ORIGINAL RESEARCH PAPER

Volume-8 | Issue-1 | January-2019 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

# KNOWLEDGE, ATTITUDE AND PRACTICE OF FORENSIC ODONTOLOGY AMONG DENTAL PRACTITIONERS AND ANALYSIS ABOUT IMPLANT RECOGNIZING SOFTWARE – IN MASS DISASTER

Dental Science

| | |
|---|---|
| **Dr. K. S. Premkumar** | M.D.S , Best Dental Science College , Madurai |
| **Dr. T. Suganya Harshni** | PG STUDENT |
| **Dr. V. Benedict** | PG STUDENT |
| **Dr. C. S. Prabhahar** | M.D.S |
| **Dr. V. K. Vijay** | M.D.S |
| **Dr. M. Umayal** | M.D.S |

## ABSTRACT

**Introduction:** Forensic odontology is a specialized field of dentistry which analyses dental evidence in the interest of justice. Dental evidence has been used for the identification of victims and suspects in mass disasters, abuse and crimes

Aim: Aim of the study is to survey about knowledge, attitude and practice of forensic odontology among dental practitioners

**Material And Methods:** A questionnaire based cross–sectional survey was conducted on 140 dental practitioners in Madurai. 70 MDS and 70 BDS were included in the study.

A 20 Item Structured questionnaire was used to assess knowledge of dentist

**Results :** In our study only 4.2% of BDS and 10% of MDS were aware about the implant recognizing software. The overall percentage of knowledge about forensic dentistry among BDS was 82.1% and among MDS was 87.67%.

**Conclusion:** Our study revealed that the awareness of forensic odontology among the dental practitioners was moderate in the city with inadequate knowledge about implant role in forensic .

## KEYWORDS

Forensic Implant Implant recognizing software

### INTRODUCTION:

The Forensic was derived from the Latin term which gives the meaning of "court of law " and Odontology means the study of teeth. [1] As we are in a new millennium, society are faced by many fresh challenges in all areas . Despite leaps in new technology, medical invention and the various geographic changes, the last century has brought, crime still persists in all ways of our lives. [2]

Maintaining good level of comprehensive quality of ante-mortem dental records leads to faster and easier identification of the deceased remnants. Indian Dental Association recommends that the records, radiographs, models, photographs and clinical correspondence should be securely retained for at least the legal minimum period of five years to gratify judiciary and consumers, for protection against medical negligence. [3]

Aim of the study is to survey about knowledge, attitude and practice of forensic odontology among dental practitioners

### MATERIALS AND METHODS :

A cross–sectional survey was conducted among 140 private dental practitioners in Madurai city during the month of November in 2018.

Through the convenient sampling procedure 140 private dental practitioners were approached and explained about the purpose of study and need of the study through telephonically and also in person by calibrated investigator, all of them gave verbal participatory consent and fixed the schedule with investigator. A self – reported, validated pretested close-ended questionnaire in English language based on previous studies was employed given to the participants. Questionnaire included yes/no responses. A 20 Item Structured questionnaire was included in the study to assess the knowledge of dentist about different headings in importance of dental records, dental age estimation methods ,, bite marks and knowledge about whether a dentist can stand as a witness in the court for forensic evidence. The question about awareness of implant recognizing software was included in the study.

### RESULTS :

All the 140 participants filled and returned the form. Out of 140 participants 70 were BDS and remaining were MDS. 93.5% of the participants were aware that the forensic dentistry forms a part of our dental curriculum. 87.1 % of the dental practitioners answered yes for the question that their dental curriculum included about maintaining the dental records. Most of the participants were not particularly known about the period of maintaining patient details in their clinic. The awareness about maintaining record was about 62.85%. The participants most commonly maintained the record with radiographs and cast. The participants were questioned with the awareness of implant recognizing software. In our study only 4.2% of BDS and 10% of MDS were aware about the implant recognizing software. One of the question was descriptive type to know about the tooth numbering system . All the participant universally followed FDI tooth numbering system.

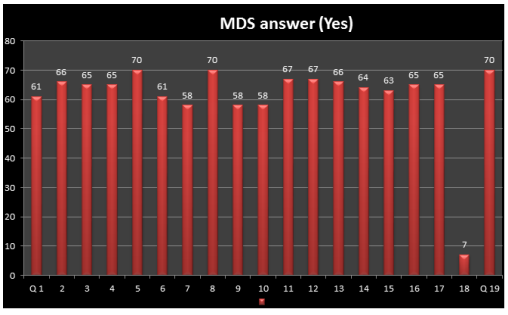
### DISCUSSION:

Each person always are worthy enough to retain all their pride of identity even after their death as well. Even though there were abundant acknowledge about scientific identification methods, the proficiency and role of forensic odontologists is still a prerequisite . Most of the restorative materials used today by the dentist are also resistant to post mortem destruction to a certain extent. [4] Dentists should be aware and have knowledge about the legal impact of forensic evident cases and should refer them to the appropriate authorities for necessary and suitable action. Photographs and radiographs of the injury or injuries are often helpful to documenting . Some laws penalize healthcare workers by imprisonment, and/or fines, for not reporting violence manifested on their patients. [5] Implants are unique dental identifiers with extreme importance as forensic evidences for human identification cases. Dental implants are typically made of titanium, which has an unusually high melting temperature of around 1,650°C. This led to consider dental implants as a forensic marker where natural teeth may be incinerated. The identification of dental implant systems placed in patients who are without available records is often a considerable problem and also due to the large number of

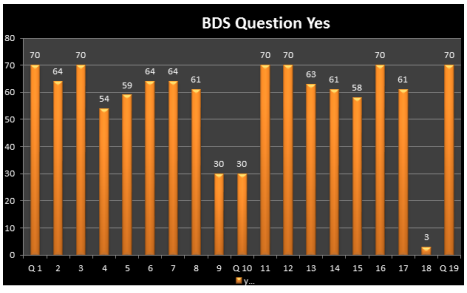
implant systems available with different designs worldwide. Clearly there are many more systems available in the market. [6,7,8] The implant recognizing software which a computer based software had been piloted using attendees at the 2003 and 2004 annual international implant course, run at the University Dental Hospital of Manchester and Mandec, who provide dental implants both in a hospital and practice setting . [9] The awareness about the implant recognizing software among the practitioners should be increased. A specialized software about implant role in forensic should be developed in future . an idea about implicating implant is to impregnate specific number to implant on this surface should be considered with variable technologies available.

## CONCLUSION :

The Implant Recognition Software should be simplified for clinicians' and technicians usage . the awareness about the implant software also should be increased about the practitioners. Dental profiling should be done in a recognized manner . An inter disciplinary approach between practitioners and forensic doctors should be improved to know about and share knowledge in forensic odontology.




**Graph 1 : Number Mds Participants With Yes Answer Regarding The Question**




**Graph 2 : Number Bds Participants With Yes Answer Regarding The Question**

**NAME OF THE PARTICIPANT : Dr. INTERN/BDS/MDS**

| S.NO | QUESTIONS | YES | NO |
|---|---|---|---|
| 1 | Do you think forensic odontology is a part of dental curriculum? | | |
| 2 | Do you think forensic odontology as an efficient method to identify victims in a mass disaster? | | |
| 3 | Do you know the role of bite marks in assessing crime scene? | | |
| 4 | Are you aware that you can appear as an eligible person in the court to present forensic dental evidence? | | |
| 5 | Do you know that lip print can be used for identifying population? | | |
| 6 | Are you aware of any methodology to estimate dental age? | | |
| 7 | Did your teaching curriculum include about details of maintaining records? | | |
| 8 | Do you maintain dental records? | | |
| 9 | Are you aware of time period for which the dental records should be maintained? | | |
| 10 | Do you use any pre-printed forms? | | |
| 11 | Do you record patient's basic information? | | |
| 12 | Do you record past dental history details? | | |
| 13 | Do you retain previous dental radiographs? | | |
| 14 | Do you retain dental casts? | | |
| 15 | Do you record full dental status on first visit? | | |
| 16 | Do you record common dental anomalies? | | |
| 17 | Do you record basic details about restorative / crown bridge / implant works? | | |
| 18 | Do you aware of any implant recognizing software? | | |
| 19 | Do you think that dentist play a vital role in forensic field? | | |
| 20 | What tooth numbering system do you use? | | |

## REFERENCES

1. Grover N et al, Preservation of Evidence and Records in Forensic Odontology: A Review J Res Adv Dent 2015; 4:3s:109-120
2. Chandra shekhar B R , Reddy CVK. Role of dentist in personal identification. Indian J Dent Res. 2009; 20(3): 356-360
3. Maintenance of Records. Available from: http//:www.ida.org.in/ Dental Practice Accreditation/maintenance of records.htm.
4. Manjunath K, Sivapathasundharam B, Saraswathi T R. Efficacy of various materials in recording enamel rod endings on tooth surface for personal identification. J Forensic Dent Sci 2011;3:71-6
5. Government of Dubai. Article 273 Federal Penalties Law of the UAE Number 3. 1987. Available at:URL:http://www.dc.gov.ae. Accessed 12 Nov. 2014
6. Sahiwal IG, Woody RD, Benson BW et al. Radiographic identification of threaded endosseous dental implants. J Prosthet Dent 2002 87: 563-577.
7. Sahiwal IG, Woody RD, Benson BW et al. Radiographic identification of nonthreaded endosseous dental implants. J Prosthet Dent 2002 87: 552-562.
8. Serwin I. Identification of dental implants on radiographs. Quintessence Int 1992 23: 611-618.
9. U.S. Markets for Dental Implants. Executive Summary. Implant Dent 2003 12: 108-111.