



CODEN [USA]: IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.3483692>Available online at: <http://www.iajps.com>

Research Article

**A CROSS SECTIONAL STUDY ABOUT AWARENESS OF  
MANAGEMENT OF TOOTH AVULSION AMONG DENTAL  
PRACTITIONERS IN PAKISTAN**Mohammad Khalid<sup>1</sup>, Tooba Majeed<sup>1</sup>, Amna Abdullah<sup>2</sup><sup>1</sup>Islamic International Dental Hospital Riphah University Islamabad, <sup>2</sup>District Head Quarter Hospital Mirpur AJK.**Article Received:** August 2019**Accepted:** September 2019**Published:** October 2019**Abstract:**

**Aims and objectives:** The main objective of the study is to analyze the awareness about management of tooth avulsion among general dental practitioners in Pakistan.

**Material and methods:** This cross sectional study was conducted in Islamic International dental hospital Riphah University Islamabad during 2018 to 2019. The data was collected from 100 participants. All dentists were invited to participate in this study. Data was collected through a self-administrated questionnaire. The variables in the questionnaire comprised of socio-demographic information (gender, age and nationality), professional characteristics (years of experience, level of specialization and working place and overseas fellowship), and information regarding the awareness about the management of avulsed tooth.

**Results:** The data was collected from 100 participants. All participants were well aware of the management of an avulsed tooth. Total of 100 dental practitioners had answered the questionnaires, 39% were females, and 61% were males. The mean age of the study participants was between 25–60 years, the general dentists 75% and specialists 25%. There was a significant difference between the genders regarding the critical, required time for avulsed tooth replantation (44.3%) were aware of the critical time while many of female (71.8%) were not knowing about the time for avulsed tooth replantation.

**Conclusion:** It is concluded that a significant result was observed regarding the best storage medium, a critical time for avulsed tooth replantation and tooth management before replantation.

**Corresponding author:****Mohammad Khalid,**

Islamic International Dental Hospital Riphah University Islamabad

QR code



Please cite this article in press Mohammad Khalid et al., A Cross Sectional Study about Awareness of Management of Tooth Avulsion among Dental Practitioners in Pakistan., Indo Am. J. P. Sci, 2019; 06(10).

**INTRODUCTION:**

Majority of dental injuries occur from 8 to 11 years is due to the falling accidental. Twenty-five per cent of all school children experience dental trauma, and 33% of adult have experience trauma to the permanent dentition. Anterior teeth are not only important for an aesthetic reason but are also necessary for mastication, phonetics, the integrity of supporting tissues, the psychological and mental well-being of youngsters [1].

Tooth avulsion is the complete displacement of a tooth from its socket due to accidental or non-accidental injury. Several studies have investigated the awareness of avulsed teeth in children among parents, and dentists, and have recommended the necessity of learning methods of management to enhance the prognosis of avulsed teeth [2]. The prognosis of an avulsed tooth relies on three important factors; extra-oral time, storage media and root development [3].

Tooth avulsion is defined as a total displacement of a tooth from its socket. Avulsion of teeth is one of the most serious dental injuries, representing about 16% of all dental injuries. Maxillary central incisors are the teeth most commonly prone to avulsion [4]. Da Silva et al. reported that the incidence of dental trauma over one year period of evaluation in Brazil was 15.29%, of which luxation and avulsions were the most frequent injuries [5].

**Aims and objectives:**

The main objective of the study is to analyze the awareness about management of tooth avulsion among general dental practitioners in Pakistan.

**MATERIAL AND METHODS:**

This cross sectional study was conducted in Islamic International dental hospital Riphah University

Islamabad during 2018 to 2019. The data was collected from 100 participants. All dentists were invited to participate in this study. Data was collected through a self-administrated questionnaire. The variables in the questionnaire comprised of socio-demographic information (gender, age and nationality), professional characteristics (years of experience, level of specialization and working place and overseas fellowship), and information regarding the awareness about the management of avulsed tooth. The questionnaire was distributed to the participants, and an explanation was given to each subject about the importance of their participation and the study purposes.

**Statistical analysis:**

The statically analysis was performed using Statistical Package for Social Sciences version 21 (SPSS, Illinois, Chicago, USA). Descriptive analysis was carried out by mean of Chi-square test to evaluate association existing between time since graduation and post-graduation training. The significance level was set at  $P < 0.05$ .

**RESULTS:**

The data was collected from 100 participants. All participants were well aware of the management of an avulsed tooth. Total of 100 dental practitioners had answered the questionnaires, 39% were females, and 61% were males. The mean age of the study participants was between 25–60 years, the general dentists 75% and specialists 25%. There was a significant difference between the genders regarding the critical, required time for avulsed tooth replantation (44.3%) were aware of the critical time while many of female (71.8%) were not knowing about the time for avulsed tooth replantation.

**Table 01:** Analysis of participant's response to questionnaire

	Frequency (%)
<b>You have first-aid training of the dental trauma</b>	
Yes	109 (36.3)
No	191 (63.7)
<b>Is the damaged front tooth likely to be a primary or permanent tooth</b>	
Primary	105 (35.0)
Permanent	100 (33.3)
No answer	95 (31.7)
<b>Do you have any idea that we can put the tooth into the socket again</b>	
Yes	185 (61.7)
No	115 (38.3)
<b>Procedure</b>	
Wash the avulsed tooth with tap water	52 (17.3)
Put the avulsed tooth back into the socket immediately	17 (5.7)
Take student immediately to the nearest dentist with the avulsed tooth	76 (25.3)
Sideline the injured student and get him/her to bite on a tissue paper for several hours to control the bleeding	40 (13.3)
No answer	115 (38.3)
<b>Would you replant (put back) the tooth into the socket from which it avulsed</b>	
Yes	266 (88.7)
No	34 (11.3)
<b>If you decide to replant the tooth into its socket, but it has fallen onto the ground and is covered in dirt, what would you do</b>	
Rinse the tooth under running water	135 (45.0)
Gently wipe off the mud that is stuck to the tooth by hand	54 (18.0)
Scrub the tooth gently with a toothbrush	59 (19.7)
Put the tooth straight back into the socket, with no pretreatment	18 (6.0)
No answer	34 (11.3)
<b>How would you transport it to the dentist</b>	
Hold the tooth in a hand	23 (7.7)
Pack the tooth in ice	39 (13.0)
Seal the tooth in plastic wrap	58 (19.3)
Hold the tooth in the child's mouth	10 (3.3)
Wrap the tooth in dry tissue paper	66 (22.0)
Store the tooth in liquid	70 (23.3)
No answer	34 (11.3)
<b>If liquid is used to transport the tooth, how would you transport it to the dentist</b>	
Milk	65 (21.7)
Tap water	95 (31.7)
Physiological saline	104 (34.7)
Sports drink	2 (0.7)
No answer	34 (11.3)

**DISCUSSION:**

In the present study, 50% of the dental specialist's participants suggested a balanced solution as the best transportation medium for avulsed teeth. 60% of the

general dentist participants had no prior knowledge of the balanced solution [6]. Also, the general dentist's participants preferred milk or saliva as storage media, indicating that they know milk and saliva are the most

practical transport mediums for the storage of avulsed teeth because pH and osmolality of them are similar to those of extracellular fluid [7].

However, while milk may not be readily available at the site of trauma, storage of the avulsed tooth in milk at room temperature has been reported to preserve the viability of PDL cells for up to 60 min, whereas refrigerated milk preserves viability for an additional 45 min. Saliva was found to be more effective than tap water, and the tooth can be easily carried by the patient keeping in the buccal vestibule [8]. Prevalence of dental injuries to the anterior teeth ranged from 2.6% to 6.1%, as reported by earlier studies conducted in Malaysia. Data from the National Oral Health Plan (NOH Plan) 2011–2020 stated that the prevalence of dental injuries in the year 2007 for 12- and 16-year-old patients were 5.4% and 4.4%, respectively [9]. Therefore, the NOH Plan identified dental and maxillofacial injuries as one of the primary areas of concern and strategies are listed in this report to prevent, and improve the management of, dental injuries by dentists.

Most of the participants were aware that the tooth should hold the crown and wash with physiological solution, but the other chose to have 32% of general dentist select to hold by the crown and cleaned gently by running tap water to avoid damage to the PDL cells [10].

### CONCLUSION:

It is concluded that a significant result was observed regarding the best storage medium, a critical time for avulsed tooth replantation and tooth management before replantation. Majority of the dental specialists responded correctly to most of the questions according to the IADT guidelines.

### REFERENCES:

1. Abu-Dawoud M, Al-Enezi B, Andersson L. Knowledge of emergency management of avulsed teeth among young physicians and dentists. *Dental Traumatology*. 2007;23(6):348–355.

2. Hamilton F, Hill F, Holloway P. An investigation of dento-alveolar trauma and its treatment in an adolescent population. Part 2: Dentists' knowledge of management methods and their perceptions of barriers to providing care. *British dental journal*. 1997;182(4):129–133.
3. Kostopoulou MN, Duggal M. A study into dentists' knowledge of the treatment of traumatic injuries to young permanent incisors. *International journal of paediatric dentistry*. 2005;15(1):10–19.
4. KN J, Venugopal P, Nanda S, Kumar Shah M. Knowledge And Attitude Of Medical Doctors Towards Emergency Management Of Avulsed Tooth-A cross sectional survey. 2011
5. Enabulele JE. Knowledge of Hospital Emergency Unit Staff About the First-Aid Management of Traumatic Tooth Avulsion in A Tertiary Hospital in Nigeria. *EC Dental Science*. 2016;5(3):1082–1089.
6. Sigalas E, et al. Survival of human periodontal ligament cells in media proposed for transport of avulsed teeth. *Dental traumatology*. 2004;20(1):21–28.
7. Andersson L, et al. International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: 2. Avulsion of permanent teeth. *Dental Traumatology*. 2012;28(2):88–96.
8. Bourguignon C, et al. Guidelines for the Management of Traumatic Dental Injuries: 2. Avulsion of Permanent Teeth. *Pediatric Dentistry*. 2013;35(6)
9. Andreason JOA. Text book and Atlas of traumatic injuries to the teeth. 4th ed. Blackwell and Munksgaard; 2007. Avulsions; pp. 444–80.
10. Thomas T, Gopikrishna V, Kandaswamy D. Comparative evaluation of maintenance of cell viability of an experimental transport media “coconut water” with Hank's balanced salt solution and milk, for transportation of an avulsed tooth: An in vitro cell culture study. *Journal of conservative dentistry: JCD*. 2008;11(1):22.