

## Knowledge and Attitude of School Teachers towards the Management of A Knocked Out Tooth

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### ABSTRACT:

**Aim:** This study was designed to examine the knowledge and attitude of school teachers with regard to emergency management of an avulsed permanent tooth.

**Materials and methods:** The survey was conducted among 97 school teachers of Ghatkopar area (Mumbai) belonging to two Government schools. The assessment was done by the means of a self-administered questionnaire and respondents were asked to tick the most appropriate option. Data was then collected and analysed.

**Results:** A great majority of the respondents were not satisfied with their knowledge on management of dental trauma and most of them expressed desire for further information. Hence, an emergency kit to manage knocked-out tooth and a poster for guidance to take care of the tooth was provided to the schools.

**Conclusion:** This study clearly indicates that the school teachers in Ghatkopar have rudimentary knowledge and must receive simple instructions to recognise oral emergencies and regarding conservation of avulsed tooth as children spend considerable duration of their active time at school.

**Keywords:** Avulsed tooth, questionnaire, teachers, management

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Date of Submission: 26-05-2018

Date Of Acceptance: 09-06-2018

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### I. Introduction

Traumatic dental injuries (TDIs), including knocked-out tooth, have been noted to be amongst the leading causes for morbidity and mortality of teeth, especially anterior teeth, which ultimately affects the life of children mentally and physically [1-3]. Dental avulsion involves total displacement of a tooth from its socket because of an accident injury [1]. Permanent teeth are not only necessary for esthetics but also for speech, mastication, healthy periodontium and self-esteem of the children [2, 4]. Children in the age group of 7-12 years are most susceptible to dental injuries [5]. TDIs range from minor injuries like enamel cracks to severe dentoalveolar damage. Technical knowledge and clinical experience facilitate accurate diagnosis and prompt treatment. In younger population, sports was the causative factor for about 13% of overall oral trauma [6, 7].

Tooth avulsion comprises of 0.5-16% of all TDIs. Avulsion injuries are thrice as frequent in males as compared to females because of their active participation in sports. Most widely affected examples are maxillary central incisor (37%), mandibular central incisor (18%), mandibular lateral incisor (6%) and maxillary lateral incisor (3%) [8]. Over 16% injuries were found to be encountered during school and 19% of the injuries tend to occur due to fall [9]. Although various emergency procedures have been advocated, management of an avulsed tooth by immediate replantation is considered as the treatment of choice. Success of this treatment depends on extra-alveolar period, storage medium of avulsed tooth, time of endodontic intervention, oral hygiene status as also general health.

This survey aimed to evaluate via a questionnaire, the knowledge and attitude of primary as also secondary school teachers in Ghatkopar regarding dental trauma. The purpose was to assess the awareness and conduct educational initiatives planned to inform the educational professionals about the factors involved in dealing with a case of avulsion.

### II. Materials And Methods :

The study was conducted among 97 school teachers of Mumbai area. Permission for the study was obtained from the concerned authorities. The objectives of the study were explained to all the school teachers who participated in the study and also a written informed consent was obtained from all teachers and Principal. A self-designed questionnaire containing demographic details and specially framed 14 questions in English language were administered to the teachers. The respondents were then asked to tick the most

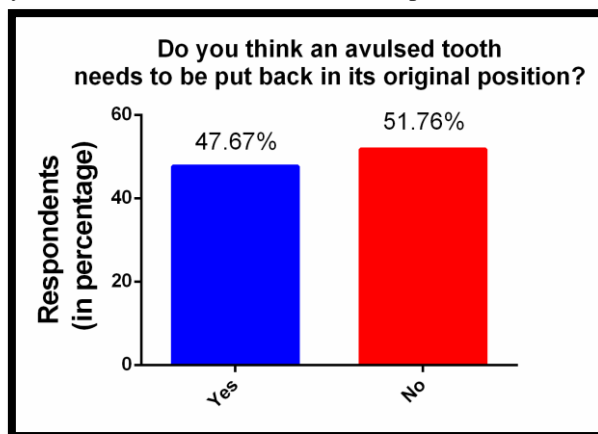
appropriate answer from the given list of answers. Filled questionnaire were collected on the same day. Information regarding the tooth avulsion and its emergency management, as a health talk was given in both English and local language. Educational posters were put up on each school's notice board. An emergency replantation kit was also provided to each school which consisted of a bottle to contain transport media, tweezers to aid in holding the avulsed tooth, hand sanitizer, gauze and tissue papers. Data collected was analyzed, and represented in the form of tables.

### III. Results :

The summary of the results are described in Table 1. Time is one of the most important factors for prognosis of avulsed tooth to preserve its vitality for replantation. In our study, with respect to the extraoral time permissible for a tooth prior to replantation, 24% school teachers indicated < 30 min to be appropriate and 4% indicated within 1 hour as the option of choice. These teachers had better knowledge than the teachers in other similar studies(Figure 1,2,3,4). Intuitive guessing has been previously suggested regarding this topic – when employing questionnaires – a possible limitation of this study also.

Storage media play a major role in transporting the knocked-out tooth to the dentist and successful replantation. Out of the various options given as to which storage media should be used according to the school teachers, 29.26% of them opted for ice, whereas milk received 9.75% response, sterile saline 4.87% and coconut water a shocking 0% response. In contrast, another study in Australia demonstrated 50% teachers opting for milk. This pointed towards a strong need about awareness of various laboratory prepared or naturally attainable storage media.

**Figure 1.** Do you think an avulsed tooth should be put back in its original position?



**Figure 2.** How would you hold the tooth?

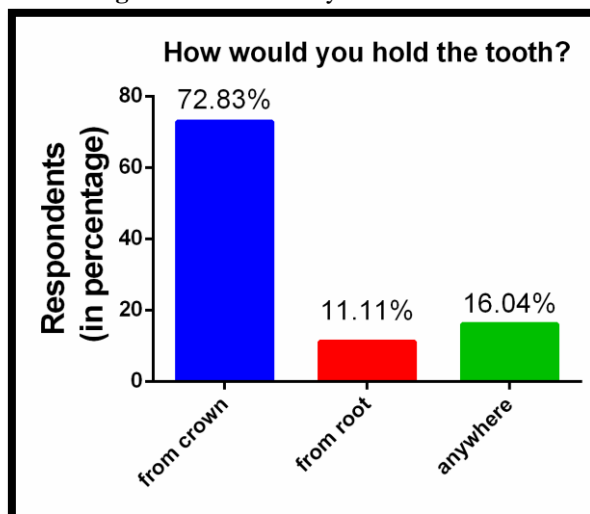


Figure 3. How immediately should tooth replantation be performed after the tooth comes out of the socket?

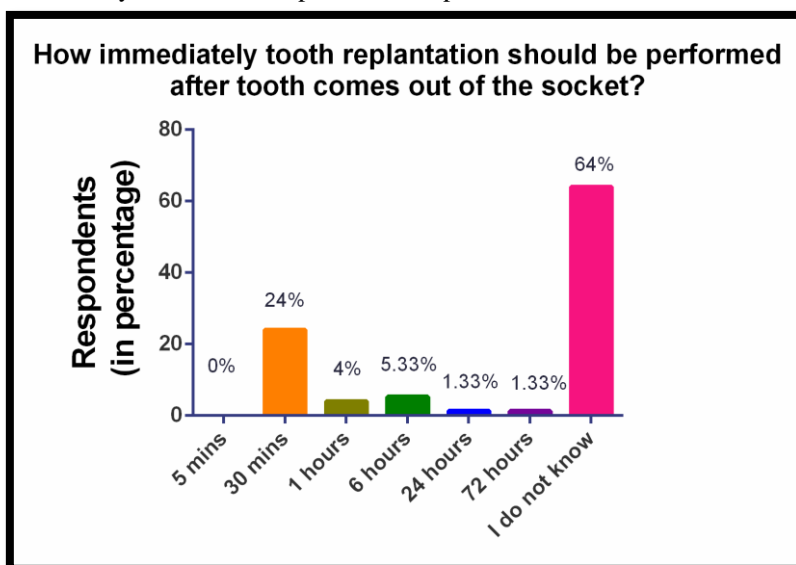


Figure 4. Views on emergency management of dental trauma?

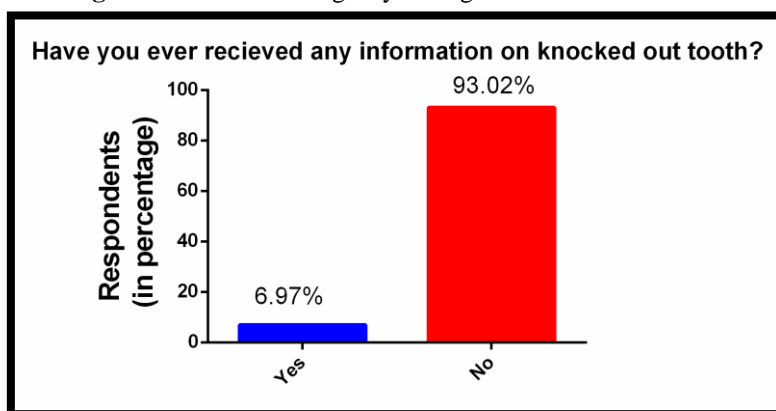


Table 1. Response of the teachers towards the questions :

NO	QUESTIONS ALONG WITH MULTIPLE CHOICE	RESPONSE
1.	Did you receive first-aid training?	
	A) Yes B) No	48.83% 51.16%
2.	If yes, did it cover dental trauma?	
	A) Yes B) No	8.69% 86.95%
3.	Do you know, what is knocked-out tooth?	
	A) Yes B) No	69.76% 30.23%
4.	Have you had any child with a knocked-out tooth at your school?	
	A) Yes B) No	30.95% 69.04%
5.	If the tooth is knocked-out and falls on the ground do you know what should be done?	
	A) Yes B) No	40.69% 59.30%
6.	Do you think an avulsed tooth should be put back in its original position?	
	A) Yes B) No	47.67% 51.76%
7.	Do you know what mouth guard is?	
	A) Yes B) No	57.47% 42.52%
8.	How immediately tooth replantation should be performed after tooth comes out of socket?	
	A) 30 mins	24%
	B) 1 hour C) 6 hours	4%

	D) 24 hours E) 72 hours F) I do not know	5.33% 1.33% 1.33% 64%
9.	If you come across a child with an avulsed tooth what would you first do? A) Refer child immediately to the dentist B) Call child's parents C) Call nearby hospital	48.78% 46.34% 7.36%
10.	How would you hold the tooth? A) From the crown B) From the root C) Anywhere	72.83% 11.11% 16.04%
11.	If tooth falls on the ground and gets dirty what should you do? A) Scrub the tooth to remove the dirt B) Wash with hydrogen peroxide C) Clean with tooth brush D) Wipe the tooth with tissue papers E) Rinse with sterile saline F) Clean with antiseptic solution G) No need to clean	2.59% 3.89% 11.68% 24.67% 38.96% 11.68% 7.79%
12.	How would you keep the tooth till you reach the dentist i.e. transport media? A) Ice B) Napkin C) Coconut water D) Child's mouth E) Tooth is useless F) Tap water G) Tissue paper H) Sterile saline I) Wet handkerchief J) I do not know K) Plastic bag L) Cotton pad M) Antiseptic solution N) Milk O) Gauze piece	29.26% 2.43% 0% 2.43% 4.87% 4.87% 2.43% 4.87% 3.65% 25.60% 2.43% 4.87% 7.31% 9.75% 2.43%
13.	Have you ever received any information on management of knocked-out tooth? A) Yes B) No	6.97% 93.02%
14.	If yes, the source of information? A) Teacher's training B) First aid course C) School dental program D) Dental clinic/ hospital E) Others, internet, etc	11.42% 22.85% 28.57% 17.14% 42.85%
15.	Do you think it is important to have an education program in emergency management of dental trauma? A) Yes B) No	84.88% 15.12%
16.	Would you like to attend short training course on management of dental trauma? A) Yes B) No	57.84% 43.16%

#### IV. Discussion

Amongst the sample this study was conducted in, 69.76% teachers confirmed the prevalence of dental avulsion among their students during school. Since school teachers are likely to be in contact with the children soon after the injury, their knowledge is very important for the better prognosis of the avulsed tooth. This study was carried out to elicit all these factors including the knowledge of school teachers toward such injuries and their attitude towards attaining advanced training for traumatic situations.

A rather disturbing finding in this study, was that although 48.83% teachers had undergone training on first aid during teachers training course, only 8.69% of the teachers responded to have had training regarding dental first aid. According to a survey in Punjab, only 30.2% teachers received training on management of dental injuries[10]About 30.23% teachers did not know what a knocked-out tooth means and 59.30% teachers had no idea regarding how to deal with a case of avulsion[10]. 42.52% teachers were completely unaware about the use of mouth guards[10]. This finding calls for education in this aspect of tooth care in future dental health education programs, followed by continuous reinforcement.

Regarding the first place to seek for treatment following knocking out of the tooth is to refer them to a dentist. This correct answer was given by 48.78% of the teachers in the current study. The question about searching for the missing tooth evaluated the knowledge and attitude of the school teachers toward the

importance of missing tooth. Out of the 85 teachers who responded that they would search for the avulsed tooth, only 41 (47.67%) teachers knew that a fallen tooth can be replanted back into the socket. The data obtained with regard to this question is in contrast to a study wherein only 1% of the school teachers replied positively [11]. However, studies done in UK reported 27.7% teachers responding positively for the same while 18.8% responded positively for the same in Sao Paulo, Brazil [12, 13].

The determining factors for a favourable prognosis of replantation of avulsed tooth are minimal time of the avulsed tooth outside the socket, the storage and transportation medium of the avulsed tooth, as well as minimal handling of the root surface and the periodontal ligament. In the present study, a majority of the school teachers (72.83%) mentioned that the avulsed tooth be held by the crown, which was a pleasingly good number for the correct approach.

The knowledge of teachers with respect to tooth cleaning methods before re-implantation was found to be average. 38.96% school teachers opted to rinse the tooth with sterile saline which was the most ideal option to pick. 84.88% teachers strongly felt the importance of having an education program in the emergency management of dental trauma and 57.81% teachers agreed on attending short training courses on the same. The positive attitude of the teachers clearly reflected in our study toward learning regarding immediate management of tooth avulsion injury.

## V. Conclusion :

On the basis of the information collected via this study, it is clear that –

1. The knowledge of school teachers is insufficient regarding tooth avulsion.
2. As one of the child supervisors, the importance of teachers being able to recognise and assess the oral health issues must be emphasized.
3. Awareness needs to be created by including dental trauma management in teachers training program/ teachers continuing education program.
4. As a dentist, it is our duty to educate and bring a change in any possible way including posters, audio-visual aids and providing first-aid kits.

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DrVinnny Gala "Knowledge and Attitude of School Teachers towards the Management of A Knocked Out Tooth." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, vol. 17, no. 6, 2018, pp 39-43.