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Knowledge and Important awareness of Forensic Odontology Among Dental Students – A Primary Study

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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.

Forensic Odontology is a branch of dentistry that is gaining more importance in recent years.

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.

Keywords: DNA, Awareness, Forensic, Odontology.

Introduction

Forensic dentistry is a challenging and fascinating branch of forensic science that involves the application of dental sciences in the identification of deceased individuals through the comparison of ante- and post-mortem records. From AD 66 till date, dental identification has proved vital in identifying deceased individuals, the first case being accepted by the law in the year 1849. Recently, forensic odontology has evolved as a new ray of hope in assisting forensic medicine, but, this vital and integral field of forensic medicine is still in a state of infancy. There are not many institutions offering formal training in forensic odontology, with lack of job opportunities for qualified forensic odontologists who have obtained degrees abroad.

Society is faced with fresh challenges in every conceivable area every day. Despite leaps in modern technology and medical breakthroughs crime persists in all aspects of our lives. Violent and heinous activities that shatter the lives of victims and affect their friends and families occur every day. The apprehension and subsequent prosecution of the perpetrator is essential to maintain law and order. Through the speciality of Forensic Odontology, dentistry plays a small but significant role in this process.

Forensic Odontology deals with proper handling and examination of dental evidence and evaluation and presentation of dental findings in the court of law. Dentists should know about Forensic Odontology, the reason being that dental identification provides a promising source of identification of the victim of crime and disaster. This can be done by comparing the ante- and post-mortem records. Also Because of the resistant nature of dental tissues to environmental assaults, such as incineration, immersion, trauma, mutilation and decomposition, teeth represent an excellent source of DNA material.

The establishment of Forensic Odontology as a unique discipline has been attributed to Dr. Oscar Amoeda, Father of Forensic Odontology[3]. It represents the overlap between dental and legal professionals. By this the dentists help to maintain law and order. Forensic dental identification is at technological crossroads. The role of dental restorations, prosthesis, and radiological identification as the main stray of Forensic Odontology has declined lately. Molecular biology and laboratory procedures are rapidly increasing in efficiency and availability. With this evolution, the dental students are needed to be properly oriented to make the full utilization of benefits of various aspects of Forensic Odontology.

Materials and methods

Convenience sampling of 100 students was included in the survey. Undergraduate students from the 1st 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.

The data collected was analysed using Statistical Package for the Social Sciences version 17.0. Descriptive statistics for the collected data was recorded. The associations between different variables were tested using the Chi-square test. A P-value less than 0.05 was statistically considered significant.

Results

A total of two hundred and eighty subjects participated in the study and the response rate was 100%. Nineteen undergraduates were totally unaware, and two hundred and sixty-one respondents were aware about the branch of Forensic Odontology majorly through the textbook, media and friends. Twenty-one percent dental practitioners did not maintain dental records in their clinic. Of the remaining seventy-nine percent, only twelve percent maintained complete dental records. Ninety-three percent of the practitioners maintained the dental records for less than seven years.

The percentage of total students who gave the correct response along with the P value is given in Table 1. The percentage of students who gave the correct response year wise are tabulated in Graph 1. The overall percentage of awareness is depicted in the chart below.

Graph 1:

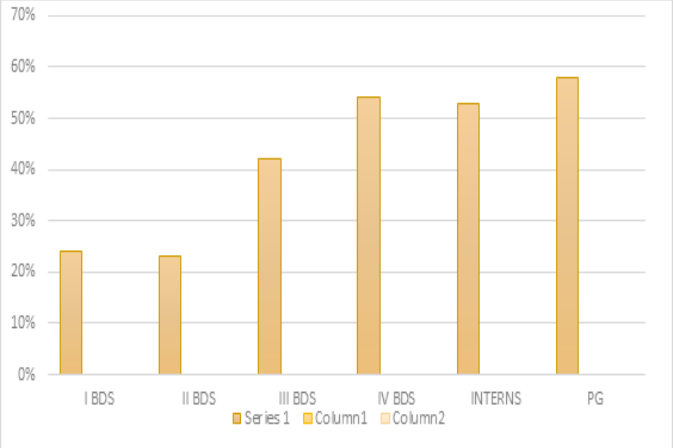

Table 1: Questionaries

Questions	% of Students given correct response	P value
Are Forensic Medicine and Forensic Odontology the same?	75.1	0.000
Use/purpose of Forensic Odontology?	84.7	0.000
Regular dentist practice as Forensic Odontologist?	14.9	0.000
Can a Forensic Odontologist testify in the court of law?	62.9	0.000
If yes, is his statement valid in the court of law?	57.0	0.004
Academic courses	44.0	0.078
Is there any legally recognized Forensic Odontology department	42.0	0.001
Are you aware of the Association for Forensic Odontologists?	30.1	0.000
Who can become a member of the association?	0.09	0.000
Career –interest in subject	57.0	0.000
Dental records	88.9	0.096
Can teeth be a dependable means of retrieving DNA?	75.8	0.008
Can odonatological evidence be collected from completely mutilated dead body?	76.6	0.000
Identification of an individual with his bite mark?	88.1	0.000

Discussion

The practice of Forensic Odontology has gained importance in several developed countries across the world. But in developing countries, it is yet to gain full momentum. There is a rising demand for Forensic Odontologists. Thus, the budding dentists should know about Forensic Odontology, the reason being that dental identification provides a promising source of identification of the victim of crime and disaster. The present study assessed the knowledge of it among dental students.

Around 80% of students had well known about the utilization of DNA from tooth. Cryogenic grinding of tooth and DNA profiling has become an efficient technique recently.

Both the undergraduates and postgraduates are aware of Forensic odontology through textbook. But in-depth knowledge in the subject is less. Awareness regarding academic courses, forensic odontologists association, established department, job opportunities are inadequate. The overall percentage of awareness is high among the postgraduates, final year undergraduates and third year undergraduates in the decreasing order. The probable reasons for less knowledge among the students include less emphasis on the subject at undergraduate level, no practical experience, less exposure and non-existence of a separate established department to stress its importance.

A study was done by Wadhwan V et al in 2014, to analyze the level of awareness of Forensic Odontology amongst the dental students and clinicians with the help of a survey. The study reflected the current situation of our country in the field of forensic odontology and the authors also stressed on improving by introducing Forensic Odontology as a subject in the dental curriculum at both the undergraduate and the post-graduate level.

Conclusion

Dental records are created and maintained to contribute to the safety and continuity of dental care, for treatment decisions, treatment planning, and legal purposes. Our results showed adequate level of knowledge in both the groups, however poor attitude and lack of practice was revealed in under graduates when compared to postgraduate students. Therefore, emphasis should be put on increasing knowledge by developing better curriculums for undergraduates and postgraduates.

References

1. Puerini SJ. Forensic odontology and the postmortem identification process. Med Health R I 2005;88:308-9
2. Hannah R, Ramani P, Natesan A, Sherlin HJ, Gheena S, Ramasubramanian A, et al. Evaluation of knowledge, attitude and practice of forensic odontology among undergraduate dental students. Int J Orofac Biol 2017;1:16-20
3. Sweet D, Hildebrand D. Recovery of DNA from human teeth by cryogenic grinding. J Forensic Sci. 1998; 43: 1199-202.
4. Neville BW, Damm DD, Allen CM, Bouquot JE. Oral and Maxillofacial Pathology. 2nd ed. Philadelphia. W.B. Saunders Co. 2002: 763-83.
5. Har Chandani N, Marathe S, Hebbale M, Nisa S, Hiremutt D. Awareness of Forensic Odontology among General Dental Practitioners in Pune - A Cross-sectional Study. J Adv Med Dent Sci Res. 2014; 2(3):10-6.
6. Sfikas PM. Does the dentist have an ethical duty to report child abuse? J Am Dent Assoc. 1996;127:521–3.
7. Baig M Z, Siddiqi K M, Jabeen N, Israr M, Ehsan M T, Rahman F. Awareness and compliance about forensic dentistry among dental professionals of twin cities of Rawalpindi-Islamabad: a questionnaire-based study. Pak Oral Dental J. 2014; 34(2): 277-80.
8. Daniel MJ, Pazhani A. Accuracy of bite mark analysis from food substances: A comparative study. J Forensic Dent Sci 2015; 7: 222-226.
9. Avon S. Forensic Odontology: The roles and responsibilities of thedentist. Can Dent Assoc 2004;70: 453-458.

10. Pretty IA, Sweet D: A look at forensic dentistry - part 1: the role of teeth in the determination of human identity. Br Dent J. 2001, 190:359-66.
11. Sarode SC, Zarkar GA, Kulkarni MA, Desai R: Role of forensic odontology in the world's major mass disasters: facts and figures. SADJ. 2009, 64:388-90; 392-3.