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ORIGINAL ARTICLE

Awareness Regarding Dental Charting and Dental Records in Human Identification Amongst Dental Practitioners: A Questionnaire Survey

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ABSTRACT

Forensic odontology plays a significant role in victim identification among the disasters of multiple fatalities or various murders or burns. It requires adequate teeth remains after the accident and dental records availability to succeed**.**

Purpose: To evaluate the Awareness level of the role of dental charting and dental records in human identification amongst Saudi dental practitioners.

Study Design: Descriptive Cross sectional study.

Methodology: Present study enrolled 200 participants involving both genders. A self-administered questionnaire related to role of charting dental anomalies in human identification was uploaded online. Informed written consent was taken. Unwilling participants were excluded.

Tatistical Analysis: The responses were carried out using the "pivot tables" option in Microsoft Excel (2016)**.**

Results: A total of 200 participants completed the survey male participants 74 (37%) were less than female participants 126 (63%). Almost 70% of respondents think that maintaining dental records/files can be forensically or medico-legally important. Low of knowledge was evident in different aspects of forensic dentistry.54%think teeth can be used as a primary source of identification of an individual (like DNA or fingerprints) while 46% considered it not.

Conclusion: This study concluded that there was poor awareness among the dental practitioners and the poor of awareness can lead to improper human identification.

Key Words: Forensic Odontology, Awearness, Attitude and Dental Practices.

INTRODUCTION

In our world of turmoil and rapid turnover, featuring an increase in crime rate and a gross expansion in the field of dentistry, forensic and dental sciences have found their way to a common science aiming at human identification through dental evidences. Different methods applied to compare the suspect dentition and bite marks injury physically are fingerprints, dusting powder and electron microscope[1].

As early as the year 49 AD, dental identification began with the Agrippina and the Lollia Paulina case[2]. The significance of the role of dentistry in forensic identification of victims in civil and medico legal cases is well established[3]. Its significance is especially highlighted when the cadaver is cremated, skeletonized, or decomposed. Like other hard body tissues, dental parts are preserved even following death[4].

Dental charting provides a unique dental print for each individual, but with the increasing trend for improving oral hygiene, it is essential to assess existing dental features or anomalies that could act as unique identifying features. It is also essential to provide properly executed, complete and updated dental records to facilitate the identification process[5]. It has been recommended that dental practitioners should have the important skills and knowledge about forensic odontology[6].

All dental practitioners are responsible for maintaining dental records, whichshould be precise and updated, to facilitate the identification process[6]. Dental records are established and maintained as a necessity for patient dental care, and for treatment decisions, treatment planning, and legal purposes, with the forensic value appearing in the background of this arrangement[7]. Dental charting and record keeping is one of the essential duties of dental assistants, making all three categories, primarily responsible for them, in association with the other dental team members.

Dental charting can play a significant role in victim identification when ithas been fully disintegrated and cannot be identified visually. Ranges of methods of dental identification are used when this occurs. The accessibility and accuracy of these patients' charts are essential to the identification. Dental practitioners often challenge forensic cases; therefore, the deficiency in forensic case information can prevent the identification of such cases.

Dental practitioners facing forensic cases should be well prepared to diagnose such an issue. Yet previous studies conducted in Saudi Arabia showed a low level of knowledge among dentists about keeping dental records for identification of victims[8]. Similar studies are applied all over the world, with various results some of which showed a high level of dentists' awareness of forensic odontology. However, a lack of awareness of the forensic value of the documents resulting in inaccuracy and inaccessibility of dentists' records[9]. Unfortunately, though, most of the studies conducted assessed dental practitioners' knowledge and attitude regarding forensic dentistry in general, without assessing their actual skill, and disregarding the other dental practitioners actively involved in the process, namely, dental assistants and dental hygienists.

OBJECTIVE

To evaluate the awareness level of the role of dental charting and dental records in human identification amongst Saudi dental practitioners.

METHODOLOGY

Present study enrolled 200 participants involving both genders. A self-administered questionnaire related to role of charting dental anomalies in human identification was uploaded online. Informed written consent was taken. Survey ethical approval was taken from the ethics committee at PSMCHS. Unwilling participants were excluded. Informed consent was required to submit questionnaire.

Statistical Analysis: The responses were carried out using the "pivot tables" option in Microsoft Excel (2016). Frequency and percentage were given for age, gender, work place and experience.

RESULTS

General parameters were shown as frequency and percentage in table-1. Around 37% were males while 63% were females.

Table-1: General Parameters Among All Subjects (n=200)

Parameters	Categories	Frequency	Percentage (%)
Age (yrs)	25-35	134	67
	36-45	56	28
	46 and above	10	5
Gender	Female	126	63
	Male	74	37
Work place	Central	46	23
	Eastern	84	42
	Northern	45	22.5
	Western	25	12.5
Experience (yrs)	1-5	122	61
	6-10	63	31.5
	11 and above	15	7.5

The category with the highest respondents rate was that of dentist (37%) followed by dental assistant (36%) then dental hygienists (14.1%) as shown in table-2.

Table-2: Occupational details with Employment Status

Statements	Categories	Frequency	Percentage (%)
Occupation	Dentist	74	37
	Dental Assistant	72	36
	Dental Hygienists	28	14
	Intern Dentists	26	13
Employment Status	Private	96	48
	Government	104	52

DISCUSSION

The importance of forensic odontology is due to the fact that the dental tissues is able to endure environmental change and remain somewhat in its original structure. This makes teeth accurate source for DNA material[10]. Our study included 74 (37%) male participants which was less than the female participants 126 (63%). The highest respondents were dentists (37%) followed by dental assistants (36%) then dental hygienists (14.1%). The survey was distributed to all KSA regions (42%) of the respondent were from eastern region, (23%) central region, (22.5%) northern region and the least are from western region (12.5%). Numbers of private (N=96) and governmental (N=104) dental practitioners took part in the study.

Approximately, equal numbers of private 96 (48%) and governmental 104 (52%) dental practitioners took part in the study. This relatively convergent value of the dental assistants helped reach the target of this study which was to measure awareness of the role of dental charting and dental records in human identification amongst dental practitioners. In Saudi Arabia, dental assistants maintain patient records and dental charting continuously and reviewed by every follow-up appointment. This finding reveals the fact that additional extensive training can improve understanding and knowledge of the different methods of maintaining dental records[11].

In governmental hospitals, there was no full dental charting prior to surgery, compared to just (48.0%) in private centers, which were expected to have more health care and high-quality treatment. In terms of radiographs, no radiographs were found in the records of government hospitals since they were given to the patient. Despite this (70%) of respondents in our study mentioned that maintaining dental records/files can be forensically or medico-legally important. In comparison to private clinics, (52.0%) of radiographs in government hospitals were of high quality; 13 of the 21 radiographs studied were of good quality. The patient's medical history was well known in the documents reviewed in the governmental hospitals, scoring (52.0%); just (48.0%) is in private facilities, with no medical history recorded in governmental clinics. One of the challenges faced by forensic odonatologists is dealing with deficient or inaccurate dental records, which hinders process of identification[12]. This lack of requirement for medical history in governmental clinics databases, as well as the private sector's focus on financial gain and saving time by taking a short history. The general record keeping in Sudan for instance was bad, according to the findings of a previous study[13]. Also there was a low of knowledge in different aspects of forensic dentistry. Almost half the participants (46%) believed teeth cannot be used as a primary source of identification of an individual (like DNA or fingerprints). Because age is one of the essential factors in establishing the identity of a person[14].

More than two-thirds of the participants maintained patient records/files in the Hospital they are working for. The highest rate of maintaining dental records is dental chart 73% followed by radiographs 47.5%. Furthermore, majority of dental practitioners were aware of the significance of maintaining dental records in forensic dentistry and capable of estimating the dental age. Maintaining correct dental records benefits both the dentist and the legal authority in identifying a dead person in a less time-consuming way. It was discovered that students became more conscious of the importance of keeping their dental records for medicolegal reasons and are more likely to do so. This is due to the method of studying the correct record and the faculty administration; stringent responsibilities of encountering and keeping reliable documents[14,15]. One of the most effective techniques is dental recognition. In addition, in this study we noticed that new graduate dental practitioners have more knowledgethan older one about maintaining dental records and dental charting. In contrast, previous study had shown poor knowledge of younger people about forensic[16].

Limitations: This methodology had demands like high cost, demands of security and advanced technical skills. These demands were lackin.

CONCLUSION

This study concluded that dental forensic requires awareness about the role of dental charting, records and its importance. According to the result of our study, that there was poor awareness among the dental practitioners and the poor awareness can lead to improper human identification.

Author's Contribution: ASAK: Conceptualized the study, analyzed the data, and formulated the initial draft.
MA: Contributed to the histomorphological evaluation.

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REFERENCES

1. Kaleelullah R, Hamid P (March 24, 2020) Forensic Odontology, a Boon and a Humanitarian Tool: ALiterature Review. Cureus 12(3): e7400. DOI 10.7759/cureus.7400.
2. Henderson CE: President's editorial - AAFS and forensic science: the next 60 years. J ForensicSci. 2009, 54:5-6. 10.1111/j.1556-4029.2008.00931.
3. M. Al Sheddi, A. Al Asiri, Awareness of the scope and practice of forensic dentistry 288 among dental practitioners, Aust. J. Forensic Sci. 47 (2015) 194–199.
4. Dutta, S., Passi, D., Sharma, S., et al., (2016), The Role of Dentistry in Disaster Management and Victim Identification, An Overview of Challenges in Indo-Nepal Scenario, Journal of Maxillofacial and Oral Surgery, vol.15(4), pp 443-446.
5. V.F. Delattre, P.G. Stimson, Self-assessment of the forensic value of dental records, J. 292 Forensic Sci. 44 (2015) 12014J.
6. Al-Azri, A. Harford, J. James, H. (2015) Awareness of forensic odontology among dentists in Australia; are they keeping forensically valuable dental records? doi: 10.1111/adj.12316.
7. ADA (2010) Dental Records, Council of Dental Practice, Division of Legal Affairs, American Dental Association.
8. Charangowda BK. (2010) Dental records: an overview. J Forensic Dent Sci; 2(1):5–10.
9. V.F. Delattre, P.G. Stimson, Self-assessment of the forensic value of dental records, J. Forensic Sci. 44 (2015) 12014J.
10. Devadiga A. (2014) What's the deal with dental records for practicing dentists? Importance in general and forensic dentistry. J Forensic Dent Sci; 6 (1):9-15.
11. Bradshaw BT, Bruhn AM, Newcomb TL, Galadima H. Postmortem Dental Records Identification by Dental Hygiene Students: A pilot study. Journal of Dental Hygiene. 2020;94(4):39-46. Accessed March 3, 2021.
12. Al-Khalaf et al ,(2017). The knowledge and practice of forensic dentistry among dental practitioners in the eastern province, Saudi Arabia. International Journal of Advanced Research, 5(8), 1971–1978.
13. Pessian F, Beckett HA. Record keeping by undergraduate dental students: A clinical audit. Br Dent J 2004;197:703-5.
14. Waleed, Petro & Baba, Feras&Alsulami, Salem &Tarakji, Bassel. (2015). Importance of Dental Records in Forensic Dental Identification. Acta Informatica Medica. 23. 49-52. 10.5455/aim.2015.23.49-52.
15. ResearchGate. 2021. (PDF) Importance of Dental Records in Forensic Dental Identification. [online] Available at: <https://www.researchgate.net/publication/274965108_Importance_of_Dental_Records_in_Forensic_Dental_Identification > [Accessed 18 May 2021].
16. Jane, T., Jules, K., (2016), Forensic Odontology: Principles and Practice, John Wiley & Sons, United States, pp1-15.