

To Assess The Knowledge And Create Awareness Regarding The Management Of Avulsed Teeth In School Teachers

* Vandana Kokane¹, Pratik Burad², Varsha Uttarwar³, Apoorva Salve⁴, Amisha Saoji⁴, and Sana Khwaja⁴

*Corresponding Author E-mail: vandanakokane30@gmail.com

Contributors:

¹Asso. Professor, Department of Conservative Dentistry & Endodontics, VSPM's Dental College and RC, Nagpur, Maharashtra, India. ²Sr. Lecturer, Department of Conservative Dentistry & Endodontics, VSPM's Dental College and RC, Nagpur, Maharashtra, India. ³Sr. Lecturer, Department of Conservative Dentistry & Endodontics, VSPM's Dental College and RC, Nagpur, Maharashtra, India. ⁴Undergraduate students, VSPM's Dental College and RC, Nagpur, Maharashtra, India.

Abstract

Tooth avulsion due to traumatic injuries as in sports or fights is common among school going children. Hence it is important for the teachers to have knowledge about emergency management of avulsed tooth before visiting the dentist. This study aimed to assess the knowledge and create awareness about the management of avulsed teeth in school teachers. It comprised of a pre presentation and a post presentation questionnaire constituting of 15 questions distributed among 381 school teachers of different rural and urban schools of Nagpur, Maharashtra, India. This study revealed that a high percentile of 82.1% of teachers was unaware of the meaning of tooth avulsion and its management in the pre presentation questionnaire. While the percentile drastically decreased to 2.9% in the post presentation questionnaire proving the success rate of the impact of the presentation on their knowledge. Knowledge regarding avulsed tooth and its management among school teachers is barely adequate and requires the right method of comprehension as they are first to be approached by a student in case of any dental trauma.

Keywords: Tooth Avulsion, Dental Trauma, Replantation of Tooth, School Teachers

INTRODUCTION

Complete displacement of a tooth following trauma out of its socket is known as Avulsion of tooth. Following traumatic injuries it is found that the frequency of tooth avulsions ranges from 7% - 13% in the deciduous dentition and from 0.5% to 16% in permanent dentition.¹ One of the most important oral health problems in childhood causing pain and distress is Dental trauma and Avulsions.

In day to day activities like playing, cycling, running etc children encounter minor facial and dental traumas and this include tooth avulsion also. Children spend most of their time at school. In the schools, teachers being the first responders to the student's trauma, it is very much necessary for them to have knowledge about diagnosis and treatment planning of traumatic injuries to teeth.

Deciduous and permanent anterior teeth are not only important for aesthetic reason but are also

necessary for "phonetics, mastication, integrity of supporting tissues, psychological and mental wellbeing of children".² Most of the kids with avulsion report late to the dental clinic for treatment because of lack of knowledge and awareness and therefore resulting in unfavorable prognosis for the same.

The long term prognosis of avulsed tooth is most likely depend upon the maintenance of viability of periodontal fibers and its immediate replantation. Hence, the aim of the present study is to assess the knowledge and create awareness among teachers in the emergency management of avulsed tooth.

1. MATERIALS AND METHODS

A cross sectional study was performed within a duration of 3 months by distributing a pre-presentation questionnaire to 381 teachers of different schools of Nagpur to assess their knowledge regarding management of avulsed

tooth followed by a detailed and precise explanation of the same through a power point presentation. Then, a post presentation questionnaire was distributed to assess the information gained by them.

2. RESULT:

A total of 381 school teachers were distributed a pre presentation and a post presentation questionnaire. The entire comparative analysis is summarized in a tabulated form below.

3. RESULT AND DISCUSSION:

The questionnaire used in the present survey was closed-ended and direct questions. Same studies reported in the literature surveyed the knowledge of dental students, parents and physicians and nurses of hospital emergency department concerning the management of avulsed teeth.³⁻⁶ Dental traumatic injuries like tooth avulsion is one of the most commonly encountered injuries in school going children. Teachers being the first to approach the matter. The best healing potential of the avulsed tooth is possible if the replantation is performed immediately (within 5 min) after trauma, as avulsion create crucial damage on the gingiva, periodontal ligament and pulp tissues.⁷ Therefore teachers should have adequate knowledge about the management of avulsed tooth as every passing second is crucial in determining the success rate of replanted tooth.

The survey shows that 73% of school teachers have had previous dental visits while 64.3% of teachers have personally experienced some kind of dental injury.

Comparison of the two percentages effectively proves that knowledge regarding various kinds of dental injuries like fracture, avulsion, luxation, concussion etc has drastically increased. (Figure 1)

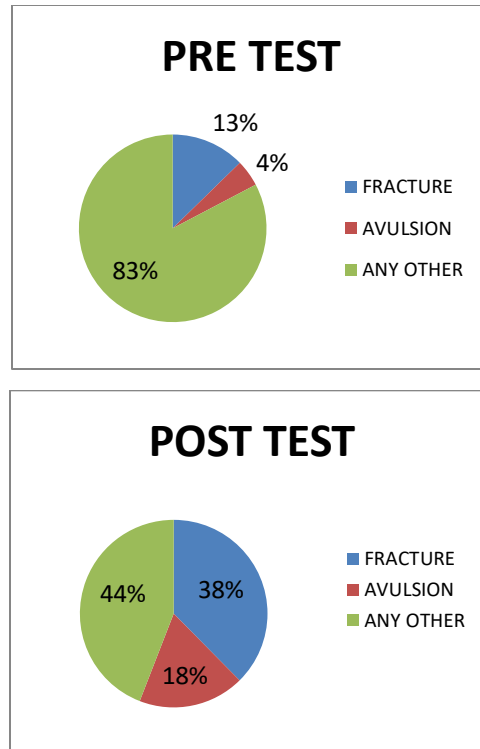
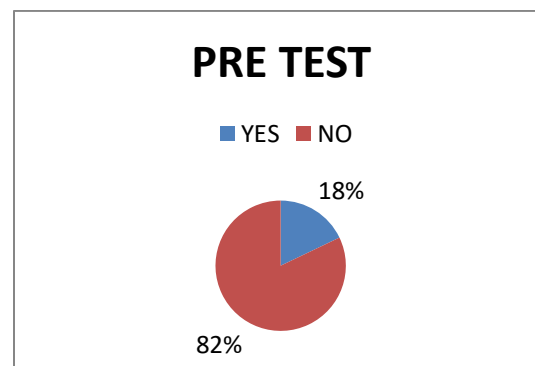


Figure 1

The term tooth avulsion (defining the complete displacement of tooth from its socket) being a medical term is novel to a layman. This survey shows that a massive percentage (82.1%) of teachers were unaware of this term before the presentation while the percentage remarkably decreased to 2.9% after the presentation. (Figure 2)



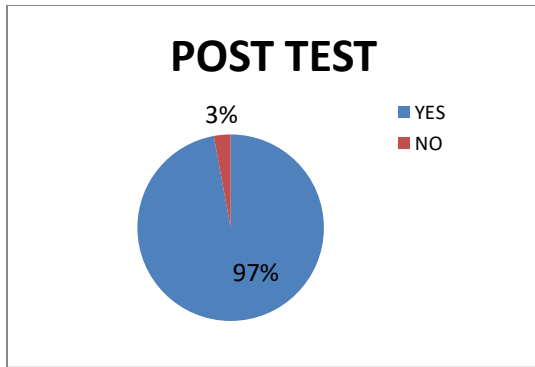


Figure 2

Though awareness regarding management of avulsed tooth was less, interestingly, 30.9% of teachers were aware of the fact that an avulsed tooth can be saved when placed back into the socket. A stereotyped concept of scrubbing the tooth or rinsing it with salt water to dust off the dirt is portrayed through the survey result. This concept was significantly amended to simply rinsing the tooth with tap water as scrubbing or rinsing with saline will destroy the periodontal ligament cells reducing the success rate of replantation. (Figure 3)

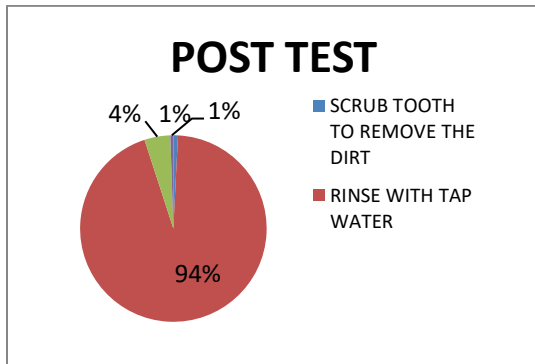
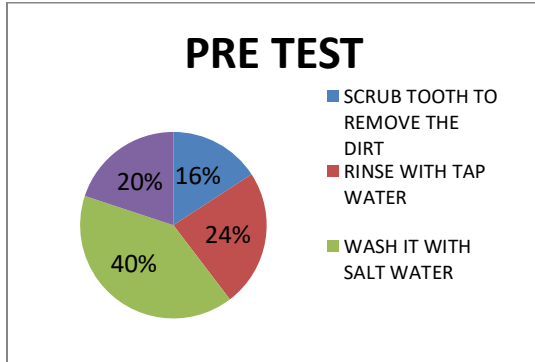


Figure 3

When asked about their views on a displaced tooth, it was found that 45.3% of teachers found it convenient to remove it from the mouth while 33.2% of them opted for discarding it completely. However, the percentage increased to 88.5% for replacing it back in the socket when enlightened about the importance of cell viability and its reattachment.

Another important aspect in the management of an avulsed tooth is the manner in which it is to be held until approached to a dentist. To preserve the vitality of the pdl cells, the most accepted way to hold the tooth is from the crown portion. As per the survey, 39.9% of teachers did not know the right way to hold an avulsed tooth and 23.3% thought that holding it from the root was an obvious option. Thus, as expected, 96.3% of teachers rectified their opinions to holding the tooth from the crown after the presentation. (Figure 4)

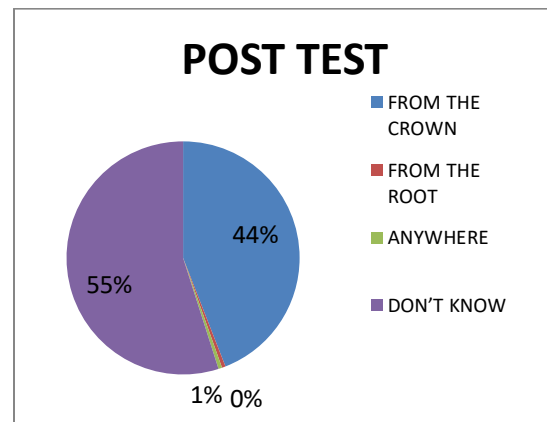
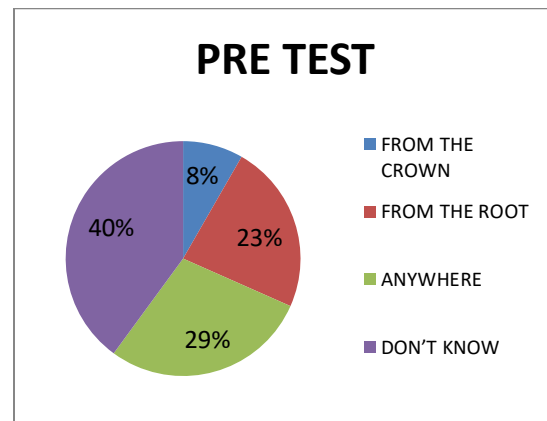


Figure 4

Golden time is the time period of 30mins post trauma to visit the dentist. A maximum percent (43.7%) of teachers thought that a delayed visit to the dentist would not make a significant difference. Hence, it was crucial to explain them the importance of time. (Figure 5)

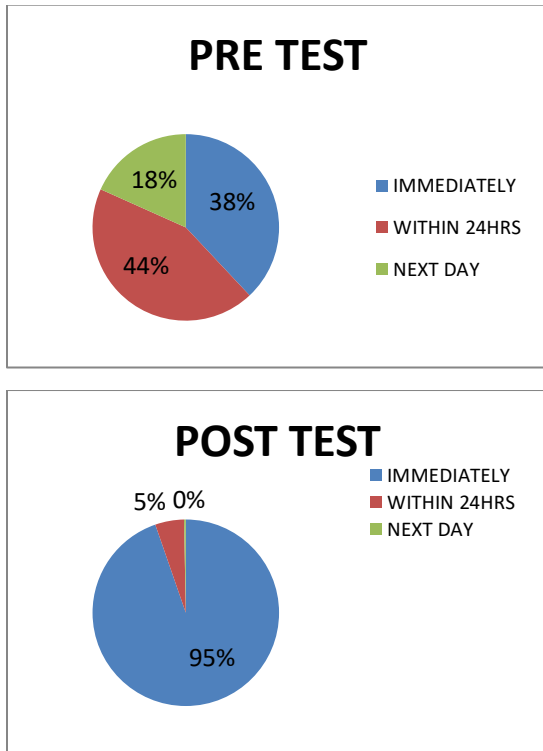


Figure 5

Transportation medium of avulsed tooth is of utmost importance as the contents of the medium directly affect the survival of periodontal ligament cells. The percentages of various transportation mediums like wet handkerchief, tap water, milk and others chosen by teachers are 20.7%, 21.3%, 13.6% and 40.6% respectively. This percentage then aptly increased to 69.5% for saliva and 19.7% for milk as the storage medium. (Figure 6)

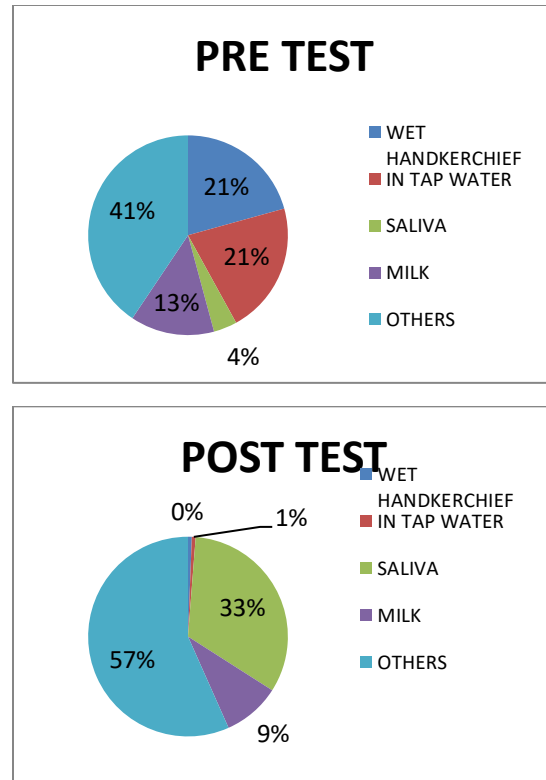
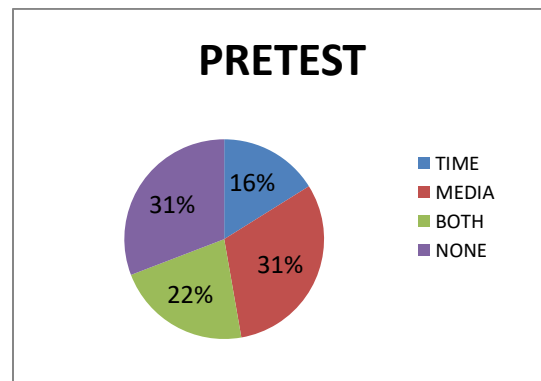


Figure 6

Time and medium are the two definite factors affecting the survival rate of replanted tooth. When questioned about the factors determining the prognosis of knocked out tooth, 31.1% of teachers selected only medium as a factor while 30.8% opted for none. Their vision was then rectified to both time and medium as crucial factors. (Figure 7)



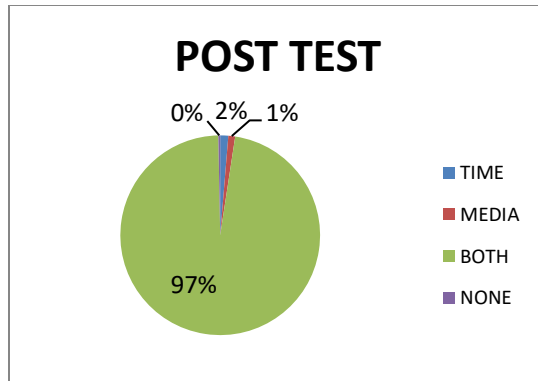


Figure 7

Interestingly, 43.6% of teachers thought that crowded dentition individuals are more prone to dental trauma because of malaligned teeth. They were then acknowledged to Proclined dentition individuals being more prone to dental trauma.

4. Conclusion

School teachers are the first who can respond the avulsion injuries of the students. From the above study we concluded that, various workshops, seminars and dental education programmes must be conducted to increase the awareness amongst school teachers so that they can properly manage tooth avulsion along with other facial and dental traumatic injuries before going to the dentists and surgeons.

REFERENCES:

1. Suryakant K, Arunkumar BS, Athulkar M, Sajjanar J, Shewale A, Wasnik M, et al. The status of knowledge related to the emergency management of Avulsed tooth amongst the medical practitioners of Nagpur, Central India. JCDR. 2017 May; 11(5): ZC21-ZC24
2. Mustafa M. Awareness about management of tooth avulsion among general dental practitioners: A Questionnaire Based Study. J Orthod Endod. 2017 Jan; 3(1:2). Available from:<http://orthodonticsendodontics.imepub.com>
3. Al-Shamiri HM, Alaizari NA, Al-Maweri SA, Tarakji B. Knowledge and attitude of dental trauma among dental

students in Saudi Arabia. Eur J Dent. 2015; 9: 518-22.

4. Azmi MA, Awooda EM. Knowledge of emergency management of avulsed tooth among undergraduate preclinical and clinical dental students: Questionnaire-based study. J Dent Res Rev. 2016 Dec; 3:140-3.
5. Sharma S, Panigrahi A, Sripad SI. Knowledge and awareness of first aid of avulsed tooth among physicians and nurses of hospital emergency department. J Pharm Bioallied Sci. 2017 Apr-Jun; 9(2): 94–98
6. Nikam AP, Kathariya MD, Chopra K, Gupta A, Kathariya R. Knowledge and attitude of parents/caretakers toward management of avulsed tooth in Maharashtrian population: A questionnaire method. J Int Oral Health: 2014 June; 6(5):1-4.
7. Tezel H, Atalayin C, Kayrak G. Replantation after traumatic avulsion. Eur J Dent 2013; 7:229-32.

S. No.	Question	Pre-Test Percentage	Post-Test Percentage
1.	Have you ever visited a dental clinic? a) Yes b) No	a) 73% b) 27%	a) 73% b) 27%
2.	Are you aware of dental accidents? a) Yes b) No	a) 53% b) 47%	a) 94.9% b) 5.1%
3.	Have you ever faced any kind of dental injury? a) Yes b) No	a) 64.3% b) 35.7%	a) 64.3% b) 35.7%
4.	What are the different dental injuries that can occur? a) Fracture b) Avulsion c) Any other	a) 12.7% b) 4.6% c) 82.7%	a) 37.6% b) 18.3% c) 44.1%
5.	Do you know the meaning of an avulsed tooth? a) Yes b) No	a) 17.9% b) 82.1%	a) 97.1% b) 2.9%
6.	Whom should you visit immediately after dental trauma? a) Home b) Dentist c) Physician	a) 2.9% b) 94.7% c) 2.4%	a) 0.3% b) 98.9% c) 0%
7.	Have you ever come across any accident where the tooth was knocked out of its place? a) Yes b) No	a) 24.3% b) 75.7%	a) 24.3% b) 75.7%
8.	Are you aware that a tooth which is knocked out can be saved by placing it back in the socket? a) Yes b) No	a) 30.9% b) 69.1%	a) 97.6% b) 2.4%
9.	What would you do if the knocked out tooth is covered in dirt? a) Scrub the tooth to remove the dirt b) Rinse with tap water c) Wash it with salt water d) Nothing	a) 15.8% b) 23.8% c) 40.4% d) 19.9%	a) 0.79% b) 94.5% c) 4.5% d) 0.52%
10.	What would you do if tooth is in your mouth, however, out of place? a) Put it back in its place b) Remove it from the mouth c) Discard it completely	a) 21.4% b) 45.3% c) 33.2%	a) 88.5% b) 11.3% c) 0.3%
11.	How will you hold a knocked out tooth? a) From the crown b) From the root c) Anywhere d) Don't know	a) 8.3% b) 23.3% c) 28.4% d) 39.9%	a) 96.3% b) 1.1% c) 1.1% d) 1.6%
12.	When would you visit the dentist for treatment after trauma? a) Immediately b) Within 24hrs c) Next day	a) 38% b) 43.7% c) 18.3%	a) 94.7% b) 5% c) 0.3%
13.	How would you keep the tooth until you visit the dentist? a) Wet handkerchief b) In tap water c) Saliva d) Milk e) Others	a) 20.7% b) 21.3% c) 3.8% d) 13.6% e) 40.6%	a) 1.3% b) 1.3% c) 69.5% d) 19.7% e) 8.2%
14.	Prognosis of the knocked out tooth is dependent on? a) Time b) Media c) Both d) None	a) 16.1% b) 31.1% c) 21.9% d) 30.8%	a) 1.3% b) 1.1% c) 97.1% d) 0.3%
15.	Who is more prone to suffer dental trauma? a) Normal dentition b) Crowded dentition c) Proclined teeth	a) 26.3% b) 43.6% c) 30%	a) 1.3% b) 4.5% c) 94.1%