

Knowledge And Awareness About Telemedicine In India Vs International Students- A Comparative Survey

¹Bharath R , ²Dr. Palati Sinduja , ³Dr. Lakshmi.T.A

¹Saveetha Dental college and Hospitals, Saveetha Institute of Medical and Technical Sciences (SIMATS), Saveetha University, 162, Poonamallee High Road, Velappanchavadi, Chennai – 600077 Email id: 152001086.sdc@[saveetha.com](mailto:152001086.sdc@saveetha.com)

² Senior lecturer, Department of Pathology, Saveetha Dental College, Saveetha Institute of Medical and Technical Sciences, Chennai-77 Tamil Nadu, India Email id: sindujap.sdc@saveetha.com Phone number :+91-9600141020

³Senior Lecturer, Department of Oral Pathology and Microbiology , Saveetha Dental College, Saveetha Institute of Medical and Technical Sciences, Chennai-77 Tamil Nadu, India Email id: lakshmita.sdc@saveetha.com

Abstract

Introduction : Telemedicine is the evolution of healthcare in the digital world. Telemedicine provides new methods of healthcare in different geographical areas. Benefits of telemedicine it increases accessibility in health care, provides higher quality of health care, Telemedicine has been used since the 1960s. For past decades use of wireless technology has been more advanced. There are different types telemedicine televisits, telesupervision, telemonitoring, tele interpretation, teleconsultation; not telemedicine remote education, remote technology and social media

Aim: The aim of the study to explore knowledge and awareness about telemedicine in India vs International students-a comparative survey

Materials and methods : A cross sectional study was taken among the Indian and international dental and medical students to assess the knowledge and willingness to adopt telemedicine in their profession. The questionnaire comprising 13 questions was created in google forms and sent to 100 Indian students and 100 international students through whatsapp. The data was collected and statistically analysed using SPSS software version 23 and Pearson chi square test was done to get p value

Results : Of Indian students 56.64% participants were male, 40.71% were female, 2.65 % did not prefer to say. The gender of international students' responses. 59.22% participants were male, 38.83% were female, 1.94% preferred not to say. The Indian students respond about knowledge of telemedicine. 52.21% participants answered yes, 42.48% answered no, 5.31% answered maybe. International students' responses to knowledge about telemedicine. 96.12% students answered joyes, 3.88% students

answered no. Pearson chi square test shows p value is 0.808 for the knowledge about telemedicine among indian students which is statistically insignificant and for international students the Pearson chi square test shows p value is 0.239 which is statistically insignificant.

Conclusion : From our study we have concluded that International students have more knowledge about telemedicine than Indian students. Because international students had more exposure to telemedicine and given training.

Keywords: telemedicine, healthcare, knowledge, international students, indian students, innovative technique

Introduction

Telemedicine is the evolution of healthcare in the digital world. Telemedicine provides new methods of healthcare in different geographical areas. Benefits of telemedicine: it increases accessibility in health care, provides higher quality of health care (1). Telemedicine is defined as the delivery of healthcare services, through communication technologies. It is used in term as an umbrella to encompass healthcare delivery (2). Telemedicine is the use of communications technologies to provide healthcare when distance is a problem. In today's generation every day telephone consultations to experimental remote surgery (3).

Telemedicine has been used since the 1960s. For past decades use of wireless technology has been more advanced. There are different types of telemedicine televisits, telesupervision, telemonitoring, tele interpretation, teleconsultation; not telemedicine remote education, remote technology and social media (4). Telemedicine in foreign countries has improved. China has three telemedicine networks.

China has economic development that made it possible to open smaller hospitals and clinics located in rural areas that benefit from connecting with large hospitals to provide telemedicine and tele consultation. The Singapore government issued The National Telemedicine Guidelines to provide health care in rural areas. The Sickkids Caribbean Initiative was a research intensive hospital located in Canada that connected Caribbean doctors with Canadian specialists and the Canadian doctors were dealing with patients directly through teleconsultation. Alentha provides free telemedical consultation by the doctors of the USA and Mexico to countries like Colombia, Peru, Argentina and other Latin America (5). Telemedicine originally emerged to serve rural populations. Telemedicine provides services in cancer detection, treatment through the oncology network (6). Indian Space Research Organization supports most of the telemedicine projects. The Department of Information Technology in the Government of India develops telemedicine standardization and practise guidance (7). Telehealth care reduces the cost of health care. E- medicine uses multimedia technology to deliver medical services (8).

Telehealth care brought a revolution in information and communication technology (9). Telemedicine can close up the gap between rural environments, lack transports, lack mobility and reduce resources. The position of telemedicine has been expanded to different parties to provide health care at low costs. All said that telehealth care is not a replacement for emergency conditions (10). Our team has extensive knowledge and research experience that has translated into high quality publication(11),(12),(13),(14),(15),(16),(17),(18),(19),(20),(20–22),(23),(24),(25),(26),(27),(28),(29),(30). The current study is a step to explore knowledge about telemedicine among Indian students and International students.

Materials and methods

A cross sectional study was taken among the Indian and international dental and medical students to assess the knowledge and willingness to adopt telemedicine in their profession. The study was approved by SRB Saveetha dental college. The questionnaire comprising 13 questions was created in google forms and sent to 100 Indian students and 100 international students through whatsapp. The data was collected and statistically analysed using SPSS software version 23 and Pearson chi square test was done. Inclusion and Exclusion criteria are all those who were willing to participate were included in the study. Those who were not willing and those who had a language barrier in answering the English version of the questionnaire were excluded from the study. The questionnaire comprised a series of questions including their demographic characteristics like age and gender. The other questions are as follows:

- 1).Do you know about telemedicine ?
- 2).Do you know how telemedicine is used?
- 3).Were you given any training about telemedicine?
- 4).Have you ever treated patients through telemedicine?
- 5).If you would feel comfortable being treated by telemedicine.
- 6).Telemedicine will save time and money for obtaining an expert opinion.
- 7).Do you think telemedicine should be implemented in India?
- 8).Do you think apart from consulting patients telemedicine can be used as an adjunct to the current syllabus for postgraduates in dental and medical colleges ?
- 9).Do you think that telemedicine is useful during COVID19 lockdown?
- 10).would you like to learn about telemedicine?

Results

In our current study, among Indian students 56.64% participants were male, 40.71% were female, 2.65 % did not prefer to say. The gender of international students' responses with 59.22% participants were male, 38.83% were female, 1.94% preferred not to say. The Indian students respond about knowledge of telemedicine. 52.21% participants answered yes, 42.48% answered no, 5.31% answered maybe. International students' responses to knowledge about telemedicine with 96.12% students answered yes, 3.88% students answered no. Pearson chi square test shows p value is 0.808 for the knowledge about telemedicine among indian students which is statistically insignificant and for international students the Pearson chi square test shows p value is 0.239 which is statistically insignificant.

Indian students response:

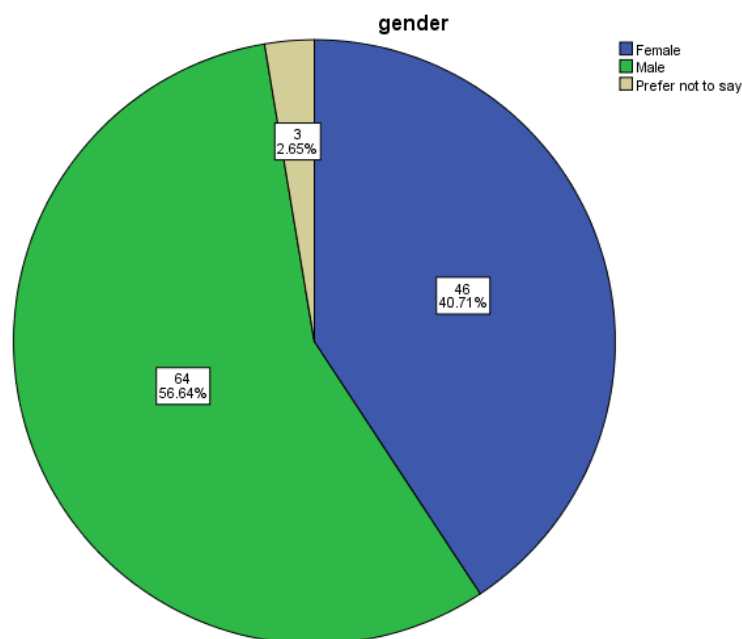


Figure 1 shows the percentage distribution of gender of Indian students who responded. 56.64%(green) participants were male, 40.71%(blue) participants were female, 2.65 %(beige) participants did not prefer to say. Majority of participants were male

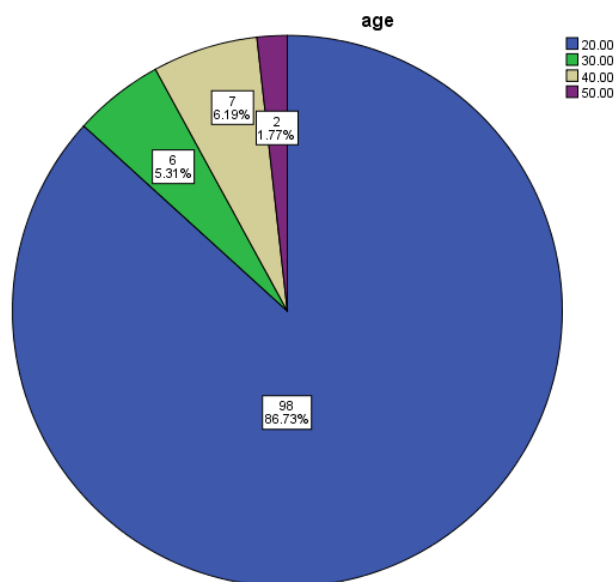


Figure 2 shows the percentage distribution of the age of the Indian students who responded. 86.73%(blue) participants were the age group of 20, 6.19% (beige) participants were the age group of 40, 5.31%(green) participants were the age group of 30, 1.77% (purple) participants were the age group of 50. Majority of them were age group of 20

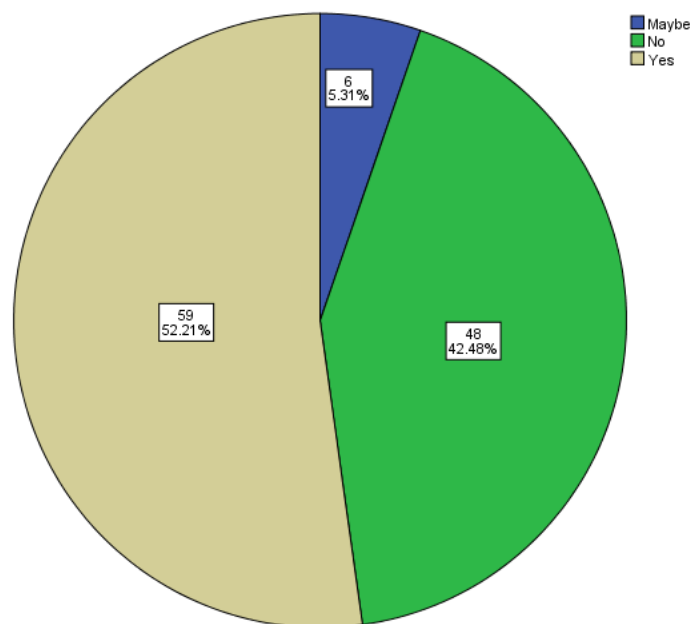


Figure 3 shows the percentage of response about knowledge of telemedicine among Indian students. 52.21%(beige) participants answered yes, 42.48% (green) participants answered no, 5.31%(blue) participants answered maybe. Majority of them have knowledge about of telemedicine

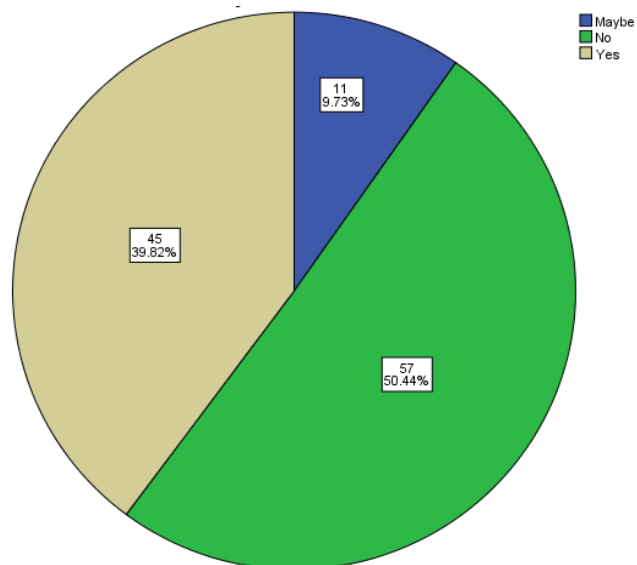


Figure 4 shows the percentage of response of how telemedicine is used. 50.44%(green) students answered no, 9.73%(blue) students answered maybe, 39.82%(beige) students answered yes. Majority of participants don't know how to use telemedicine

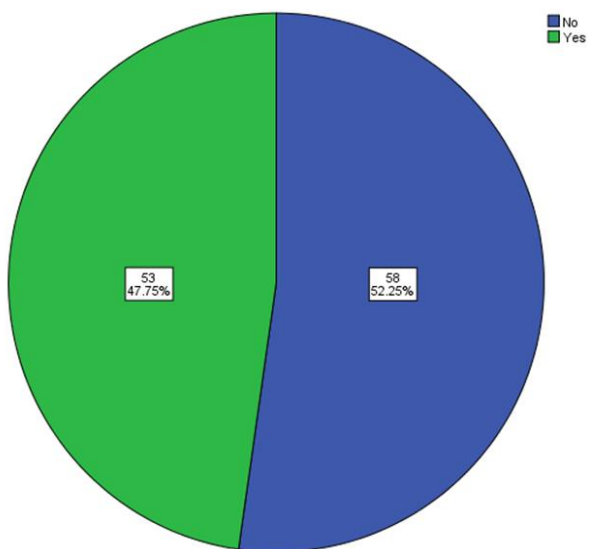


Figure 5 shows the percentage of responses whether they have treated patients through telemedicine. 52.25%(blue) students answered no, 47.75%(green) students answered yes. Majority of the participants have not treated patients through telemedicine

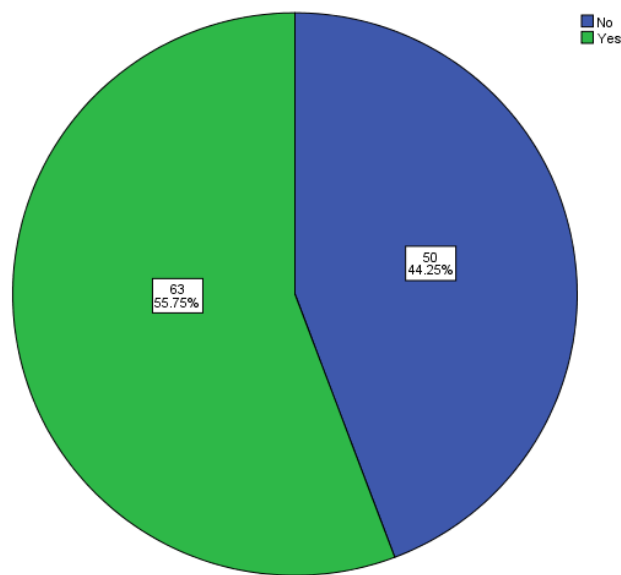


Figure 6 shows the percentage of responses about whether any training was given on telemedicine. 44.25%(blue) students answered no, 55.75%(green) students answered yes. Majority of participants were given training about telemedicine.

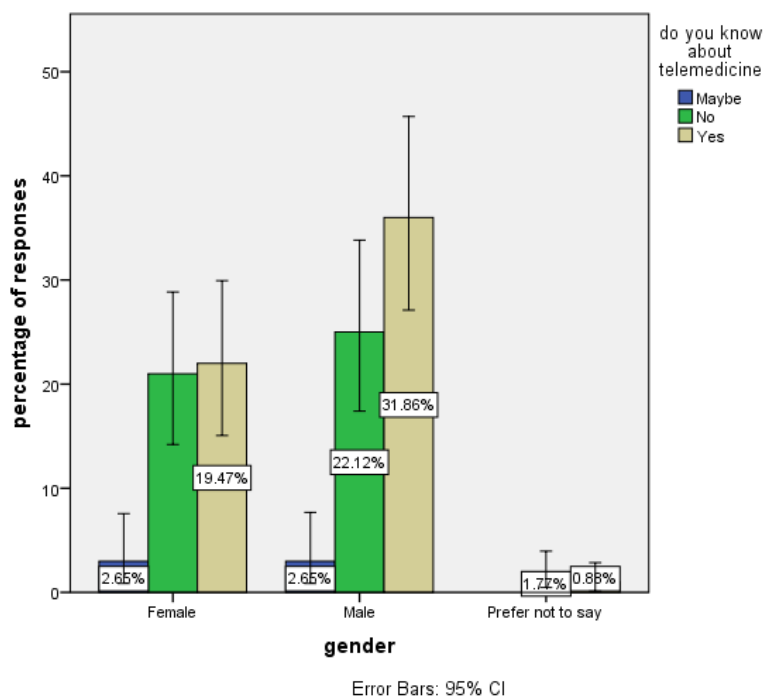


Figure 7 Bar graph represents the association between gender and knowledge about telemedicine. X axis represents the gender and Y axis represents the percentage of responses. Blue denotes maybe, beige denotes yes and green denotes no. Female responses are 2.65% (Blue) of the participants have answered maybe, 18.58% (green) of the participants have answered no, 19.47% (beige) of the participants have answered yes. Male responses are 2.65% (blue) of the participants have answered maybe, 22.12% (green) of participants have answered no, 31.86% (beige) of participants have answered yes. Prefer not to say responses are 1.77% (green) of participants have answered no and 0.88% (beige) of participants have answered no. Pearson chi square test shows p value as 0.808,(p value > 0.05) hence it is statistically not significant.

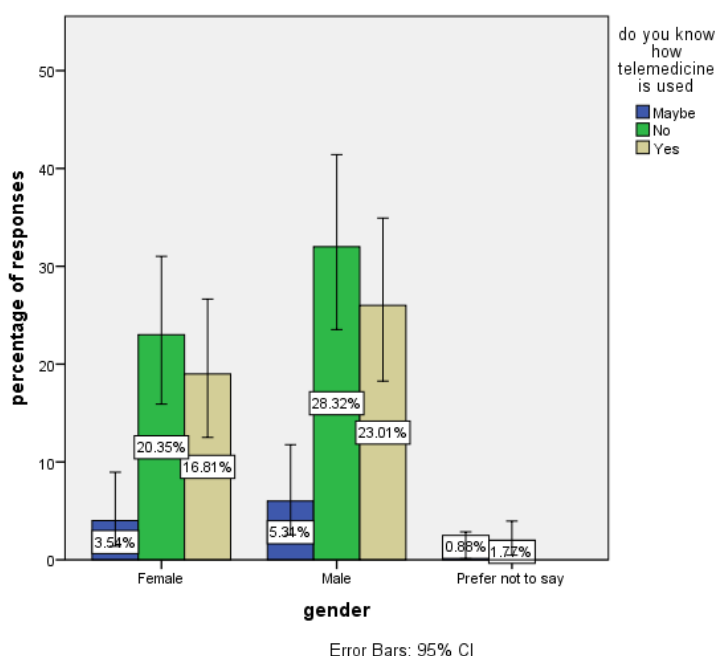


Figure 8 bar graph represents the association between gender and how telemedicine is used. X axis represents the gender and Y axis represents the percentage of responses. Blue denotes maybe, beige denotes yes and green denotes no. Female responses are 3.54% (blue) of the participants answered maybe, 20.35% (green) of participants answered no, 16.81% (beige) of participants answered yes. Male responses are 5.31% (blue) of participants answered maybe, 28.32% (green) of participants answered no, 23.01% (beige) of participants answered yes. Prefer not to say responses are 1.77% (green) of participants have answered no and 0.88% (blue) of participants have answered yes. Pearson chi square test shows p value as 0.530,(p value > 0.05) hence it is not statistically not significant.

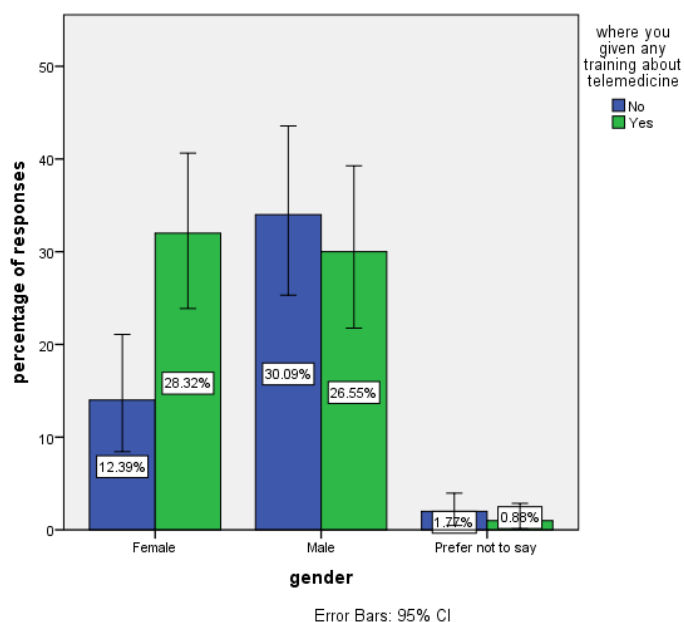


Figure 9 Bar graph represents the association between gender and given training about telemedicine. X axis represents the gender and Y axis represents the percentage of responses. blue denotes percentage of no and green denotes percentage of yes. Female responses are 12.39% (blue) of participants have answered no and 28.32%(green) of participants have answered yes. Male responses are 30.09% (blue) of participants have answered no and 26.55% (green) of participants have answered yes. Prefer not to say responses 1.77% (blue) of participants have answered no and 0.88% (green) of participants have answered yes. Pearson chi square test shows p value as 0.045,(p value < 0.05) hence it is statistically significant.

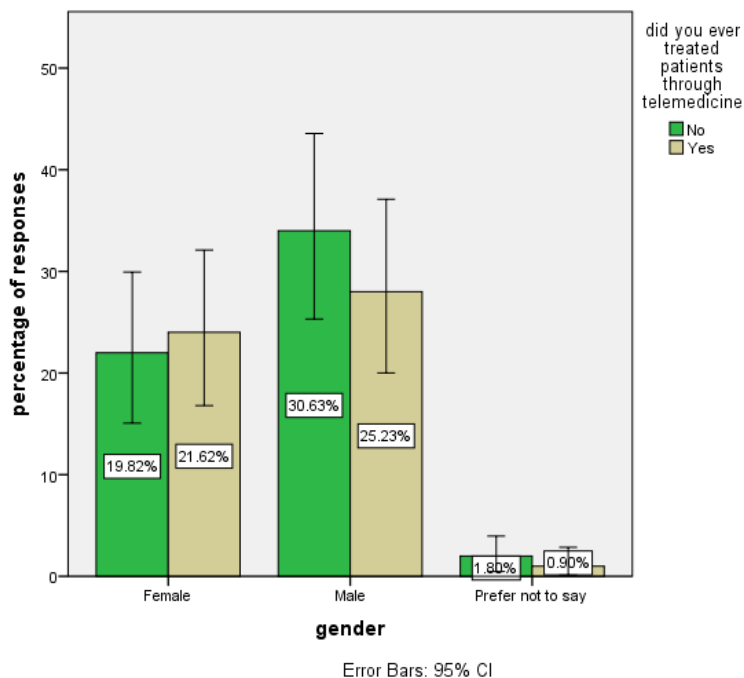


Figure 10 bar graph represents the association between gender and treated patients through telemedicine. X axis represents the gender and Y axis represents the percentage of responses. green denotes no and beige denotes yes. Female responses are 19.83% (green) of participants have answered no and 21.62% (beige) of participants have answered yes. Male responses are 30.63% (green) of participants have answered no and 25.23% (beige) of participants answered have yes. Prefer not to say responses 1.80% (green) of participants have answered no and 0.90% (beige) of participants have answered yes. Pearson chi square test shows p value is 0.673,(p value > 0.05) hence it is not statistically significant.

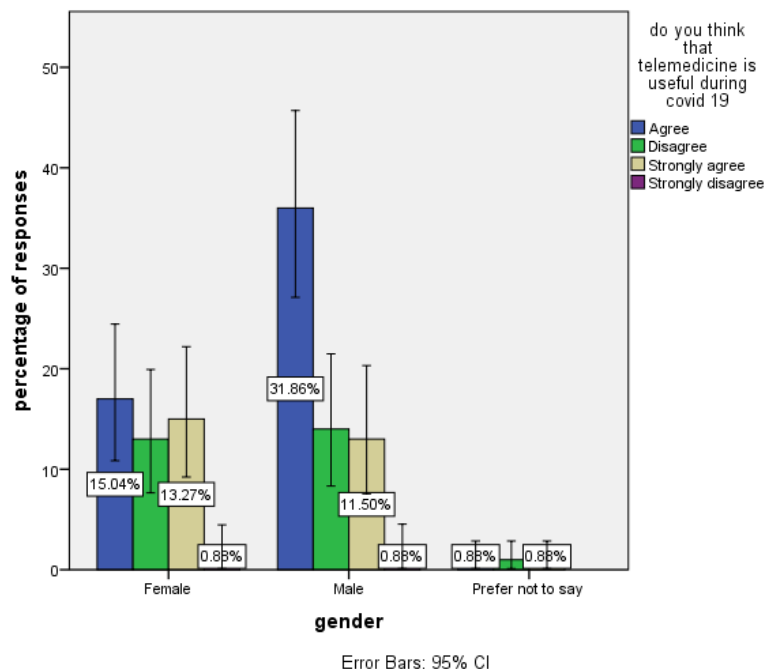


Figure 11 bar graph represents the association between gender and telemedicine is useful during Covid 19. X axis represents the gender and Y axis represents the responses. Blue denotes agree, beige denotes strongly agree, purple denotes strongly disagree and green denotes disagree. Female responses are 15.04% (blue) of participants who answered agree, 11.50% (green) of participants answered disagree, 13.27% (beige) of participants answered strongly agree and 0.88% (purple) of participants answered strongly disagree. Male responses are 31.86% (blue) of participants have answered agree, 12.39% (green) of participants have answered disagree, 11.50% (beige) of participants have answered strongly agree and 0.88% (purple) of participants answered strongly disagree. Prefer not to say responses are 0.88% (blue) of participants have answered agree, 0.88% (green) of participants have answered disagree and 0.88% (beige) of participants have answered strongly agree. Pearson chi square test shows p value is 0.608, (p value > 0.05) hence it is not statistically not significant.

International students response:

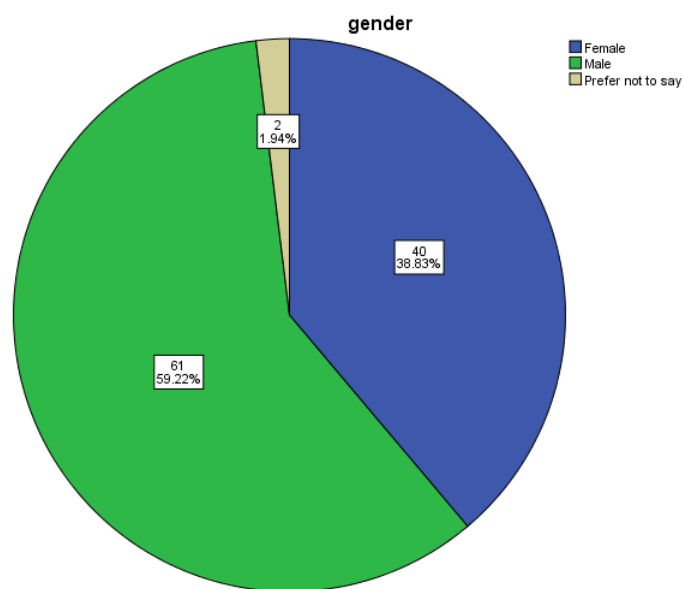


Figure 12 Represents the percentage distribution of gender of international students who responded. 59.22% (green) participants were male, 38.83% (blue) were female, 1.94% (beige) preferred not to say. Majority of the participants were male

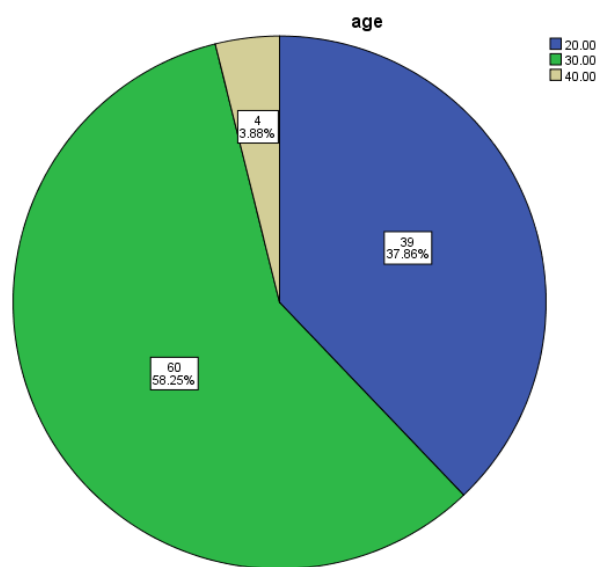


Figure 13 shows the percentage distribution of the age of the International students who responded. . 58.25% (green) participants age group of 20 years, 37.86% (blue) age group of 20 years, 3.88% (beige) age group of 40 years. Majority of the participants were in the age group of 30.

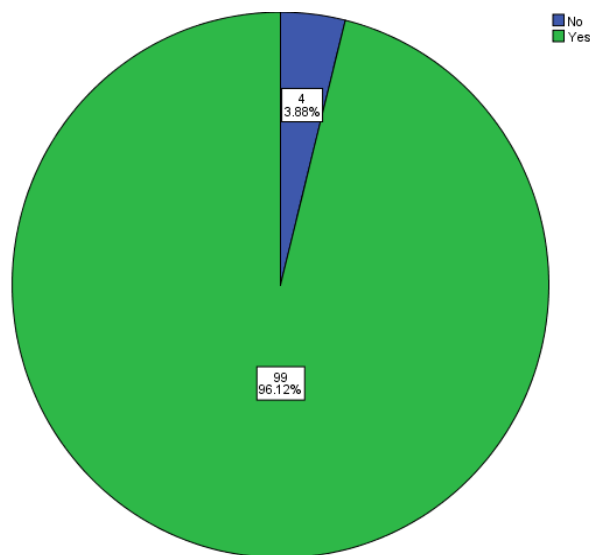


Figure 14 shows the percentage of responses about knowledge of telemedicine among International students. 96.12% (green) students answered yes, 3.88% (blue) students answered no. Majority the participants has knowledge about telemedicine

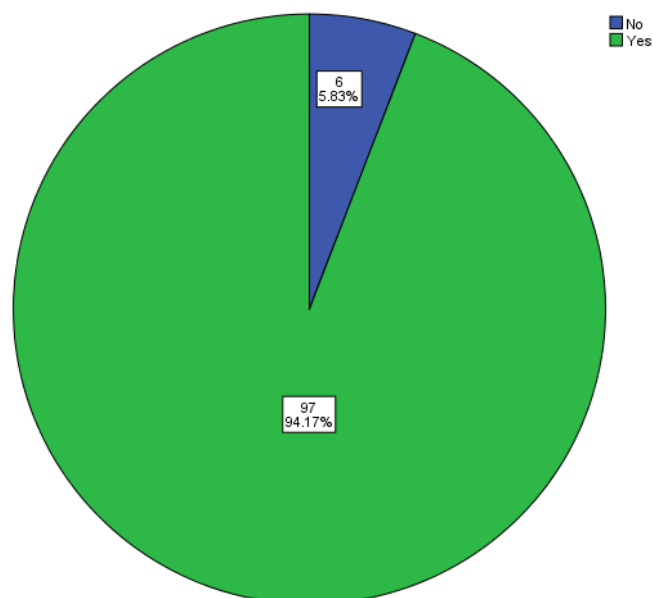


Figure 15 shows the percentage of response of how telemedicine is used. 94.17% (green) students answered yes, 5.83% (blue) students answered no. Majority of the participants know how to use telemedicine.

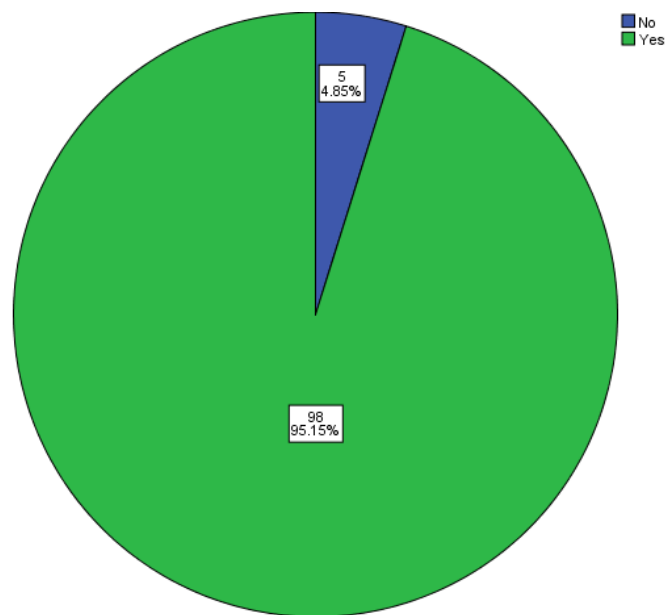


Figure 16 shows the percentage of responses about whether any training given on telemedicine. 95.15% (green) students answered yes, 4.85% (blue) students answered no. Majority of the participants were given training about telemedicine.

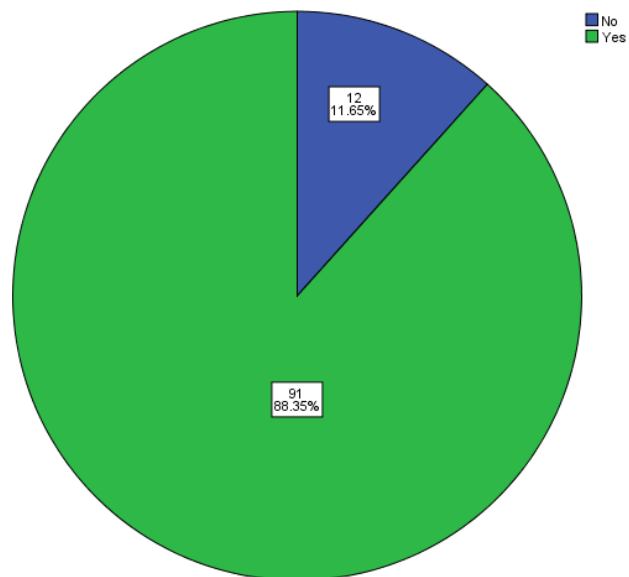


Figure 17 shows the percentage of responses whether they have treated patients through telemedicine. 88.35% (green) of students answered yes, 11.65% (blue) of students answered no. Majority of participants treated patients through telemedicine.

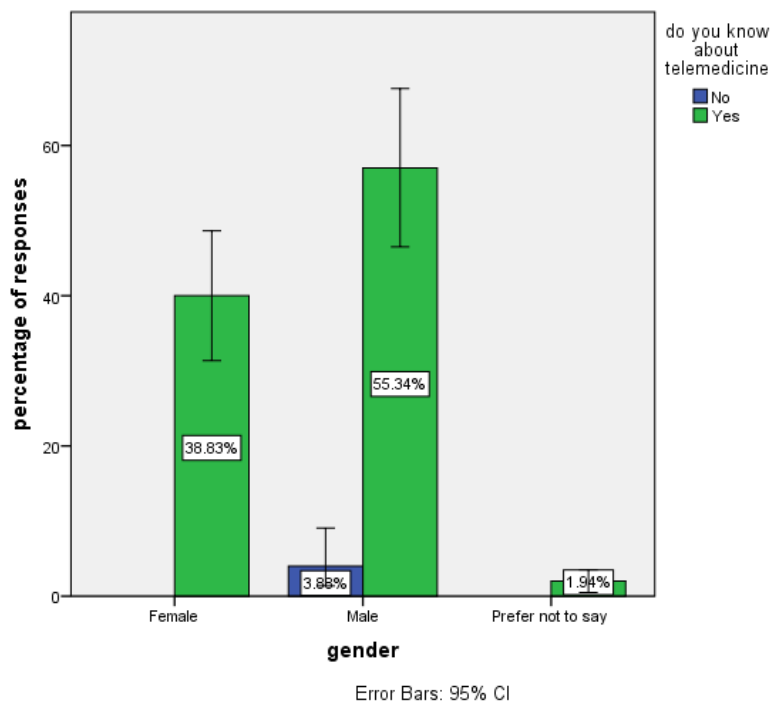


Figure 18 Bar graph represents the association between gender and knowledge about telemedicine. X axis represents the gender and Y axis represents the percentage of responses. blue denotes no and green denotes yes. Female responses are 38.83% (green) of participants have answered yes. Male responses are 3.88% (blue) of participants have answered no and 55.34% (green) of participants have answered yes. Prefer not to say responses 1.94% (green) of participants have answered yes. Pearson chi square test shows p value is 0.239, (p value > 0.05) hence it is not statistically significant.

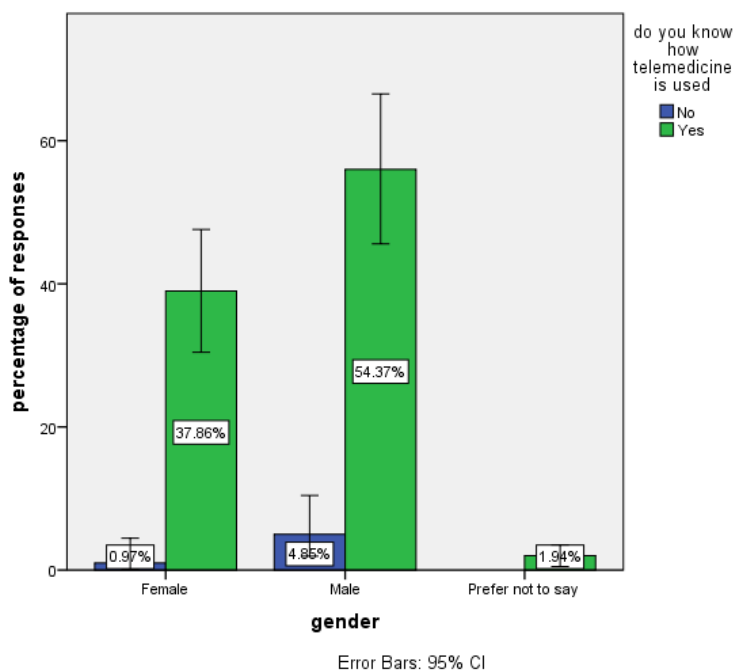


Figure 19 Bar graph represents the association between gender and how telemedicine is used. X axis represents the gender and Y axis represents the percentage of responses. Blue denotes no and green denotes yes. Female responses are 0.97% (blue) of participants have answered no and 37.86% (green) of participants have answered yes. Male responses are 4.85% (blue) of participants answered yes and 54.37% (green) of participants have answered yes. Prefer not to say responses 1.94% (green) of participants answered yes. Pearson chi square test shows p value is 0.459,(p value > 0.05) hence it is not statistically significant.

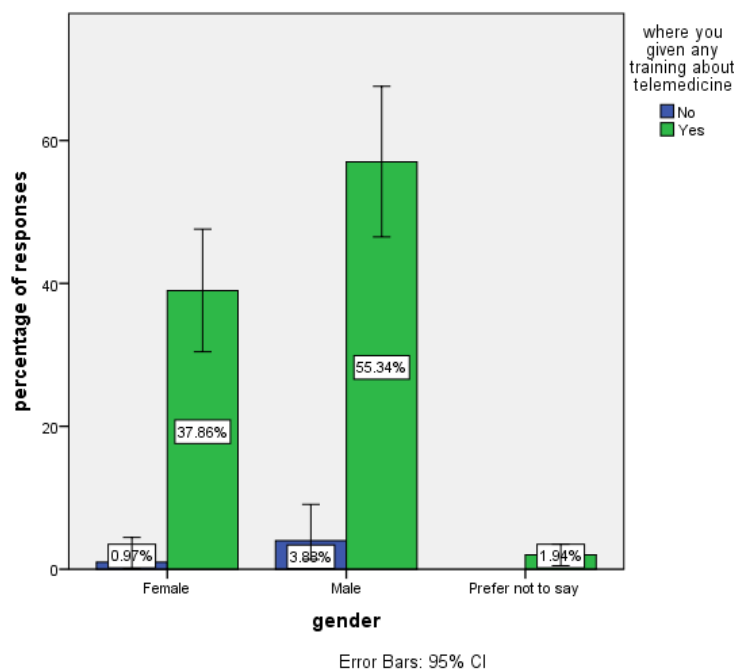


Figure 20 Bar graph represents the association between gender and where you were given training about telemedicine. X axis represents the gender and Y axis represents the percentage of responses. Blue denotes no and green denotes yes. Female responses are 0.97% (blue) of participants have answered no and 37.86% (green) of participants have answered yes. Male responses are 3.88% (blue) of participants have answered no and 55.34% (green) of participants have answered yes. Prefer not to say responses 1.94% (green) of participants answered yes. Pearson chi square test shows p value is 0.617, (p value > 0.05) hence it is not statistically significant.

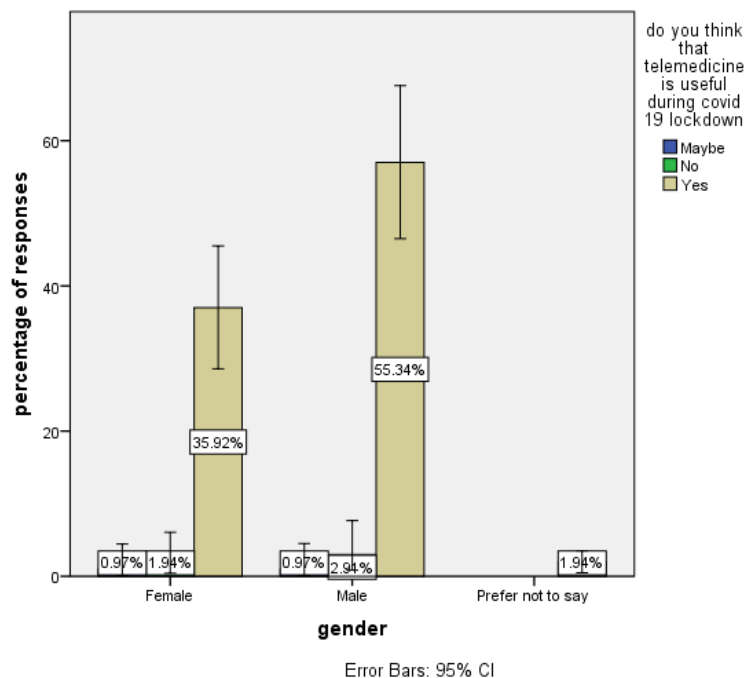


Figure 21 Bar graph represents the association between gender and telemedicine is useful during lockdown. X axis represents the gender and Y axis represents the percentage of responses. Blue denotes maybe, beige denotes yes and green denotes no. Female responses are 0.97% (blue) of participants have answered maybe, 1.94% (green) of participants have answered no and 35.92% (beige) of participants have answered yes. Male responses are 0.97% (blue) of participants have answered maybe, 2.91% (green) of participants have answered no and 55.34% (beige) of participants have answered yes. Prefer not to say responses 1.94% (beige) of participants answered yes. Pearson chi square test shows p value is 0.993, (p value > 0.05) hence it is not statistically significant.

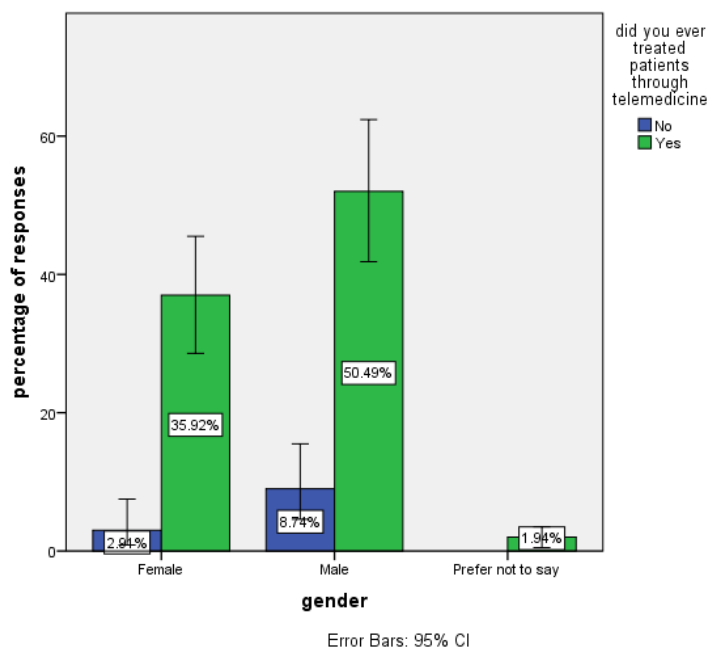


Figure 22 Bar graph represents the association between gender and treated patients through telemedicine. X axis represents the gender and Y axis represents the percentage of responses. Blue denotes no and green denotes yes. Female responses are 2.91% (blue) of participants have answered no and 35.92% (green) of participants have answered yes. Male responses are 8.74% (blue) of participants have answered yes and 50.49% (green) of participants have answered yes. Prefer not to say responses 1.94% (green) of participants have answered yes. Pearson chi square test shows p value is 0.471, (p value > 0.05) hence it is not statistically significant.

Discussion

In a previous study 43% of participants had insufficient knowledge about telemedicine. 18.9% participants had knowledge about telemedicine. More than 90% of students said that telemedicine would save time and reduce the costs (1). 60% of participants were aware of telehealth care (31), but in our study 42.5% of Indian students had insufficient knowledge about telemedicine and 3.88% of international students had insufficient knowledge about telemedicine.

Another study done in west bengal 60% of participants said telemedicine is cost effective (32), in my study 36% of Indian students said that telemedicine is cost effective and 72% of international students said telemedicine is cost effective. 49.8% of participants were aware of telemedicine. 73.3% of participants prefer to use telemedicine, 85% prefer telemedicine for its convenience (33) in our study

41% of indian students said that their would feel comfortable if their treated by telemedicine and 90.3% of international students said that their would feel comfortable if their treated by telemedicine.

60% of participants said telemedicine reduces travelling time, reduces cost of healthcare and shorter hospital stays. 50% said that they would employ telemedicine in their practise. 30% said that telemedicine is legal in India (34), in our study 46.9% of indian students treated patients through telemedicine and 88.3% of international students have treated patients through telemedicine, 36% of indian students said that telemedicine reduces the time of travel and 72% international students said that telemedicine reduces time of travel. Limitation of our study was that we had less time for this survey and the populations were too small. Future scope of our study that telemedicine will improve the health care of our world. During pandemic situations telemedicine would be greatly useful to this world and its people.

Conclusion

Telemedicine will increase the accessibility in health care, and provide higher quality of health care. From our study we concluded that international students have more knowledge about telemedicine than Indian students because international students have more exposure to telemedicine and are given training. The position of telemedicine has been expanded to different parties to provide health care at low cost .

AUTHORS CONTRIBUTION

Bharath R: Literature search, data collection analysis, manuscript drafting.

Dr. Palati sinduja: Aided in conception of the topic, has participated in the study design, statistical analysis and has supervised in preparation and final corrections of the manuscript

Dr. Lakshmi : Data verification, manuscript drafting, preparation of the manuscript.

ACKNOWLEDGEMENT

Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Saveetha University

CONFLICT OF INTEREST

The authors reported the conflict of interest while performing this study to be nil

SOURCE OF FUNDING

This study was funded by

- Saveetha Institute of Medical and Technical Sciences
- Saveetha Dental College and Hospitals
- Saveetha University
- Bhagavan Healthcare

Reference

1. Malhotra P, Ramachandran A, Chauhan R, Soni D, Garg N. Assessment of Knowledge, Perception, and Willingness of using Telemedicine among Medical and Allied Healthcare Students Studying in Private Institutions [Internet]. Telehealth and Medicine Today. 2020. Available from: <http://dx.doi.org/10.30953/tmt.v5.228>
2. Chellaiyan VG, Nirupama AY, Taneja N. Telemedicine in India: Where do we stand? J Family Med Prim Care. 2019 Jun;8(6):1872–6.
3. Field MJ. Telemedicine: a guide to assessing telecommunications in healthcare. J Digit Imaging. 1997 Aug;10(3 Suppl 1):28.
4. Serper M, Volk ML. Current and Future Applications of Telemedicine to Optimize the Delivery of Care in Chronic Liver Disease. Clin Gastroenterol Hepatol. 2018 Feb;16(2):157–61.e8.
5. Gupta A, Dogar ME, Zhai ES, Singla P, Shahid T, Yildirim HN, et al. Innovative Telemedicine Approaches in Different Countries: Opportunity for Adoption, Leveraging, and Scaling-Up [Internet]. Vol. 5, Telehealth and Medicine Today. 2019. Available from: <http://dx.doi.org/10.30953/tmt.v5.160>
6. Sudhamony S, Nandakumar K, Binu PJ, Issac Niwas S. Telemedicine and tele-health services for cancer-care delivery in India [Internet]. Vol. 2, IET Communications. 2008. p. 231. Available from: <http://dx.doi.org/10.1049/iet-com:20060701>
7. Mishra SK, Singh IP, Chand ED. Current Status of Telemedicine Network in India and Future Perspective [Internet]. Vol. 32, Proceedings of the Asia-Pacific Advanced Network. 2011. p. 151. Available from: <http://dx.doi.org/10.7125/apan.32.19>

8. Wootton R, Patil NG, Scott RE, Ho K. Telehealth in the Developing World. IDRC; 2009. 318 p.
9. Chen P, Xiao L, Gou Z, Xiang L, Zhang X, Feng P. Telehealth attitudes and use among medical professionals, medical students and patients in China: A cross-sectional survey [Internet]. Vol. 108, International Journal of Medical Informatics. 2017. p. 13–21. Available from: <http://dx.doi.org/10.1016/j.ijmedinf.2017.09.009>
10. El-Miedany Y. Telehealth and telemedicine: how the digital era is changing standard health care [Internet]. Vol. 4, Smart Homecare Technology and TeleHealth. 2017. p. 43–51. Available from: <http://dx.doi.org/10.2147/shtt.s116009>
11. Princeton B, Santhakumar P, Prathap L. Awareness on Preventive Measures taken by Health Care Professionals Attending COVID-19 Patients among Dental Students. Eur J Dent. 2020 Dec;14(S 01):S105–9.
12. Mathew MG, Samuel SR, Soni AJ, Roopa KB. Evaluation of adhesion of Streptococcus mutans, plaque accumulation on zirconia and stainless steel crowns, and surrounding gingival inflammation in primary molars: randomized controlled trial. Clin Oral Investig. 2020 Sep;24(9):3275–80.
13. Sridharan G, Ramani P, Patankar S, Vijayaraghavan R. Evaluation of salivary metabolomics in oral leukoplakia and oral squamous cell carcinoma. J Oral Pathol Med. 2019 Apr;48(4):299–306.
14. R H, Hannah R, Ramani P, Ramanathan A, Jancy MR, Gheena S, et al. CYP2 C9 polymorphism among patients with oral squamous cell carcinoma and its role in altering the metabolism of benzo[a]pyrene [Internet]. Vol. 130, Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology. 2020. p. 306–12. Available from: <http://dx.doi.org/10.1016/j.oooo.2020.06.021>
15. Antony JVM, Ramani P, Ramasubramanian A, Sukumaran G. Particle size penetration rate and effects of smoke and smokeless tobacco products - An invitro analysis. Heliyon. 2021 Mar 1;7(3):e06455.
16. Sarode SC, Gondivkar S, Sarode GS, Gadbail A, Yuwanati M. Hybrid oral potentially malignant disorder: A neglected fact in oral submucous fibrosis. Oral Oncol. 2021 Jun 16;105390.
17. Hannah R, Ramani P, WM Tilakaratne, Sukumaran G, Ramasubramanian A, Krishnan RP. Author response for “Critical appraisal of different triggering pathways for the pathobiology of pemphigus

- vulgaris—A review” [Internet]. Wiley; 2021. Available from: <https://publons.com/publon/47643844>
18. Chandrasekar R, Chandrasekhar S, Sundari KKS, Ravi P. Development and validation of a formula for objective assessment of cervical vertebral bone age. *Prog Orthod*. 2020 Oct 12;21(1):38.
19. Subramanyam D, Gurunathan D, Gaayathri R, Vishnu Priya V. Comparative evaluation of salivary malondialdehyde levels as a marker of lipid peroxidation in early childhood caries. *Eur J Dent*. 2018 Jan;12(1):67–70.
20. Jeevanandan G, Thomas E. Volumetric analysis of hand, reciprocating and rotary instrumentation techniques in primary molars using spiral computed tomography: An in vitro comparative study. *Eur J Dent*. 2018 Jan;12(1):21–6.
21. Sundaram R, Nandhakumar E, Haseena Banu H. Hesperidin, a citrus flavonoid ameliorates hyperglycemia by regulating key enzymes of carbohydrate metabolism in streptozotocin-induced diabetic rats. *Toxicol Mech Methods*. 2019 Nov;29(9):644–53.
22. Ponnulakshmi R, Shyamaladevi B, Vijayalakshmi P, Selvaraj J. In silico and in vivo analysis to identify the antidiabetic activity of beta sitosterol in adipose tissue of high fat diet and sucrose induced type-2 diabetic experimental rats. *Toxicol Mech Methods*. 2019 May;29(4):276–90.
23. Alsawalha M, Rao CV, Al-Subaie AM, Haque SKM, Veeraraghavan VP, Surapaneni KM. Novel mathematical modelling of Saudi Arabian natural diatomite clay. *Mater Res Express*. 2019 Sep 4;6(10):105531.
24. Yu J, Li M, Zhan D, Shi C, Fang L, Ban C, et al. Inhibitory effects of triterpenoid betulin on inflammatory mediators inducible nitric oxide synthase, cyclooxygenase-2, tumor necrosis factor- α , interleukin-6, and proliferating cell nuclear antigen in 1, 2-dimethylhydrazine-induced rat colon carcinogenesis. *Pharmacogn Mag*. 2020;16(72):836.
25. Shree KH, Hema Shree K, Ramani P, Herald Sherlin, Sukumaran G, Jeyaraj G, et al. Saliva as a Diagnostic Tool in Oral Squamous Cell Carcinoma – a Systematic Review with Meta Analysis [Internet]. Vol. 25, Pathology & Oncology Research. 2019. p. 447–53. Available from: <http://dx.doi.org/10.1007/s12253-019-00588-2>

26. Zafar A, Sherlin HJ, Jayaraj G, Ramani P, Don KR, Santhanam A. Diagnostic utility of touch imprint cytology for intraoperative assessment of surgical margins and sentinel lymph nodes in oral squamous cell carcinoma patients using four different cytological stains. *Diagn Cytopathol.* 2020 Feb;48(2):101–10.
27. Karunagaran M, Murali P, Palaniappan V, Sivapathasundharam B. Expression and distribution pattern of podoplanin in oral submucous fibrosis with varying degrees of dysplasia – an immunohistochemical study [Internet]. Vol. 42, *Journal of Histotechnology.* 2019. p. 80–6. Available from: <http://dx.doi.org/10.1080/01478885.2019.1594543>
28. Sarode SC, Gondivkar S, Gadbail A, Sarode GS, Yuwanati M. Oral submucous fibrosis and heterogeneity in outcome measures: a critical viewpoint. *Future Oncol.* 2021 Jun;17(17):2123–6.
29. Raj Preeth D, Saravanan S, Shairam M, Selvakumar N, Selestina Raja I, Dhanasekaran A, et al. Bioactive Zinc(II) complex incorporated PCL/gelatin electrospun nanofiber enhanced bone tissue regeneration. *Eur J Pharm Sci.* 2021 May 1;160:105768.
30. Prithiviraj N, Yang GE, Thangavelu L, Yan J. Anticancer Compounds From Starfish Regenerating Tissues and Their Antioxidant Properties on Human Oral Epidermoid Carcinoma KB Cells. In: *PANCREAS. LIPPINCOTT WILLIAMS & WILKINS TWO COMMERCE SQ, 2001 MARKET ST, PHILADELPHIA ...*; 2020. p. 155–6.
31. Bradford NK, Caffery LJ, Smith AC. Awareness, experiences and perceptions of telehealth in a rural Queensland community [Internet]. Vol. 15, *BMC Health Services Research.* 2015. Available from: <http://dx.doi.org/10.1186/s12913-015-1094-7>
32. Zayapragassarazan Z. Awareness, Knowledge, Attitude and Skills of Telemedicine among Health Professional Faculty Working in Teaching Hospitals [Internet]. *JOURNAL OF CLINICAL AND DIAGNOSTIC RESEARCH.* 2016. Available from: <http://dx.doi.org/10.7860/jcdr/2016/19080.7431>
33. Jung S-G, Kweon H-J, Kim E-T, Kim S-A, Choi J-K, Cho D-Y. Preference and awareness of telemedicine in primary care patients. *Korean J Fam Med.* 2012 Jan;33(1):25–33.
34. Elhadi M, Elhadi A, Bouhuwaish A, Bin Alshiteewi F, Elmabrouk A, Alsuyihili A, et al. Telemedicine Awareness, Knowledge, Attitude, and Skills of Health Care Workers in a Low-Resource Country

Nat. Volatiles & Essent. Oils, 2021; 8(4): 8493-8517

During the COVID-19 Pandemic: Cross-sectional Study. J Med Internet Res. 2021 Feb 25;23(2):e20812.