

# Knowledge and awareness of forensic dentistry course among undergraduates

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*J. Adv. Pharm. Technol. Res.*

## ABSTRACT

Forensic odontology is an expanding field within the domain of forensic sciences, where dental knowledge is applied in identification of individuals through analysis of the dental-related records. The study goal was to determine if undergraduate students were aware of the forensic dentistry course. A cross-sectional survey was initiated about the need for forensic courses in UG program. Nearly 100 students participated in this survey, data have been collected, and graph has been plotted. Data have been collected with the help of SPSS software; data have been analyzed and plotted as graph. One hundred students responded the survey; only limited people's opinions have been collected. The result varies among the students; 58% knows about the importance of forensic odontology in dentistry using Chi-square value,  $P = 0.09$ . The majority of students, who replied to this poll, had some understanding and awareness of forensic odontology in dentistry, but they need to learn more about how it is practiced.

**Key words:** Dental students, dentistry, innovative technique, mass disasters, witness

## INTRODUCTION

Forensics in dentistry is used for identification of the deceased with the help of dental records.<sup>[1]</sup> Although forensic odontology has just arisen as a fresh ray of hope for assisting forensic medicine, this vital and fundamental discipline of forensic medicine in India is still in its early stages.<sup>[2]</sup> Maintaining dental records is a major responsibility of the dental practitioners as they can serve as a major evidence in many cases.<sup>[3-5]</sup>

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Submitted: 05-May-2022

Revised: 26-Jul-2022

Accepted: 05-Aug-2022

Published: 30-Dec-2022

### Access this article online

Quick Response Code:



Website:

www.japtr.org

DOI:

10.4103/japtr.japtr\_298\_22

According to two recent studies in India, 40% to 70% of the dentists have been reported to maintain proper records of their patients.<sup>[6,7]</sup> According to another study, 75% of Indian dentists were unsure about dealing with FD patients, and many had insufficient awareness of the condition.<sup>[8]</sup> Unfortunately, there is still a lack of experience among dentists in India when it comes to forensic sciences.<sup>[9]</sup>

It is enlightening to note that, while forensic dentistry has made huge strides in terms of technical improvements worldwide, the discipline-forensic dentistry in India has still not evolved. There have been only a handful of studies done in this nation in the past; hence, there is a significant literature deficit.<sup>[10]</sup> Universities and colleges must be able to promote forensic odontology awareness and knowledge to their students by offering an effective means of doing so.<sup>[11,12]</sup>

Every day, violence, natural catastrophes, and disasters ruin and interrupt the lives of countless people. Individuals

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**How to cite this article:** Shree MK, Jeevanandan G, Govindaraju L. Knowledge and awareness of forensic dentistry course among undergraduates. *J Adv Pharm Technol Res* 2022;13:S447-52.

at the crime scene and catastrophes can be identified by the dentist using dental data, which helps those participating in the investigation. Our team has a wealth of research and knowledge that has resulted in high-quality publications.<sup>[13-32]</sup> The aim of this study was to assess the knowledge and awareness of forensic dentistry course among undergraduate students.

## MATERIALS AND METHODS

A cross-sectional survey was initiated in a dental hospital in Chennai, Tamil Nadu, about the need for forensic courses in the UG program. One hundred students participated in this survey. Ethical approval was obtained from the Institutional Review Board (IHEC/SDC/PEDO/21/008).

Convenience sampling of 100 students was included in the survey. Undergraduate students from the 1<sup>st</sup> year to internships were included in the study. Postgraduate dental students and/or dental practitioners were not included. The questionnaire has a total of ten questions as well as additional demographic information. The closing question was a yes-or-no sort of inquiry. An internet platform was used to conduct the survey. Data collection and tabulation were done. The statistical software, IBM SPSS v22, was used for the analysis.

## RESULTS AND DISCUSSION

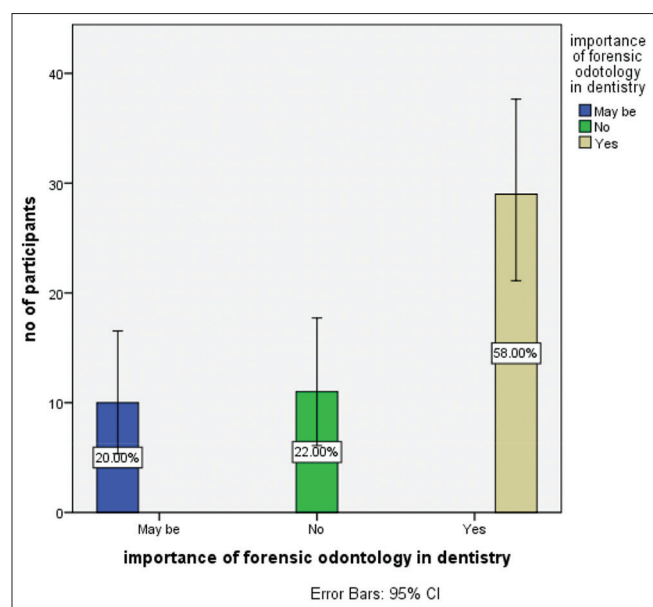
The study evaluated knowledge and awareness of forensic odontology course among 100 undergraduates. Among them, 65% were female and 35% were male. Among the

students, 16% of 1<sup>st</sup> year, 6% of 2<sup>nd</sup> year, 32% of 3<sup>rd</sup> year, 14% of final year, and 32% of intern.

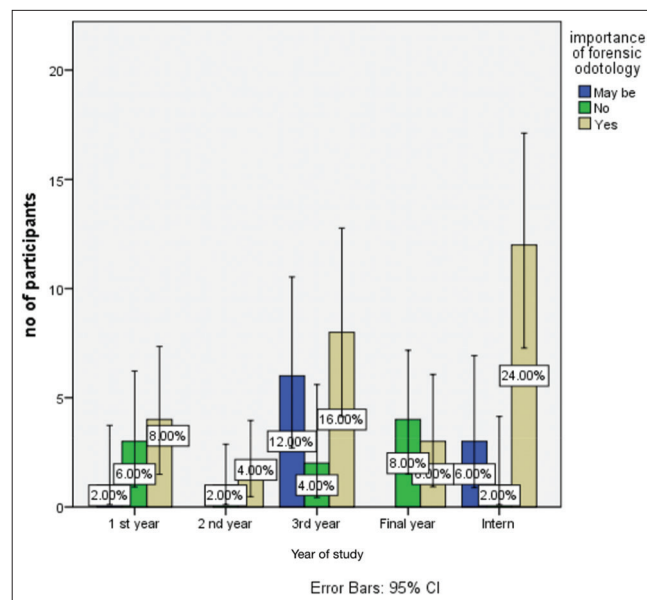
About 58% of students believe forensic odontology is significant in dentistry [Figure 1]. Figure 2 shows that there are no statistically significant differences between the course and their understanding of forensic odontology's relevance ( $P > 0.05$ ). The capacity of dental tissues to endure environmental assaults while retaining part of their original structure accounts for the importance of forensic odontology. Teeth are, therefore, a good and precise source of DNA material.<sup>[33]</sup> Dentists are health-care providers who regularly examine patients' heads and necks and have a good probability of detecting indicators of abuse and neglect.<sup>[34]</sup>

Nearly 63% of students agree with that statement, 18% disagree with the statement, and 20% think it may [Figure 3]. There are no significant variations among the students' view on forensic odontology as an efficient approach to find out the victims in mass catastrophes [Figure 4]. A few research found that 77.5% of them were aware of the role of dentists in case of mass disasters, whereas other studies found just 31.6% and 59.4% awareness.<sup>[5,35,36]</sup>

Nearly 44% of students were aware of the bite mark pattern, 32% were not aware of the statement, and the balance were unsure, as shown in Figure 5. There were no significant variations in students' awareness of the bite mark pattern. According to a few research, 18% of dental practitioners were unaware of bite marks, as shown in Figure 6.<sup>[37]</sup> However, in Singh *et al.*'s research, 71.4% of the students were aware of lip prints.<sup>[38]</sup> Bite mark analysis is one part of forensic dentistry that necessitates the forensic dentist's rapid attention. Both



**Figure 1:** Importance of forensic odontology courses in dentistry. CI: Confidence interval



**Figure 2:** Association among the opinions of dental students in different years of study and the importance of forensic odontology course in dentistry. CI: Confidence interval

in the living and the dead, the markings fade quickly, changing appearance in a matter of hours; any delay in the investigation might result in the loss of vital evidence. The forensic dentist is also in charge of examining the teeth of persons accused of causing bite marks.<sup>[39]</sup>

No significant difference was noted with regards to the knowledge and awareness among the students in forensic odontology as depicted in Figure 7. Also no association was noted among the dental students from different year of study [Figure 8]. In a few research, dental practitioners were found to have enough knowledge and awareness.<sup>[40,41]</sup> However,

dental practitioners in Saudi Arabia, India, and Nigeria were found to have insufficient knowledge and practice.<sup>[42]</sup>

As shown in Figures 9 and 10, 78% of students do this while practicing, whereas the remaining students do not. There are no significant variations in the students' opinions about keeping dental records. To defend against any medicolegal dispute, it is necessary to keep dental records formally and professionally. In the research done by Bari,<sup>[43]</sup> it was discovered that 88.5% and 87% of participants kept dental records, which

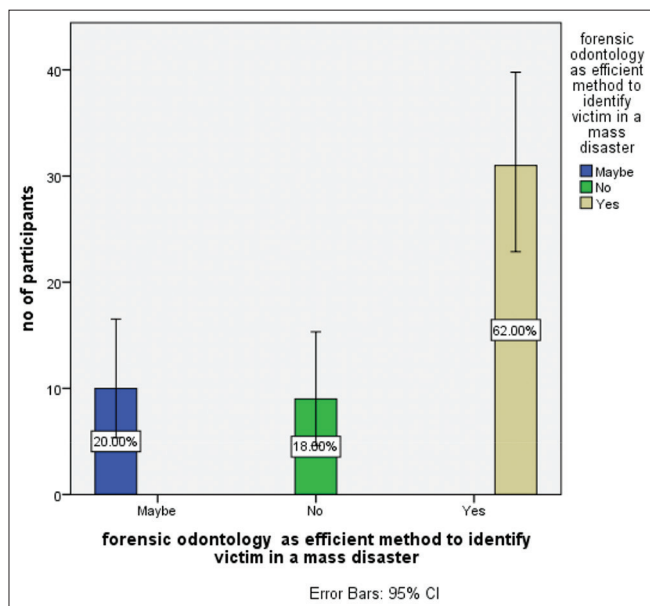


Figure 3: Forensic odontology course is an efficient method to find out the victims in mass disaster. CI: Confidence interval

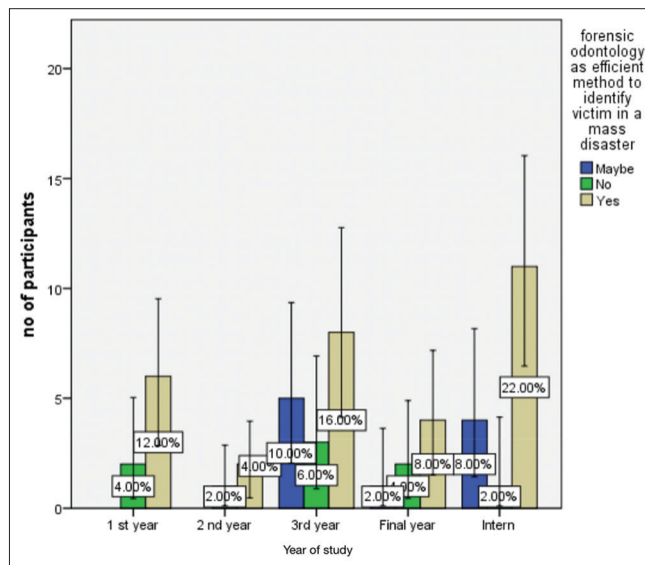


Figure 4: Association among the opinions of dental students in different years of study, and forensic odontology is an efficient method to find out the victims in mass disasters. CI: Confidence interval

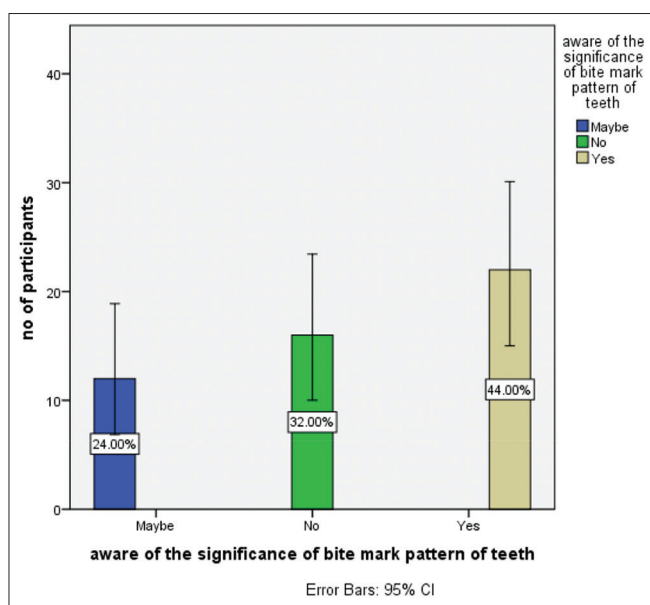


Figure 5: Responses on awareness about the pattern of bite marks. CI: Confidence interval

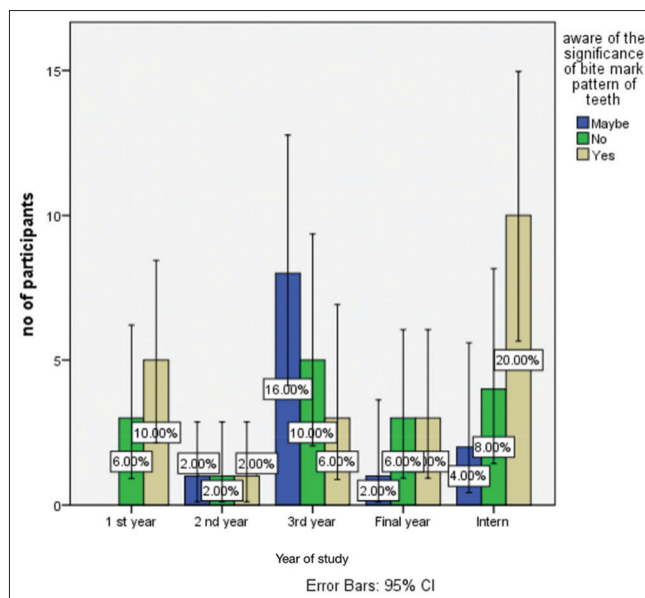
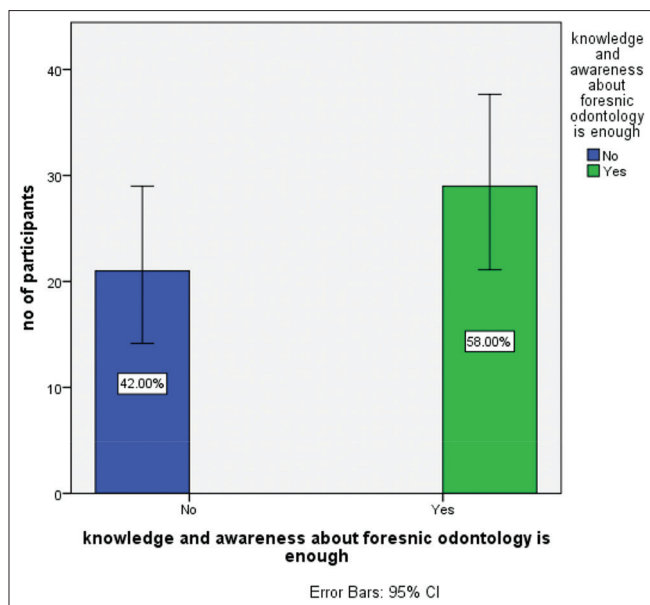
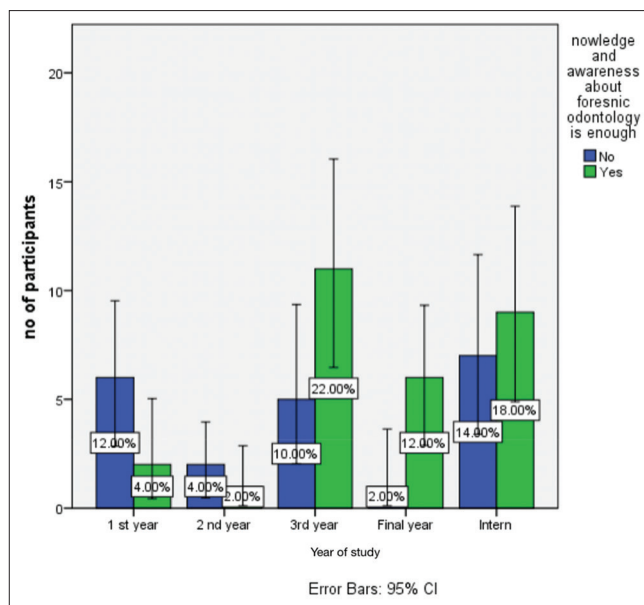


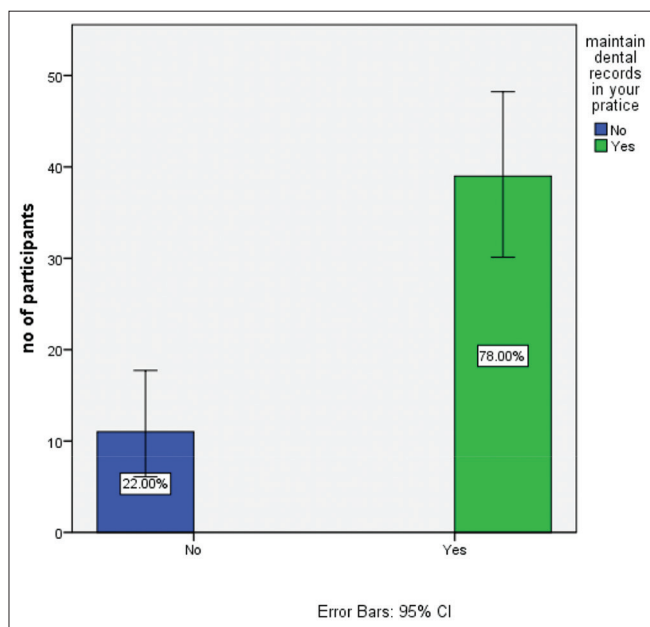
Figure 6: Association among the opinions of dental students in different years of study and awareness about the pattern of bite marks. CI: Confidence interval



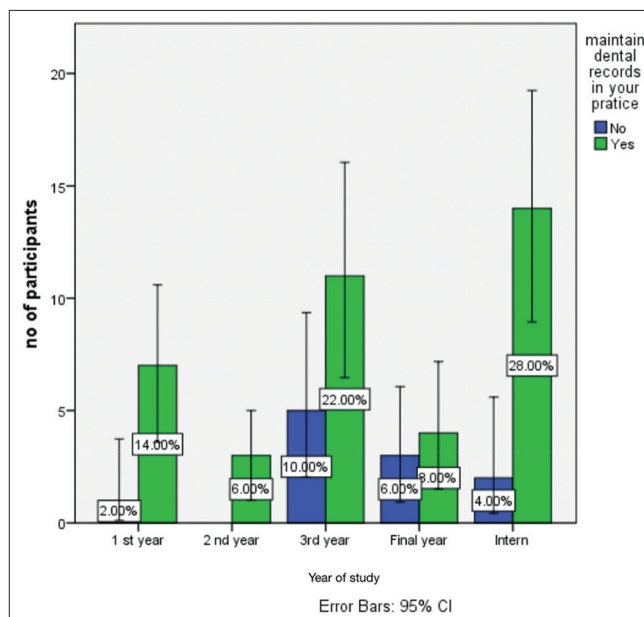
**Figure 7:** Responses of the participants regarding the knowledge and awareness on forensic odontology, 58% of students agree with the statement. CI: Confidence interval



**Figure 8:** Association among the opinions of dental students in different years of study and knowledge and awareness on forensic odontology. CI: Confidence interval



**Figure 9:** Responses of the participants regarding the maintenance of dental records while practicing. 78% of students usually do this while practicing, whereas remaining students they would not. CI: Confidence interval



**Figure 10:** Association among the opinions of dental students in different years of study practice of maintaining the dental records. CI: Confidence interval

correlates to the current study, but contradicts the studies conducted.<sup>[44]</sup>

## CONCLUSION

Most of the students have knowledge and awareness about the forensic odontology course in dentistry. To optimize dental applicability in forensic situations,

dental practitioners must understand the subject's fundamental concepts and methodologies. To enable practitioners to specialize in the area, forensic odontology courses should be offered as a distinct course by the concerned dental council, similar to other dental specialties.

## Acknowledgment

The authors would like to acknowledge the help rendered by Saveetha Dental College and Hospitals, Saveetha

Institute of Medical and Technical Sciences, Saveetha University, Chennai.

### Financial support and sponsorship

The present project is funded by

- Saveetha Institute of Medical and Technical Sciences
- Saveetha Dental College and Hospitals
- Saveetha University
- Royal Medicals, Dindigul.

### Conflicts of interest

There are no conflicts of interest.

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