use of telemedicine systems can save time and money	139	14	431	33	0.25
It is useful to monitor serious patients through Telemonitoring	78	75	223	241	0.29
Teleconferencing is very helpful among physicians and patients and with other colleagues	130	23	429	35	0.006
Telemedicine is going to be the major change in near-future clinical practice	118	35	435	29	0.001
Telemedicine department should be established soon in each hospital to facilitate patients	134	19	446	18	0.001

How often are conferences, speeches or meetings held in your institute regarding telemedicine technology?	122	155	19	90	82	6	51	78	14	0.02
To what extent are you familiar with telemedicine guidelines?	163	129	4	100	76	2	48	89	6	0.001
To what extent are you familiar with the use of telemedicine in other countries?	173	109	14	92	73	13	53	69	21	0.001
To what extent, continuous training in the use of telemedicine necessary for medical, dental and nursing graduates?	51	145	100	35	97	46	23	84	36	0.19
Is it economical and time saving to collect diagnostic test results through internet?	22	130	144	14	91	73	31	69	43	0.001
Many patients in emergency/ER can be helped by telemedicine?	78	138	80	35	85	58	28	72	43	0.33
Diagnosis and Treatment are more accurate through telemedicine?	102	178	16	51	117	10	27	89	27	0.001
Telemedicine would be most helpful for elderly and chronic patients	47	163	86	31	86	61	19	81	43	0.52

Table 11: Comparison based on their attitude towards telemedicine among different courses of students

	MBBS (n=296)		BDS (n=178)		NURSING (n=143)		P Value
	Agree	Disagree	Agree	Disagree	Agree	Disagree	
Telemedicine is feasible only in big cities because of internet facilities	256	40	156	22	132	11	0.20
Telemedicine is economical and reduces visits to doctors	253	43	165	13	130	13	0.03
Patient - Doctor confidentiality is better by telecommunications	175	121	124	54	107	36	0.002
Telemedicine system can be integrated within the existing system	260	36	160	18	118	25	0.13
The implementation of telemedicine technology is appropriate due to the present conditions of pandemic	286	10	175	3	134	9	0.08
You would like to implement telemedicine technology in your practice after graduation?	237	59	151	27	130	13	0.01
As a student I would like to be able to watch a procedure as it is taking place	281	15	174	4	133	10	0.12
I suggest and use telemedicine services for myself/family & friends?	244	52	157	21	133	10	0.007

Table 12: Comparison based on their perception on telemedicine among different courses of students

	MBBS (n=296)		BDS (n=178)		NURSING(n=143)		P Value
	Agree	Disagree	Agree	Disagree	Agree	Disagree	
Telemedicine is a viable approach for providing medical care services to patients	249	47	164	14	130	13	0.01
There is a potential role of Information, Communication and Technology (ICT) in health care	280	16	164	14	137	6	0.34
The applications of ICT in health care are already available	222	74	125	53	126	17	0.001
The use of telemedicine systems can save time and money	267	29	170	8	133	10	0.10
It is useful to monitor serious patients through Telemonitoring	117	179	80	98	104	39	0.001
Teleconferencing is very helpful among physicians and patients and with other colleagues	264	32	165	13	130	13	0.44
Telemedicine is going to be the major change in near-future clinical practice	256	40	165	13	132	11	0.04
Telemedicine department should be established soon in each hospital to facilitate patients	274	22	171	7	135	8	0.29

DISCUSSION:

Though telemedicine has been implemented in India by the law from March 25, 2020, one could perceive lots of challenges such as lack of understanding, awareness, communication, and trust on technology. The main reason for this could be attributed to the fact that the exposure to telemedicine of healthcare students in India is limited as compared with other countries.⁹

In the current COVID-19 pandemic situation, visits to patients hospitals were restricted unless emergency, telemedicine has the potential to provide successful doctor-patient interaction, aid in health promotion, and increase access to healthcare services in the remote areas.⁶ It may reduce isolation, prevent uncomfortable delays in availing healthcare services, and help in increasing patient numbers. Successful adoption of telemedicine in healthcare especially depends majorly on the healthcare professional's knowledge and attitude toward the adoption of the technology by the patients.

In the present study, 82.3% (508/617) belonged to the age group of 18 to 22 years, 17% (105/617) belonged to the age group of 23 to 26 years and 0.7% (4/617) belonged to the age of more than 27 years. Males were 24.8% (153/617) and females were 75.2% (464/617). Among males and females, 81.7% (125/153) and 82.5% (383/464) belonged to the age group of 18 to 22 years respectively. In Malhotra P et al.,⁵ 68.9% belonged to 18-25 years and 31.1% belonged to 26-35 years. 40% were men and 60% were women. In Ashfaq A et al.,¹⁴ 64.7% were females and 35.3% were males. In Albarrak AI et al.,¹² 23% were females and 77% were males. Majority of participants (61.4%) were between the age group of 20 and 30 years.

In the present study, MBBS students were 48% (296/617); BDS students were 28.8% (178/617) and Nursing students were 23.2% (143/617). In Malhotra P et al.,⁵ Nearly 51.4% respondents were undergoing undergraduate medical degrees (MBBS, BDS, BAMS, BHMS, BUMS, and nursing). The rest (48.6%) were from nonclinical courses (MPH, MHA, MBA in health and hospital management, and

other allied medical science courses). In Ahmed TJ et al.,⁴ One hundred seventy-one (51.1%) were doctors, whereas one hundred sixty-four (48.9%) were the nursing staff. Among doctors, 50 (29.4%) were recent graduates, whereas, in the nursing side, 77 (46.7%) were the senior nursing students.

In the present study, Usage of smart devices was increased in this decade and every student had a personal smart device. 7.1% (44/617) had more than 3 personal smart devices, 21.6% (133/617) had 2 personal smart devices. Remaining students had one personal smart device. In Albarrak AI et al.,¹² half of the professionals have three or more smart devices.

In the present study, Among knowledge questionnaire consisting of 10 questions, 10 score was considered as low knowledge, 11-29 score was considered as moderate knowledge and 30 score was considered as high knowledge. 1.5% (9/617) had low knowledge, 98.3% (607/617) had moderate knowledge and 0.2% (1/617) had high knowledge on telemedicine. In Malhotra P et al.,⁵ only 15.7% had fairly good or high knowledge, and nearly 52.1% had insufficient knowledge. A study conducted in northern Iran among 532 clinicians has reported that the majority of their study participants (96.1%) had insufficient knowledge regarding telemedicine.⁷ Another study conducted in Puducherry, India, among 120 professionals in a tertiary hospital has also shown the similar results, where it was found that 59% had insufficient knowledge about telemedicine.⁸

In the present study, even though the participants had insufficient knowledge regarding telemedicine, surprisingly, majority of them (84%) were willing to implement telemedicine technology in their practice after graduation. In Dey DTK et al.,⁹ 76% of the study population were willing to pay for telemedicine. In Albarrak AI et al.,¹² 95% of them reported their willingness to start this technology and use it to consult in a larger institution. In Abodunrin O et al.,¹³ 54.2% were in support of using telemedicine for routine care. In Ahmed TJ et al.,⁴ 284 (92%), rated their knowledge toward telemedicine was either of

advanced or intermediate level

In the present study, 93.7% complained of having no conferences, speeches or meetings. In Ashfaq A et al.,¹⁴ large number (98.2%) complained of having no conferences or meetings at their workplace regarding telemedicine, which resulted in insufficient awareness regarding telemedicine guidelines. In Albarrak AI et al.,¹² 69.5% of them reported that a very low number of conferences, speeches or meetings held regarding telemedicine technology in their working places. Continuous training was necessary for students and doctors to get equipped with the latest advancements in telemedicine. In a recent study, carried out in specialist hospitals of Jeddah, KSA, it was observed that there is a lack of training on both the physicians and patients in fully utilizing this useful technology. Acceptance by the patients is very crucial in the success of any new ideology as the culture of visiting a doctor physically is associated with satisfaction and reassurance in patients.¹⁵ Chowdhury et al. suggested many training modalities, including exposure to teaching videos for ease of teleconsultation with the concerned physician and how to inform changes in clinical conditions with the recording of doctor's advice for noting down the response to specific advice.¹⁶ Such lack of awareness and knowledge related to telemedicine may be due to lesser exposure to telemedicine-related applications in their study course. But the Covid situation changed the present trend towards telemedicine.

In the present study, knowledge was more in females than males. Statistical significance was found when comparing "awareness regarding familiarity for telemedicine technology and awareness regarding use of telemedicine in emergency/ER" with gender. In Malhotra P et al.,⁵ On analyzing the influence of gender on knowledge regarding telemedicine, awareness related to national and international telemedicine applications, and frequency of attending telemedicine webinars were slightly more among female students than male students.

In the present study, Knowledge related to telemedicine and its application were analyzed with respect to the level of education. Statistical Significance was found for 50% of the questions when compared with the different courses of study. In Malhotra P et al.,⁵ Knowledge related to telemedicine and its application were analyzed with respect to the level of education. Based on the nature of the degree course (clinical vs. nonclinical), there was significant difference among knowledge about telemedicine.

In the present study, attitude questionnaire consisting of 8 questions and among perception questionnaire consisting of 8 questions, 8 score was considered as good. 42.8% (264/617) and 35.8% (228/617) showed good attitude and good perception towards telemedicine. Use of telemedicine systems can save time and money was positively perceived by 92.4% students. In Malhotra P et al.,⁵ healthcare students surveyed had high positive perception (90%) toward telemedicine. In Dey DTK et al.,⁹ it was found that 60% of the respondents felt telemedicine was cost effective. Similar perceptions toward telemedicine were seen in Biruk K et al.¹⁰ and Baig M et al.¹¹ In Ashfaq A et al.,¹⁴ Sixty-three (28.1%) of them believed telemedicine to be effective in providing faster medical care and 96 (42.9%) doctors only moderately believed that telemedicine disrupts the doctor-patient relationship and causes a breach in patient privacy or an increment in expenses.

As telemedicine reduces patient's revisits to the hospital due to the unavailability of doctors, long-distance travel to hospitals and healthcare centers, and revisits for follow-up, it is perceived that there will be a significant reduction in time and cost especially to the patients. This may be due to the fact that as students being trained to become doctors and administrators, they could foresee an adoption of telemedicine by them or their organization and the benefit that might arise.

More and more healthcare students need to be encouraged toward adopting telemedicine, their perception toward telemedicine's adoption and its benefit should be positive. This can happen only if their awareness toward telemedicine implementations is increased.

The main limitation of the study is that due to COVID-19-induced situation, it was based on convenience sampling through online survey. Hence, the findings cannot represent larger population. It would be more generalizable and more useful if a larger sample of healthcare students in more regions could be covered.

CONCLUSION:

Majority of individuals reported positive perception and willingness toward using the telemedicine in their future career. Thus, it is necessary to show a proper, effective route and awareness to young students for improvement of telemedicine services in India in future.

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