

# Maintenance of antemortem dental records in private dental clinics: Knowledge, attitude, and practice among the practitioners of Mangalore and surrounding areas

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## Introduction

With time, there has been an increase in the number of crimes, mass disasters, and wars. Identification of the deceased or assailant has become critical. In such circumstances, antemortem dental records play a crucial role as teeth or their marks may be the only piece of

## Abstract

**Introduction:** With time, an increase in the number of crimes, mass disasters, and wars, has led to the identification of the deceased or assailant critical. In such circumstances, antemortem dental records play a crucial role. **Materials and Methods:** A cross-sectional survey involved 95 dentists practicing in and around Mangalore. The structured questionnaire comprised 24 questions regarding the practice of maintenance of dental records. The questionnaire was given either personally or sent by post. The data obtained was subjected to descriptive analysis. **Results:** With 87% of the dentists maintaining records, only 31% of them recorded all the details required to be present in a dental record. Of these 18% of them maintained the records for >5 years. **Conclusion:** The results suggest that most of the practicing dentists in this area either do not maintain or maintain inadequate records, which is alarming. Thus, there is a need to set protocols to increase the awareness for maintaining good dental records.


**Key words:** Child abuse, dental records, forensic odontology, mass disaster, medicolegal aspect, personal identification

evidence.<sup>[1,2]</sup> Each tooth in an individual is unique due to their crown and root structure, surrounding bone, dental fillings, extractions, crowns, and bridges. These characteristics are generally recorded in a document called dental record or patient chart.

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According to the American Dental Association, dental record is an official document which includes patient identity, demographic details, medical and dental histories, clinical findings, services rendered, and charges and payments made.<sup>[3]</sup> It should also include the patient-related communications and any instruction rendered for home care.<sup>[3-5]</sup> All the documents must be signed and dated.

Thus, the aim of the study is to assess the knowledge, attitude, and practice (KAP) of the dentists on maintenance of dental records in private dental clinics in and around Mangalore.

## Materials and Methods

A questionnaire survey was conducted, which involved randomly chosen 95 Dentists owning a dental set-up in Mangalore and surrounding areas in Dakshin Karnataka district, India. The questionnaire was given personally or sent by post.

Questionnaire [Table 1] comprised 24 questions to assess the KAP of the practicing dentists on maintenance of dental records.

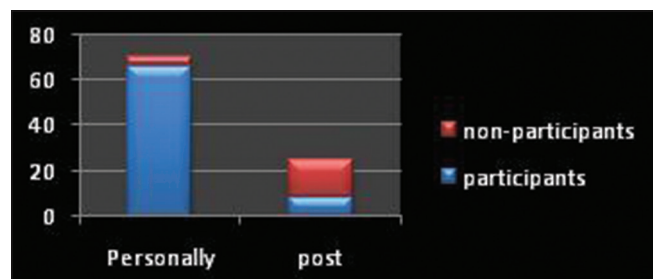
## Results

Out of the 95 dentists, 70 were approached personally while 25 were approached by post. The overall response rate was 77.89% [Figure 1].

Although 95% of surveyed dentists think they are legally bound to maintain the records and consider them important medicolegally, only 87% of the dentists surveyed maintained the dental records in their clinics [Table 1].

Mere about 15% dentists have ever approached to solve or produce dental file in a medicolegal case. At the same time, 61% of them were aware of a dentist in their city who had been approached for solving a medicolegal case [Table 1].

Around 69% dentists maintained hand-written records, 2% used software and 29% maintained hardcopy and softcopy of the records. Only 17% of them maintained



**Figure 1:** Graph showing the mode of distribution of questionnaire and the response rate

case-sheets and investigative records. About 56% dentists themselves maintained the records. Records were stored in a separate area in 59% clinics alphabetically (12%), date wise (44%), and serial number wise (36%). Approximately, 78% records are retrievable at any time and in 64% clinics by anyone [Table 1].

When asked about the details recorded 29% recorded demographic data, 30% recorded demographic data, temporomandibular joint findings, lymph node status, and any previous dental treatments while 31% recorded all the above-mentioned details along with proposed treatment plan. An informed consent was obtained by 43%. Only 5% dentists delivered prosthesis with personalized mark, 16% recorded broken appointment and telephonic conversation, 30% recorded the implant serial number, and 28% filed the referral or special consultation letter [Table 1].

Pre- and post-treatment photographs of all patients and special cases were maintained by 7% and 54% dentists, respectively. The maintenance of radiographs and diagnostic casts with the records was carried out by 59% and 44% dentists, respectively. Extracted teeth were thrown away by 69%. Only 18% dentists maintain records and radiographs, 16% store photographs, 5% maintain diagnostic casts, and 2% store the extracted teeth for > 5 years [Table 1].

Regarding suspicion of child or domestic abuse in patients, only 2% of the dentist have detected any form of abuse but have not mentioned it to concerned authorities or in their records [Table 1].

## Discussion

Record maintenance is legally mandatory in the American and European countries, but the rules are not clear in India. According to the dental recordkeeping guidelines by the College of Dental Surgeons of British Columbia, the records of the patients should be maintained for 16 years from the date of the last entry.<sup>[6]</sup> The laws laid by the Dental Board of Australia require the retention of dental records for 7-10 years.<sup>[7]</sup> In the United States of America, HIPAA states that the records must be maintained for 6 years from the last date of visit and 2 years after a patient's death. For pediatric patients, the records have to be retained for certain time after the child reaches the age of majority.<sup>[3]</sup> There is an ignorance regarding the same among the dentists in our country with most of the dentists maintaining a poor quality or no dental record at all.

In a similar study, Astekar *et al.* reported that only 32% of the dentists maintained the records in the private clinics of Rajasthan and all of them were unaware that they are legally bound to maintain the records although considered it to be medicolegally important. Around 15% of them were asked for age estimation in forensic needs. Only 32% recorded

**Table 1: Questionnaire and the percentage distribution of responses from the dental practitioners**

Serial number	Question	Please tick in the appropriate box			
1	Do you keep records of the patients visiting your clinic?	Yes (87%)	No (13%)		
2	Do you think you are legally bound to maintain the records in your clinic?	Yes (95%)	No (5%)		
3	Is dental file medico-legally important?	Yes (95%)	No (5%)		
4	Have you ever been approached to solve or produce dental file for a medico-legal case?	Yes (15%)	No (85%)		
5	Do you know any other dentist in your city that has ever been approached for solving a medicolegal case?	Yes (39%)	No (61%)		
6	How do you maintain the records in your dental office/clinic?	Only written/preprinted form (69%)		Only software (2%)	Both (29%)
7	What type of records is maintained in your clinic?	Case details (57%)	Investigative or study records (photos, radiographs, casts, extracted teeth) (23%)	Both (17%)	None (3%)
8	Who maintains these records?	Receptionist/assistant (41%)		Dentist himself (59%)	
9	How are the records stored?	By date (44%)	Alphabetical order (12%)	Customized serial number to the file (36%)	None (8%)
10	Can the records be easily located by anyone at any time?	Yes (64%)	No (34%)		
11	Do you have a separate area for maintenance or storage of the case files?	Yes (59%)	No (38%)		
12	If today - a case file of a patient is required, is it possible to retrieve it from your records?	Yes (78%)	No (10%)		
13	Please tick (✓) the details recorded for each patient	None (10%)	Demographic details (name, age, occupation, contact number and address) (29%)	Demographic details + relevant medical and dental history + TMJ status, lymph node findings + previous dental treatments (30%)	Demographic details + Relevant medical and dental history + TMJ status, lymph node findings + previous dental treatments + Proposed treatment plan (31%)
14	Is an informed consent taken before any procedure?	Yes (43%)	No (24%)		
15	Does the prosthesis delivered by your dental office to a patient carry any personalized marker for easy identification?	Yes (5%)	No (87%)		
16	Is a cancelled appointment or telephonic consultation recorded in the case file?	Always (16%)	Never (43%)	Sometimes (38%)	None (3%)
17	In case of implant placement, is the serial number of implant recorded?	Yes (30%)	No (37%)		
18	Is the referral file/special consultation letter, etc., filed along with the case sheets?	Yes (28%)	No (52%)		
19	Photographs				
	(i) Are pretreatment photos of the patients taken?	Yes (69%)	No (26%)		
	(ii) If yes, then	Every case (7%)			
	(iii) Are posttreatment photos of cases taken?	Yes (61%)	No (8%)		
20	Radiographs are	Given to the patient that very moment (15%)	Given to the patient at the end of the treatment (23%)	Attached to the case file and stored (59%)	None (3%)

Contd...

**Table 1: Contd...**

Serial number	Question	Please tick in the appropriate box			
21	The casts poured are	Given to the patient (10%)	Stored with other dental records (44%)	Thrown away once the treatment is over (41%)	None (5%)
22	Extracted teeth				
	(i) Are the extracted teeth stored?	Yes (28%)	No (69%)	None (3%)	
	(ii) If yes, how are they stored?	In a big container with other extracted teeth (100%)	Along with the respective case records	Thrown away	
23	Storage of various records for more than five years is				
	(i) Case sheets	18%			
	(ii) Photographs	16%			
	(iii) Radiographs	18%			
	(iv) Casts	5%			
	(v) Extracted teeth	2%			
24	Abuse				
	(i) Ever suspected child/domestic abuse?	Yes (48%)	No (52%)		
	(ii) If yes, does the patient file include all the details of abuse?	Yes	No (100%)		
	(iii) In such cases, have you had a talk with suspect/relatives?	Yes	No (100%)		
	(iv) Do you think there is a need to report such cases to the concerned authorities?	Yes (41%)	No (59%)		
	(v) Have you reported to the authorities in a case of abuse?	Yes (2%)	No (98%)		

TMJ: Temporomandibular joint

demographic details, relevant medical history, reason for the visit and proposed treatment plan. Seventy-nine percent of the dentists took informed consent from the patient. None of the dentists filed the referral or special consultation letter. All the dentists maintained the records for 5 years.<sup>[5]</sup>

On comparing the study by Astekar *et al.* and the present study with the international scenario, a number of challenges lie in front of the Indian dentists, for example,

1. In India, the average number of patients treated is excessively high compared to a dentist outside India
2. Internationally, the importance of records is felt. Thus, the dentist spends time in recording the same
3. Lack of space in dental clinic in India hinders the longer duration of storage of the records.

During Tsunami on December 26, 2004, 5395 deaths had occurred. Forensic team identified 111 out of 2070 victims and 53.2% of 3777 deceased individuals by the antemortem records.<sup>[8]</sup> At the same time in India, 15,000 people lost their lives but whether all them were identified is a question unanswered. Probably, a lack of adequate number of forensic odontologists delayed the identification of the victims.<sup>[9]</sup> In Western countries, for identification of fire victims, emphasis is given to dental evidence, and a strict criterion for "established" identification is often employed.

The success rate obtained in identification ranges from 34% to 89%.<sup>[10]</sup>

Clearly, the study also brings to our notice a general lack of practice of forensic odontology among dental practitioners in India. One of the reasons might be the availability of formal training in forensic odontology in very few institutes throughout India.<sup>[9]</sup>

## Conclusion

The findings of the present study suggest lack or inadequate maintenance of dental records by practicing dentists in Mangalore and surrounding areas. This sends an alarm for increasing the awareness among the dentists on the importance of maintaining dental records containing all the relevant details.

Thus, a new format for recording the findings must be prepared to maintain the uniformity in records. Along with this, the appointment of a statutory body to conduct a regular check on maintenance of proper dental records by the practicing dentists is necessary.

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### Conflicts of interest

There are no conflicts of interest.

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