



RESEARCH ARTICLE

**AWARENESS OF LASERS IN DENTISTRY AMONG DENTAL UNDERGRADUATES STUDENTS- A
QUESTIONNAIRE SURVEY**

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ABSTRACT

Aim of the study: The purpose of the study is to assess the awareness of applications of lasers in dentistry among dental undergraduate students.

Materials and Methods: This is a subjective questionnaire study including 100 dental undergraduate students of Sri Sai College of Dental Surgery, Vikarabad. A questionnaire of 10 closed ended questions pertaining to awareness of lasers in dental undergraduate students will be given and data obtained will be analysed.

Results: Most of the respondents (72%) did not have enough knowledge about dental lasers. In general, majority of them had insufficient knowledge about dental lasers in various disciplines of dentistry.

Conclusion: Undergraduates students should be provided with appropriate hours for laser dental education supported by practical evidences and experiences.

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INTRODUCTION

Dental lasers are one of the newer signs and technology making its way into various aspects of dental practice. It is considered as most significant development in modern dentistry. Lasers were introduced with the hope of overcoming the traditional methods of dental procedures. (Iacopino, 2007) The conventional dental procedures involved noise uncomfortable vibrations, stress and anxiety for the patient. These led to the development of different laser systems for the management of hard and soft tissues. There are various laser devices with different wavelengths for various treatment options for diverse indications. Laser dentistry is not assigned to only one particular field its applications are of wide spectrum from conservative dentistry to pediatric dentistry. (Husein, 2006) In order to practice lasers safely and effectively in various disciplines of dentistry, it is prudent to have knowledge about laser physics, laser operation, laser tissue interactions and indications of lasers for each case. (Cernavin *et al.*, 1994) In the view of increasing demand of lasers in dental practices, the need for more education and training is needed. Thus the present survey was conducted to assess the awareness and

knowledge of applications of laser among interns from Sri Sai College of Dental Surgery, Vikarabad.

MATERIALS AND METHODS

The present cross sectional study was carried out at Sri Sai College of Dental Surgery, Vikarabad. The approval of the study was obtained from Institutional Ethical Committee Board. A self administered questionnaire consisting of 10 questions was designed and administered voluntarily to the interns (62 females and 38 males) of the college (January 2017). The questionnaire was generated after extensive review of the dental laser types and applications in various specialties. The questionnaire was reviewed for its content, clarity and adequacy of questions by the faculty of the department. The questionnaire consisted of two parts. The first part consisted of 3 items regarding laser education and training. The second part consisted of 10 items evaluating the awareness of lasers in various disciplines of dentistry among interns. The data was entered and analysed.

RESULTS

Figure 1 shows the response of the students to part 1 and part 2 items of the questionnaire. Most of the respondents (72%) did not have enough knowledge about dental lasers as the hours of laser education taken during the curriculum was 1-3 hours only.

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Majority of them (92%) demanded more education about dental lasers and its applications. 71% of the respondents believe that lasers have side effects on the healthy tissues. 59% of the them think that lasers cause bloodless procedures in periodontal treatment. Respondents believe that lasers can be used to do root canal treatment (59%) compared to root canal disinfection (25%). 40 % of the respondents are unaware about the applications of lasers in orthodontics. Majority of the them responded positive regarding the effect of lasers on healing. 36% of the them responded that the procedures done with lasers are bloodless. Laser applications in esthetic procedures was agreed by 68% of them. Only 40% of the respondents were aware about the role of lasers in pain management. Most of the them (73%) are unaware about the type of lasers which can be used for hard tissue procedures. A very poor knowledge about the hazards of lasers on eye was found among the respondents (55%).

DISCUSSION

Adequate knowledge, education and awareness are required to utilize the different dental technologies in clinical practice. Education at the level of dental college is the most important source on which the students rely on. The present study provides an insight about dental laser education and knowledge among interns. The survey assessed basic knowledge regarding the laser and its applications in dentistry. The specific properties of lasers and its interactions were not assessed in the present study. The interaction with the students resulted in the observation that only two hours was the average time spent on students for teaching the awareness of lasers in their five-year dental program. This inadequacy in knowledge is directly related to insufficient education. It was observed that students had an average knowledge about the advantages of laser in terms of less bleeding, rapid healing and pain alleviation during the procedures. On the contrary, the awareness was poor in specific applications of lasers in various specialties of dentistry. Apparently this survey showed the lack of education in students on broad applications of lasers among various specialties, however this is not true about periodontics as students had awareness about questions related to periodontal therapy. This might be related to the education provided to the students in periodontics curriculum which resulted in betterment of scores. Many applications of lasers were not familiar to students that is root canal disinfection, pain management post bracket placement. The most surprising

observation of the present survey was that respondents lacked knowledge regarding erbium family of lasers. The fact being laser units are available only in department of periodontics and its accessibility for only the applications in periodontics could be the reason for improved awareness among students.

Dental students should have a chance to learn and practice the newer technologies during internship as they will be exposed to the clinical practice immediately after the dental program. The various companies that are manufacturing dental lasers are growing each day and more importantly significant number of patients are demanding their procedures performed with lasers.⁴ The continuous development of the dental curriculum is a major challenge to the faculty and the administration because of the high cost and over loaded curriculum. Hopefully the dental schools will adopt the newer technologies and enhance their curriculum with novel treatment approaches which imparts awareness to the young graduates.⁵

Conclusion

The students at had inadequate laser education and insufficient knowledge in various disciplines of dentistry. Undergraduates students should be provided with appropriate hours for laser dental education supported by practical evidences and experiences.

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