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**TELEDENTISTRY**

1. Dr Saranya. S

 Associate professor

 Department of Periodontics

Vivekanandha Dental College for Women

Elayampalayam, Namakkal, India

Email id – settu.saranya@gmail.com

1. Dr Surya. D

 Associate professor

 Department of Periodontics

 Vivekanandha Dental College for Women

 Elayampalayam, Namakkal, India

 Email id – drsuryajp@gmail.com

1. Dr Gopinath. V

 Professor and Head,

 Department of Periodontics

 Vivekanandha Dental College for Women

 Elayampalayam, Namakkal, India

 Email – gopivivek1@gmail.com

**ABSTRACT**

Teledentistry is a rapidly growing field in the dental industry that utilizes telecommunication technology to provide dental care remotely. Through virtual consultations, dentists can diagnose oral health issues, provide treatment recommendations, and even prescribe medications without the need for an in-person visit. This innovative approach to dental care offers several benefits, like increased access to care for residents in rural or underserved areas. It also reduces travel time and expenses for patients, and improves their convenience and flexibility. However, it is important to note that teledentistry has its limitations and is not suitable for all types of dental procedures. In cases where a physical examination or hands-on treatment is necessary, an in-person visit to a dental office may still be required. Nonetheless, teledentistry holds great potential for expanding easy access to quality dental care and also improves oral health outcomes.

**Key words:** teledentistry, patient care, real time consultation

1. **INTRODUCTION**

Teledentistry is a developing area of dentistry that links dental providers to their patients. Cook defined teledentistry as “the practice of using videoconferencing technologies to diagnose and provide advice about treatment over a distance.” [1] This is an emerging field of dentistry that utilizes technology to provide remote dental-care services to patients. It’s a form of telemedicine, which uses information technology for providing medical advice and services to patients who are unable to travel to a clinic or hospital. Teledentistry has the potential to revolutionize the method of dental care delivery, especially in underserved areas and developing nations, where access for dental care is limited.

It is based on the idea of virtual care, where a dentist can interact with a patient remotely and provide information and advice on dental care. This can be done through various forms of communication, such as video conferencing, or even through text messages. The dentist can use various tools to evaluate the patient's condition, such as x-rays, photographs, and other digital images. These tools enable the dentist to make a diagnosis and provide treatment or advice on how to proceed.[1]

Teledentistry can be used for a variety of different services, including the diagnosis and treatment of common dental issues, like dental caries, periodontal diseases, and tooth pain. It can be used in providing preventive care and advice on proper oral hygiene also. It can also be used in providing treatment for more complex issues, such as root canals or braces. The use of teledentistry can be beneficial for both the dentist and the patient. For the dentist, it can reduce overhead costs, since they don't have to travel to multiple clinics. It can also help them treat more patients in a shorter amount of time. For the patient, it can provide them with more convenient access to dental care, especially in areas where access is limited for traditional dental care.

1. **EVOLUTION:**

The American military initiated a telemedicine programme in 1994.[2] Clinicians as well as technological experts have reevaluated teledentistry as a highly beneficial technique as a result of advancements in data transfer speed and method over the previous ten years. For instance, cases presented to dental laboratories may contain minute nuances or problems that call for close collaboration between the dental practitioner and the lab technician. In such cases, the capability of sending colour photographs of the patient's oral cavity and then discussing those images can assist in preventing the creation of badly made prostheses, saving both time and money.[3]

1. **METHODS OF TELECONSULTATION**

Teleconsultation in the teledentistry involves the two types of ways

1. Real Time Consultation
2. Store and Forward Method
3. **REAL TIME CONSULTATION**

A video conference that follows Real Time Consultation enables dental experts and their patients in various locations to see, hear, and speak with one another.

1. **STORE AND FORWARD METHOD**

The "store and forward" method entails the sharing of clinical data, static photographs gathered and kept by the dentist, and forwarding them for expert consultation and respective treatment plan.

1. **SCOPE OF TELEDENTISTRY**
2. Improves access to overall oral health care
3. Improved delivery of oral health care
4. Lowering the cost of oral health services
5. Eliminates the disparity in the oral health care among the rural and the urban communities.
6. **REQUIREMENTS**

The Store and Forward method provide excellent results for many dental applications. It consists of;

1. Computer with adequate hard drive memory
2. Substantial RAM
3. Speed processor
4. Intraoral video cameras
5. Digital camera for capturing pictures
6. Modem and Internet connection
7. At times, a printer, fax machine, and scanner will also be required.
8. **ROLES OF TELEDENTISTRY IN VARIOUS DEPARTMENTS OF DENTISTRY**
9. **IN PROSTHODONTICS -** It increases the number of dental professionals in sparsely populated areas for prosthetics and oral rehabilitation services.
10. **IN ORALMEDICINE AND RADIOLOGY -** It uses distant diagnosis for diagnosing the oral lesions sent by digitally in mails and also helps to provide oral health care by linking them with distant oral health care team.
11. **IN ORAL AND MAXILLOFACIAL SURGERY -** It provides cost-effective mechanism for pre-operative evaluation in cases where the patient has difficulty in transportation and also improves the efficiency of a specialist’s consultation, providing improved care to the patient.
12. **IN ENDODONTICS -** It successfully diagnosis the periapical bone lesions and periapical lesions of the anterior teeth and reduce the cost the cost of distant visits.
13. **IN ORTHODONTICS -** It is highly helpful in orthodontic fields since small emergencies such as, a rubber ligature displacement, or a discomfort from an appliance, and cheek irritation, could be addressed from home, assuring both the patient and their parents on one hand while reducing visits to their orthodontist.
14. **IN PERIODONTICS -** It advices the patients to take care of their oral health by suggesting to do regular scaling and in some severe cases doing root planing and periodontal surgeries.
15. **IN PEDODONTICS –** It is feasible and also cost effective in visually examining oral cavity for caries screening specifically in early childhood caries of preschool children.
16. **TECHNICAL ISSUES**

With teledentistry, the absence of the dentist (to diagnose or treat) is no longer the only factor that might have an adverse effect on the results of care. The technology itself can also play a role. Patients' comprehension of technology and any associated issues is a cause for concern.[4] If equipment malfunctions cause a patient's injury either directly or indirectly, healthcare personnel could be held liable in a lawsuit. In addition, under one of the five concepts related to the product responsibility, including strict liability, appliance producer, software and hardware retailers, utility companies, and equipment service providers can be held accountable for technical issues relating to their products. [6,7]

1. **CONCLUSION**

Teledentistry can be helpful in various emergency situations and with the help of technological advancements it can create a virtual dental healthcare clinic and a new era in dentistry and provide oral health care to the long-term unavailable situation like transoceanic ships, space flights and remote or tribal communities.

Numerous legal questions have been created as a result of the widespread usage of teledentistry and information accessibility. By inclusion, dentistry can be considered to fall under telemedicine regulations. The World Wide Web is significant, and its impact on the dental industry will be significant. On the internet, there are no "rules" and there is no licencing or verification. [8,9]

Even merely forwarding an email to a coworker could be construed as teledentistry referral, subjecting you to legal repercussions. Understanding the effects of using information technology and their related legal repercussions for the dentistry practise is the duty of each practitioner. Each practitioner should consult with an experienced lawyer who is knowledgeable about teledentistry and its ramifications.[10]

Overall, Teledentistry is a promising field of dentistry that could revolutionize the way dental care is delivered. It has the potential to provide better access to care for those in rural or developing areas, and it could help increase the efficiency of dental care services. With its potential to improve the quality of life for those in need, it is an exciting development in the field of dentistry.

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