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Case study

A study of assessment of knowledge, perception and attitude of using tele health services among college going students of Uttarakhand

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ABSTRACT

Tele medicine or Tele health services are available in the world before 1970. Recent surge has been observed in the tele medicine during Covid 19. It is observed that tele health services usage has increased from 11% to 70% and the satisfaction level among the patients is around 78% in US and China. As per the Press information bureau report, in India around 35000 patients use E Sanjeevni portal for tele health services. The purpose of the study is to assess the knowledge perception and attitude towards tele health services by the students because they are young generation and their adoption rate of technology and skill set in technology is very high. A questionnaire was floated through Google forms to students of various colleges in Uttarakhand primarily in the district of Dehradun, Haridwar and Nainital. Around 1000 students were targeted through their Gmail accounts and WhatsApp groups. It was found that there is lack of awareness among students about telemedicine apps and related aspects; there perception towards it is positive as they want to use it as well as willing to refer it as well. It is concluded that the tele health services can be boon for the state like Uttarakhand as the health infrastructure is poor in the state because of its geography. If the organisation providing tele health services will try to improve the awareness, the willingness to adapt tele health services will be very high.

INTRODUCTION

Health services provider in the world was aware that they needed to change its operational model in order to manage Covid 19 health crisis. Every hospital in the world witnessed in the surge of patients because of Covid 19. To reduce the impact every country was running out of time and resources.

To manage patients and meet the needs of communities during Covid, transformative and innovative systems were required for patient care as this was very novel crisis. During this crisis, virtual care or Tele health care was a boon for the patients. The most important thing during this time was to take care of patients showing the symptoms of Corona. Tele health care has removed approximately 50 to 60 per cent of burden on the health care infrastructure at that time. "System assessment hatbot was built up by many technological firms. Automatically on the basis of answers provide by patients the bot has advised them to stay at home or to get admitted in the hospital or got them connected to the service providers. Tele health services have provided effective care to the patients timely. At this time care to the chronic patients of cancer, kidney problems and other health related issues were provided, through tele-health service because all the OPDs in the hospitals were closed for the chronic patients.

Even the performance of surgeries was delayed. It has also avoided unnecessary exposure and interactions among people. Tele health services have witnessed a sudden surge during Covid 19. Easy to use systems and technologies were provided to the patients. As Uttarakhand geography is very challenging and health care infrastructure is poor in the state and in the second wave mainly patients were found in the remotest region of Uttarakhand, tele health services has provided timely care to patients. This study is carried out to check knowledge, perception and attitude towards tele health services among the youth of Uttarakhand [4].

Research design

The research is descriptive in nature based upon primary data.

Research objective

The study attempts to fulfil following objectives

To assess the level of familiarity with the concept of telemedicine among college students in India.

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To assess at what level students are ready to learn and know about telemedicine.

To assess the perception of students with respect to telemedicine services in India

To assess the willingness of students to adopt telemedicine as a health care service.

A narrative through systematic study, where 60 articles were identified, and PRISMA method narrowed to 42. His studies founded out that though tele medicines services are very old, regulations and reimbursement procedures problems has resulted in low adoption of this technology [1]. Govt. of India's National Telemedicine Service – E Sanjeevani has completed 30 lakh consultations. E Sanjeevani services are operational in 32 states of India and Union Territories. To seek the medical health around 35000 patients are taking consultations through this app [2].

As per the study of Puducherry region found that the awareness level among the professionals is very high and they have a positive attitude towards these services but still they have not used tele medicine in the practise [3].

As per this study in the month of May to June 2020 on 428 respondents by using random probability sampling 43 per cent of the respondent reported lack of know-how with respect to telemedicine, and 52percent were unaware of its application. Overall, 90.9 per cent of respondents considered telemedicine as a viable approach [4].

A cross sectional studies on 122 persons 50 doctors and rest on patients in Apollo hospitals to understand the satisfaction level towards the health services, the problems encountered and cost benefit. Around 80 per cent patients and the doctors reported that they are satisfied with the tele health services, approximately, 90 per cent of the participants found telemedicine very economical. 47% doctors reported technical issues, 39 per cent -time scheduling by doctors and 31 per cent of patients were uncomfortable with information communication and technology [5].

A tele medicine practice and survey in the children hospital to assess experience, concerns and intentions to continue telemedicine. 75 per cent of service providers have found tele health services easy to use and administered able [6].

A study on consumer perception towards tele health in the age of COVID-19in Mumbai and found out that for tele health services in Mumbai there was a very huge surge and there was a very positive response. The study reflects that Tele health services will be more successful if confidentiality, comfortability, cost effectiveness, personalisation is adopted by the service providers [7].

MATERIAL AND METHOD
Research Instrument

Primary data has been collected via mail survey using questionnaire technique. 4 aspects have been taken to fulfil first objective of the study, i.e., to assess the level of familiarity with the concept of telemedicine among college students in India. In order to fulfil second objective, i.e., to assess at what level students are ready to learn and know about telemedicine, 3 items have been considered. Further, to fulfil third objective of the study, i.e., to assess the perception of students with respect to telemedicine services in India, 6 item scale has been studied, Finally, to fulfil fourth objective of the study, i.e., to assess the willingness of students to adopt telemedicine as a health care service, 5 items scale has been adopted.

Sampling Technique

The population that was defined as the entire student community of higher educational institutions of Uttarakhand and sample has been collected using convenience sampling technique.

Sample Size

Questionnaires were mailed to approx. 1000 students (via google form) out of which 879 filled responses were received. To do away with the absurd and non-responsive respondents, data cleaning and mining has been done, which resulted in a valid response count of 814.

Research Tool

Descriptive analysis has been conducted to fulfil the objective of the study; study only attempts to answer perception of students upon impact of meditation on their academic performance via maintaining emotional & mental health and physical & psychological well-being. SPSS version 21 was used for data analysis.

RESULT AND DISCUSSION

Table I above clearly indicates that there is lack of familiarity among college students about the concept of telemedicine. In all four aspects, almost 45 to 50 per cent respondents (strongly disagree and disagree combined together) have reported that they are not familiar with the concept of telemedicine; only 15 to 20 per cent respondents (strongly agree and agree combined together) have reported to have some degree of familiarity about the concept. In this regard, it is necessary that telemedicine companies should focus upon increasing familiarity via promotion, advertisement and so on,

Table I: Familiarity with Telemedicine Concept among College Going Students

Items	Percentage of Respondent				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am familiar with telemedicine process and benefits	24.8	17	31	25.7	0.9
I am familiar with telemedicine applications and platforms within country	29.4	17	30	17.4	5.5
I am familiar with use of telemedicine outside country	38.2	16	30	15.5	0.9
I am familiar with recent released guidelines of telemedicine in the country	34.3	16	34	13.9	1.9

Table III above shows that there is positive mindset towards adoption of telemedicine among college students in India. For almost all the aspects, around 50 per cent respondents have shown positive intent, i.e., they were either agree or strongly agree with the aspects like, telemedicine is going to be a viable approach, it will reduce time, effort and cost, the applications are easy to adopt, it enables technology adoption in health care and telemedicine is viable for providing medical facilities in remote areas. Hence, it can be inferred that, though, there is lack of familiarity among college students and also more or less lack or readiness towards the adoption of same, still they believe that telemedicine is the future of healthcare sector and have shown positive outlook towards it.

Table II: Readiness to Learn about Telemedicine among College Going Students

Items	Percentage of Respondent				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I do read articles related to telemedicine	43.5	42.6	0	13.9	0
I am aware of E-Sanjeeveni and tele health portal of Government of India	0	38.9	26.9	34.3	0
I can name two or three organisations offering tele health services	0	50.5	27.1	22.4	0

Table III: Perception of College Students towards Telemedicine

Items	Percentage of Respondent				
	Strongly Disagree	Disagree	Neutral	Agree	strongly Agree
Telemedicine is a viable approach for providing comprehensive healthcare to the patient	1	1	51	44.2	2.9
Telemedicine enables adoption of technology in health care	1	4.8	38.5	46.2	9.6
Telemedicine saves time and reduces effort (work-load)	0	2.9	37.5	44.2	15.4
Telemedicine helps in reducing cost of service	0	1.9	47.6	43.7	6.8
The existing telemedicine applications in the country are easy to adopt	1	5.8	51.5	38.8	2.9
Telemedicine is a boon for the state like Uttarakhand for providing medical health at remote places	1.9	4.8	39.4	44.2	9.6

Table IV: Willingness to Adopt Telemedicine

Items	Percentage of Respondent		
	Disagree	Neutral	Agree
I will you use telemedicine applications for consultation	13.5	50	36.5
I will refer and advise telemedicine interventions to my peers and friends	7.7	46.2	46.2
I am willing to pay for telemedicine applications	25	52.9	22.1
I am willing/open to consult doctors through video conferencing apps	25.2	42.7	32
I am willing to integrate telemedicine with existing system to provide health care	17.3	44.2	38.5

Looking upon table IV above, it is inferred that student's community is highly motivated and willing to adopt telemedicine as substitute for traditional healthcare or even to integrate it with the traditional method. Except for willingness to pay for telemedicine app, all other aspects have received nod from students, i.e., they will

adopt the concept given they should be informed about the same. Almost 35 to 40 per cent of respondents agree that they will use telemedicine for consultation, they will refer it to their peers and friends and they are ready to integrate it with existing health care system.

CONCLUSION

Results and findings clearly indicate that currently there is lack of familiarity and awareness among students for telemedicine; the reason is evident that they there is lack of readiness among students to read about the concept (only 1/3rd respondents show interest in gaining knowledge about telemedicine). In this regard, it is concluded that telemedicine companies, app developers, organizations and government need to promote the concept vigorously and should make citizens realize the benefits and importance of the same. Further, there is need to adopt the promotional tools suitable to the needs of different categories of customers, since just publishing articles is not suffice enough, because only 14 per cent respondents agreed that they read articles related to telemedicine.

Considering the importance of telemedicine and the benefits offered, the perception towards it is positive, where, almost 40 to 50 per cent respondents believe that telemedicine is a good concept and is going to solve lot of problems like affordability, time consuming, and accessibility and so on in the existing health care system. Hence, it is concluded that telemedicine is beneficial and will provide numerous advantages over existing system especially in consultation.

Further, looking upon he willingness of students to adopt telemedicine, it is concluded that the results are overwhelming as almost 40 per cent of respondents were ready to not only adopt telemedicine for their self-use but are also ready to refer it to their peers and friends. The Covid pandemic, that has brought entire global community to a standstill, where people are afraid to step out of there dwellings and are suspected to go to health centres/hospitals until and unless there is an emergency, telemedicine has acted as a gift of God for them. They can consult doctors, specialists for their health-related needs and problems sitting in the safe environment of their home. Hence, overall, it is concluded that telemedicine has taken giant leaps in the Covid era and has established it as one of the primary-mode of consultation; there is still need to make citizens aware of the same and to instil belief among them that telemedicine is beneficial and will be the future of healthcare sector.

CONFLICT OF INTEREST: None

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