



A Cross-sectional Survey on Knowledge and Awareness of Dental Professionals Towards Medicolegal Issues in Teledentistry in Sharad Pawar Dental College

Anumeha Morey ^{a≡}, Vaibhavi Boradkar ^{a≡}, Dimpal Rohankar ^{a≡}, Avanti Date ^{a≡},
Kumar Gaurav Chhabra ^{b*⊖}, Priyanka Paul ^{b#} and Amit Reche ^{b†}

^a Public Health Dentistry, Sharad Pawar Dental College, Datta Meghe Institute Of Medical Sciences, Wardha, India.

^b Department of Public Health Dentistry, Sharad Pawar Dental College, Datta Meghe Institute of Medical Sciences, Sawangi Meghe, Wardha, India.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Study Protocol

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ABSTRACT

Background: Many dental professionals are not familiar with medicolegal issues in teledentistry. Through our survey, many dental professionals will be aware of medicolegal issues in teledentistry.

Objectives: To evaluate the knowledge and awareness regarding medicolegal issues in teledentistry among dental staff and postgraduates and assess the correlation of demographic information with knowledge and awareness regarding medicolegal issues in teledentistry among dental staff and postgraduates.

Methodology: The dental professionals and postgraduates of Sharad Pawar Dental College will be chosen.

Expected Results: Evaluating the knowledge and awareness of medicolegal issues in teledentistry

[≡] Intern;

[⊖] Professor and Head;

[#] Asso. Professor;

[†] Asst. Professor;

*Corresponding author: E-mail: rajsushilchhabra@gmail.com;

among dental students. A more significant number of dental professionals are not familiar with medicolegal issues in teledentistry.

Conclusion: It is beneficial in long-distance clinical training and preserving with education, screening, and dentist laboratory communication. In rural regions in which there may be a scarcity of specialists, loss of complete and complicated health care teledentistry can amplify care to remote patient populations at an affordable value as well as ease the hassle of a scarcity of specialized dental consultants, with few drawbacks and steady efforts to fight them, teledentistry has promising future and an extended manner to go.

Keywords: Teledentistry; telecommunication; clinical training; distant consultation; networking, health care centers; evaluation and follow-up; affordable fees; long-distance medical education; virtual diagnosis.

1. INTRODUCTION

Digital dentistry is defined as “Any dental technology or device that incorporates digital or computer-controlled components in contrast to that of mechanical or electrical alone [1]. “Teledentistry” was first used in 1997 when Cook defined it as the practice of using video-conferencing technologies to diagnose and provide advice about treatment over distance. Teledentistry combines telecommunication and dentistry, involving the exchange of clinical information and images over remote distance for dental consultation and treatment planning. It uses electronic information to communications technologies to provide and support healthcare when distance separates the participate [2] Some of the significant areas incorporating digital dentistry are Prosthodontics with the use of computer-aided designs CAD-CAM Technology both from clinician and laboratory; shade matching using spectrophotometry; photography intraoral and extra-oral; occlusion and temporomandibular joint analysis; computer-aided implant dentistry, including designs and fabrication of surgical guide to complete digital workflow; digital radiography, including cone-beam computed tomography (CB-CT), widely used in all the filled with dentistry; Laser; practice and patient record management, along with virtual patient training gear and so forth [5]. Despite the vast quantity of booklets on digital dentistry, the ethical and medicolegal challenges of integrating this technology in each day's practice have been insufficiently addressed. The purpose of the synopsis changed to evaluate the effect of digital technologies on dental experts concerning medicolegal aspects [1].

Teleconsultation can take place in the following ways:

1. Real-time consultation: it refers to video conferencing in which patients and dental professionals at different locations may communicate [6].
2. Store-and-forward method: the patient is not present during the consultation, but there is the exchange of clinical information and images which are stored by a dentist [7]
3. Remote monitoring method: dentist consult patient at a distance which can be hospital-based or home-based [8]
4. Near-real-time: in this, the consultation is of low resolution and low frame rate product [9].

1.1 Origin

The initial idea of teledentistry evolved as a part of the blueprint for dental informatics, which became drafted at a 1989 conference funded through the Westinghouse Electronics Systems Group Baltimore. The focus became on a discussion of how to practice dental informatics in dental practice to immediately affect oral healthcare delivery. The beginning of teledentistry as subspecialist telemedicine may be related to 1994 and a military project of the United States Army (U.S. Army's Total Dental Access Project), aiming to enhance patient care, dental training, and effectuation the communication among dentists and dental laboratories. This military venture established that teledentistry reduced overall patient care expense, extending dental care to the remote and rural regions and supplying entire records required for deeper analyses. As the era has advanced, new possibilities for teledentistry have been created. Technologies presently available are beginning to alternate the dynamics of dental care delivery. Teledentistry will provide new opportunities to enhance patient care and reshape contemporary enterprise models [2].

1.2 Scope

Advancement in technology has broadened the scope of usage of teledentistry. In patient care in several remote clinics, a patient needs to travel loads of miles to obtain specialty care. Often pre- and post-operative visits take just a few minutes of real appointment time however require hours of travel through the patient. Fee and travel time required through the patient are reduced. Referral to specialists, consultations, and laboratory communications are a number of the clinical areas wherein development may be done. Teledentistry in consulting can be found in two forms: Real-time consulting and store-and-forward consulting. In real-time consulting, a videoconferencing layout is used. The referring dentist collects relevant information and sends it to the consulting physician via a digital medium in store and forward consulting. The consultant evaluate the material and returns as via the same path. Both ways, the potential for access to specialized care is increased. On the other hand, the potential for error could also be increased and the potential for practitioners to incur additional liability. In either case, two or more practitioners are involved in the consultation. It is not advised to make a diagnosis based only on a telephone conversation with a patient. It is equally inadvisable to make a diagnosis, treatment recommendation, or both without an examination by a licensed practitioner. Continuing dental education Through video teleconferencing equipment, the lectures could be broadcast to any clinic where continuing dental education is challenging to obtain [3].

1.3 Aim

To assess the knowledge and awareness regarding medicolegal issues in teledentistry amongst dental health professionals in Sharad Pawar Dental College.

1.4 Objectives

- To evaluate the knowledge regarding medicolegal issues in teledentistry among dental staff and postgraduates.
- To evaluate the awareness regarding medicolegal issues in teledentistry among dental staff and postgraduates.
- To evaluate the correlation of demographic information with knowledge and awareness regarding medicolegal

issues in teledentistry among dental staff and postgraduates in Sharad Pawar Dental College

2. METHODS

It is an online-based cross –sectional survey conducted by Sharad Pawar Dental College and Hospital. The participants of this study include various dental staff and postgraduates in Sharad Pawar Dental College to assess the medicolegal issues in teledentistry and its practices among dental Practitioners. A unique form is designed to record all the required relevant information. The self-administered questionnaire is composed of two main sections in awareness and knowledge-based assessment questions related to medicolegal issues in teledentistry. The questionnaire will be used as a tool for data collection and evaluate closed-ended questions are structured with few open questions to allow a free-response. The pilot study will consist of all the dental professionals attending the Sharad Pawar dental college and hospital to check the validity and reliability of the questionnaire. A convenient sampling method has been followed depending on the participants' responses. The knowledge and awareness of study subjects will be assessed using a questionnaire method. The items for this questionnaire will be generated from two sources: theory and research. The questionnaire consisted of a total of 18 items assessing knowledge and awareness.

A total of 18 questions will be based on knowledge and awareness of the dental professionals towards medicolegal issues in teledentistry.

Questions related to knowledge and awareness included: whether the dental professional have knowledge and awareness in the institution and should constantly update their knowledge and awareness on medicolegal issues in teledentistry. Correct answers for knowledge and awareness questions would be given a score of "1" and wrong answers, did not known and not attempted would be given a score of "0."

3. EXPECTED OUTCOME/RESULT

Evaluating the knowledge and awareness of medicolegal issues in teledentistry in sharad pawar dental college. The more number of dental professional are not familiar about medicolegal issues in teledentistry and this survey will help

them to be enlighten about medicolegal issues during teledentistry.

4. DISCUSSION

Teledentistry can be defined as the use of electronic information and telecommunications technologies to support long-distance clinical oral health care, patient and professional health related education, public health, and health administration. 'Teledentistry' allows a whole new way of providing specialist advice. Through the use of telecommunication and computer technologies, it is now possible to provide interactive access to specialist opinions that are not limited by the constraints of either space or time.

A review by Bhargava, et al on Ethicolegal aspects of teledentistry concluded that teledentistry is a relatively new and exciting field that has endless potential. It is useful in long-distance clinical training and continuing education, screening and dentist laboratory communication. In rural areas where there is a shortage of specialists, lack of comprehensive and sophisticated health care teledentistry can extend care to remote patient populations at a reasonable cost as well as ease the problem of a shortage of specialized dental consultants.

According to a review by Romi Jain, B Puttaswamy, Roshni Dupare, Rajeev Chitguppi, Rahul Gaikwad, Nilesh Parekh on teledentistry: a review and an update concluded in their article that :Day by day, the use of this new field is attracting dentists across the globe and bringing the fraternity closer as well as improving the quality of the services rendered. However, with few drawbacks and constant efforts to combat them, teledentistry has a very promising future and a long way. A number of studies on usefulness of telehealth are available [10-12].

According to a study by N. D. Jampani, R. Nutralapati, B. S. K. Dontula and R. Boyapati on application of teledentistry: A literature review and update concluded in their article that : With all the technological developments taking place in the field of teledentistry, practitioners may eventually link up to virtual dental health clinics and an entirely new era of dentistry can be created. The future might also see distant telemedical control of robotized instruments in situations with long-term unavailability of dental care, e.g., during space flights, on transoceanic ships, and in various rural areas. The results

achieved so far are very encouraging, setting the road signs for future investigations. However, a number of things have to be addressed before teledentistry can rise to its peak. Further studies involving greater number of participants will be required to validate the various aspects of tele dental applications [13,14].

Hence, we assume that there is unfamiliarity about teledentistry among the dental professionals. Therefore, we are evaluating the knowledge and awareness about the medicolegal issues in teledentistry among the dental professional in the institutes.

5. CONCLUSION

Teledentistry is a incredibly new and exciting subject that has countless potential. It is beneficial in long-distance clinical training and preserving with education, screening and dentist laboratory communication. In rural regions in which there may be a scarcity of specialists, loss of complete and complicated health care teledentistry can amplify care to remote patient populations at an affordable value as well as ease the hassle of a scarcity of specialised dental consultants. Day by day, the usage of this new subject is attracting dentists across the globe and bringing the fraternity closer as well as enhancing the excellent of the offerings rendered. However, with few drawbacks and steady efforts to fight them, teledentistry has completely promising future and an extended manner to go.

CONSENT

As per international standard or university standard, respondents' written consent will be collected and preserved by the author(s).

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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