

**Dental graduates – Are we prepared to be a part of legal organization of India**

<sup>1</sup>Shakunthala G K, Reader, Oral Medicine & Radiology, Mahe Institute of Dental Sciences &Hospital, U T of Puducherry, India

<sup>2</sup>Shantala Arunkumar , Assistant Professor, Oral Medicine & Radiology, SDM College of Dental Sciences and Hospital, A Constituent unit of SDM University, Dharwad, Karnataka, India.

<sup>3</sup>Jeena Sebastian, Reader, Oral Medicine & Radiology, Mahe Institute of Dental Sciences &Hospital, U T of Puducherry, India

<sup>4</sup>Nikhilraj, Reader, Oral Medicine & Radiology, Mahe Institute of Dental Sciences &Hospital, U T of Puducherry, India

<sup>5</sup>Raj A C, Professor & Head, Oral Medicine & Radiology, Mahe Institute of Dental Sciences &Hospital, India.

<sup>6</sup>Megha B, Senior Lecturer, Oral Medicine & Radiology, Mahe Institute of Dental Sciences &Hospital India

**Corresponding Author:** Shakunthala G K, Reader, Oral Medicine & Radiology, Mahe Institute of Dental Sciences &Hospital, U T of Puducherry, India

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**Abstract**

**Background:** Forensic odontology is a promising evolution in the field of medicine that in the interest of justice deals with proper handling and examination of dental evidence. With the advancement in science and technology this budding branch has become an integral part of the judicial system in India. However, the knowledge and awareness among dental graduates and distinctiveness of the forensic odontology branch still needs to be established.

**Aim:** To evaluate the knowledge, awareness and practise of forensic odontology among dental graduates from a dental college in Puducherry with the help of questionnaire survey.

**Materials and methods:** A questionnaire was prepared and survey was conducted among dental graduates.

**Results:** The survey data states that every dental graduate has perceived about forensic odontology during their course, but only 70% of the graduates know that it is DCI recognised subject. None of them were handling cases related to forensic odontology. They quoted various reasons for not being part of the forensic team. Only 3% of the graduates were very confident in handling forensic related cases and 39% of them specified about inadequate knowledge in the subject. Seventy-seven percentage of the graduates quantified that they didn't know any professional expert to discuss if they encounter any forensic related cases. Twenty percentages of the

graduates did not agree to provide the dental record since they are being not confident about dental record maintained.

**Conclusion:** It is noteworthy that dental graduates are aware about the branch but due to lack of professional guidance and inadequate support & motivation, practice of forensic odontology is snail-paced among young dental graduates.

**Introduction:** Forensic odontology (FO) is a key branch of forensic science, as dental tissues are the strongest tissues in the human body and they can sustain extreme environmental changes hence their characteristics remain unchanged for long periods.(1) FDI defined FO as that branch of dentistry which in the interest of justice deals with the proper handling and examination of dental evidence and with the proper evaluation and presentation of dental findings.(2) With increase in crime rates the demand for skilled forensic experts is rising in India. Developed countries have advanced training and employment opportunities, and almost every forensic laboratory has a forensic dentist. Nearly all dental schools offer forensic dentistry as a postgraduate program. (3,4) The awareness of FO is gaining pace since the last decade after the establishment of various organizations and the Dental Council of India making it a part of the curriculum. However, this field is not fully developed in India, mainly due to lack of trained personnel, lack of training facilities, limited exposure to the subject, and restricted knowledge on individual system. (1) The lack of recognition given to emerging forensic dentists, unawareness of the job opportunities and due to insufficient exposure related to this field most students have a undesirable attitude toward pursuing higher studies in the subject. It is necessary to ignite a spark in fresh graduates to build a strong FO network in India to sever our judicial system better.

**Materials and methods:** A questionnaire (Annexure 1) was prepared with set of 15 questions including both open ended and closed ended questions. A Cross sectional survey was conducted among 482 dental graduates from a dental college in Puducherry. The data gathered was tabulated and statistically analysed for frequencies and percentages by using SPSS software, version 19. The result was presented as numbers and percentage by using tables and charts.

### Results

A total of 482 dental graduates responded to questionnaire and claimed to have perceived basic knowledge about FO during their course. Only about 70% of them were aware about the DCI recognition of the subject (Figure 1). Three graduates had undergone special training related to FO after their graduation. Two of them had completed master of science in forensic odontology and one of them had undergone online universal certificate course. All the three claimed to be very confident in handling the forensic odontology cases (Figure 2). Most of them had various difficulties in being part of the forensic team (Figure 3). The reasons for not being a part of forensic team could be - 39% said due to inadequate equipment/lab facilities, twenty- five percentage stated the lack of support from the institution or medical colleagues and 21% said due to legal entanglement and 15% supposed professional lacunae. None of them had so far encountered with forensic related cases in their practise. About 33% of the graduates were updating their knowledge by reading forensic related journals. Sixty percentage of the graduates were not aware about Indian Association of Forensic odontology (IAFO) and about 70% of them were interested in becoming member of IAFO. Nearly 77% specified that they didn't have any knowledgeable person near their practise if they encounter any forensic related cases. On being asked about provision of dental records to

if needed, 80% of them agreed to provide the records. Twenty percentage of the graduates did not agree to provide the dental record, since 15% are not being confident about dental record maintenance and remaining 5% feared legal entanglement (Figure 4).

### Discussion

In the current scenario, with increasing crime rates in India, need for capable forensic expert is increasing massively. The dentist plays a very pivotal role in crime investigation through the specialty known as forensic odontology. Identifying deceased individual by using dental evidence dates back to 1849 and proved to play a vital role since then. (1,5) FO involves the examination, organization, assessment and presentation of dental evidence in criminal or civil proceedings, all in the interest of justice and the forensic odontologist assists legal authorities in different situations. (6) Recently, awareness among dental graduates is increasing after Dental Council of India has included this as a subject in the B.D.S. Course Regulations (2007). (7,8)

In the current survey we noticed that in spite of having learnt about the subject during their course, only 70% graduates are aware about DCI recognition of the subject. And very few graduates are confident in handling the forensic related cases. Finding were in accordance with other studies. (1&9,10,) Even though FO is rapidly emerging field with various training programmes, only 3 graduates had undergone special training indicating the need for propagating the available new ventures in the field. It is noteworthy that special training programmes are numerous but job opportunities are less since the law enforcement authorities in India usually seek the help of dental surgeons in government service rather than dental practitioners who have degrees in forensic odontology.(1&9,10) . Upgrading the knowledge in this field is very essential but to our notice in this survey only

33% graduates were reading journals related to the FO and data was in accordance with other authors. (1,9)

The Indian Association of Forensic Odontology – a premiere national professional body has played a significant role in since its inception and is continuing to do so. The Founder President Late Dr. J. G. Kannappan has initiated society with moral values and professional deed. And followed by equally enthusiastic and competent office bearers, who supported the discipline through its Annual National Conferences, National Workshops, and sponsored Lectures. In the present survey we noticed that nearly less than half of the graduates knew about the society but majority of them were interested in becoming member of the society. This indicates the need for more programmes in dental colleges to enlighten dental students and guide them in a proper path. (8)

Dental professionals are compelled by law to produce and maintain adequate patient records. The ability of clinical practitioners to produce and maintain accurate dental records is essential for good quality patient care as well as it being a legal obligation.(11) in our survey majority of them were willing to provide dental records if necessary and about 20% of the graduates were not agreeing to provide dental records due to deprived dental records and legal entanglements. (7,9)

Various surveys conducted in India among dental professionals at various cities has thrown up thought-provoking remarks that knowledge, awareness and practice of forensic dentistry is very poor in India mainly due to lack of motivation, inexperience in the field and due to unreachability of formal training programmes to all the graduates. (1,7,9,12) Theoretical knowledge about the subject is not sufficient to be a part of forensic team. FO team in India should take a measure to improve feedback from the legal firms, the judiciary, crime laboratories and armed forces to ensure that the curriculum is not only

academic oriented but it should also meet their practical requirements. (8)

### Conclusion

FO is very well acknowledged by government of India for its contribution towards many crime investigations. To meet the requirement of the current circumstances in Indian judicial system, the professional forensic odontologist should create some newer horizons in the path of forensic dentistry for dental students and every dental student should be trained well at college level to expertise and involve themselves in the practice of odontology.

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**Annexure 1: Questionnaire**

1	Do you know about Forensic Odontology?	Yes	No	
2	Have you read about Forensic Odontology? If yes, where	As a subject in college	Journals/ Internet	Any other specify
3	Do you know it is subject recognized by DCI?	Yes	No	I don't know
4	Do you get cases related to Forensic Odontology in your practise?	Yes	No	
5	How confident are you in handling forensic dentistry-related cases?	Very confident	Confident	Less confident
6	Do you think your knowledge level/awareness about forensic dentistry is adequate?	Adequate	Inadequate	Average
7a	Have you undergone any formal training in the field of forensic dentistry?	Yes Provide the details		No
7b	How adequately did your training prepare you to deal with forensic odontology cases?	Adequate	Inadequate	Average
8	Have you handled any forensic dentistry-related cases before?	Yes- Mention the type of work.		No
9	Are you a part of the forensic team in your city?	Yes- How often is your service utilized?		No
10	Mention your difficulties in being a part of forensic team a. Professional lacunae                      e. Financial implication b. Inadequate equipment/Lab              f. Lack of support from Institution/Medical colleagues c. Time constraints                              g. Nonavailability of antemortem dental records d. Legal entanglement                      h. Any other .....specify			
11	Do you read forensic dentistry related journals/publications?	Yes	No	
12	Do you know about Indian Association of Forensic Odontology(IAFO)?	Yes	No	
13	Do you have interest to become member of IAFO?	Yes	No	
14	Is there any knowledgeable/informed person near your practise to discuss the forensic related cases?	Yes	No	
15	If legislation, at any time, required you to provide any dental records, would you agree to provide them?	Yes	No Specify the reason	

Figures and legends

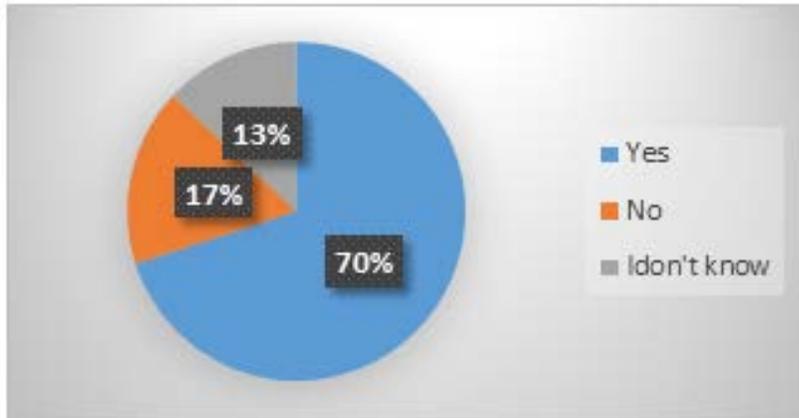


Figure1: Student's awareness about DCI recognition of the subject

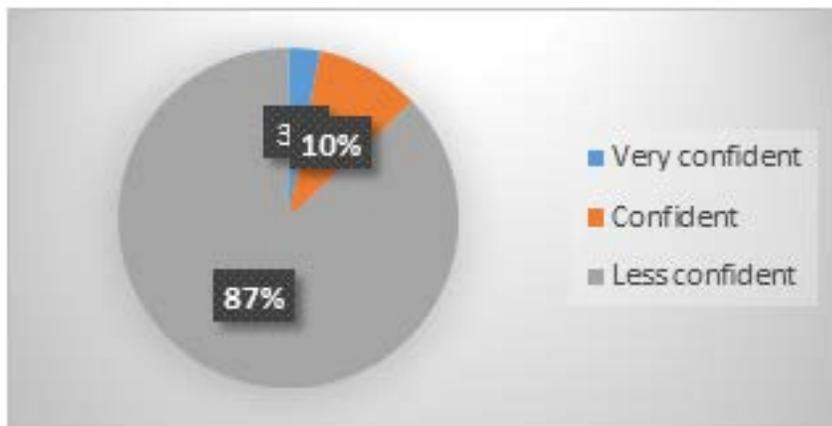


Figure 2: Level of confidence in handling forensic odontology cases

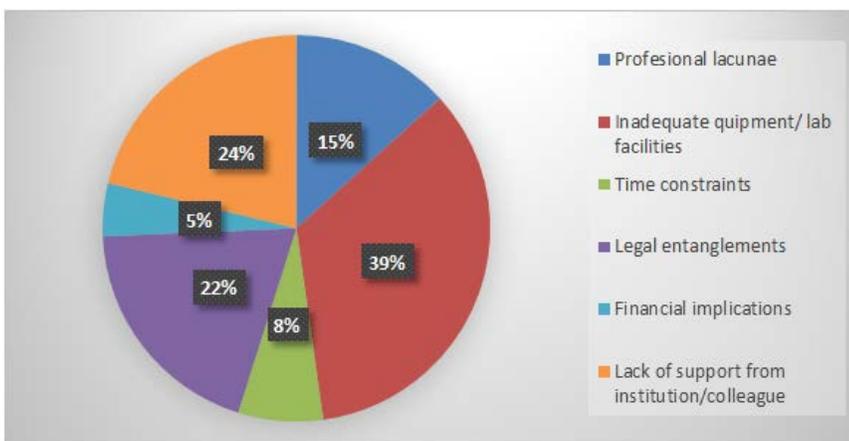


Figure 3: Difficulties faced by graduates in being part of forensic team

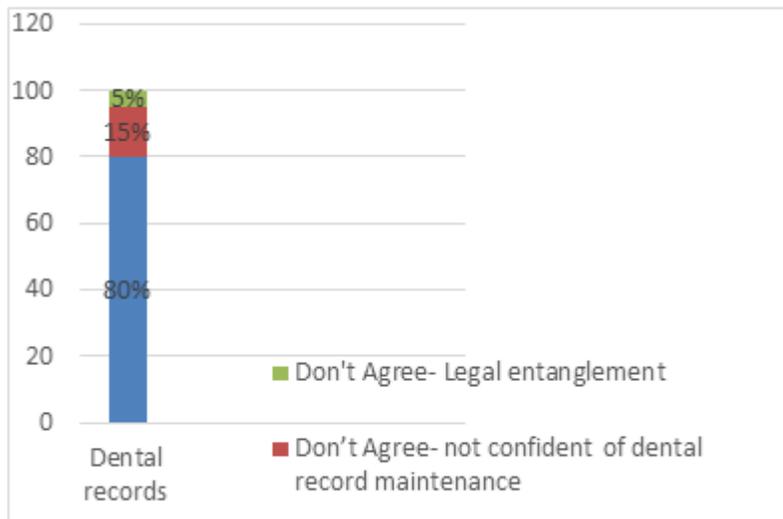


Figure 4: Percentage of graduates agreeing and not agreeing to provide dental records