

Knowledge of Primary School Teacher Towards Tooth Avulsion in Guwahati, Assam

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Abstract

Aim: An avulsion is defined as one of the most common dental injuries where the tooth is displaced completely from its socket, followed by trauma. Hence, the purpose of this study was to assess the knowledge among the primary school teachers in Guwahati, Assam regarding tooth avulsion and its emergency management.

Methodology: The present study was conducted at conducted among teachers randomly selected from the primary schools of Guwahati, Assam. All teachers who are willing to participate in the study were involved. The questionnaire was given to the teachers and then asked to tick the most appropriate answer from the given list of

answers, in order to assess their knowledge about the management of avulsed tooth. The data were entered over a spreadsheet, and statistical analysis was performed using SPSS software version 17 (IBM, Chicago, United States).

Result: The results showed that only 34 % of participant knows about the avulsion. Nearly, 36% knew about re-implantation of the avulsed tooth.

Conclusion: The study concluded that the knowledge regarding the management of avulsed tooth is low among primary school teachers.

Keywords: Dental trauma, Avulsion, School teachers

Introduction

Dental trauma involves injuries to the tooth, periodontium and supporting alveolar bone. Traumatic dental injuries can have a significant impact on the life of children, affecting them both emotionally and physically. Dental injuries may cause intrusion, extrusion, avulsion, luxation and subluxation of the tooth.^{1,2} Dental avulsion comprises of 0.5%–16% of all traumatic dental injuries.³ The peak age for dental traumatic injuries is between 7 and 12 years, an age group when school fills their time. Dental trauma in boys is three times more than girls because of their active involvement in sport and game. Moreover, maxillary central incisors are the most frequently avulsed teeth.⁴

The treatment for avulsed teeth is the immediate dental replantation in an attempt to reinstate it to its original anatomic position, maintaining the function and integrity. The replantation of a tooth within 15 to 20 minutes after the accident leads to lesser damage and loss of periodontal cells. Extra-alveolar period, storage medium and contamination and protection of the periodontal ligament are important parameters for maintaining vitality of periodontal ligament which in turn determines prognosis of traumatized teeth.⁵ School teachers are considered an important group because most of the dental injury occurs when a child is in the school environment.⁶ Hence, the purpose of this study was to assess the knowledge among the primary school teachers in Guwahati, Assam regarding tooth avulsion and its emergency management.

Methodology: The study was a cross-sectional questionnaire survey conducted among teachers randomly selected from the primary schools of Guwahati, Assam. The list of schools was obtained from the District education office. A total of 100 teachers were randomly selected from primary schools. Prior permission was taken

from the school principles and ethical approval was obtained from the Institutional ethical committee. The objectives of the study were explained to all the school teachers who participated in the study and also informed consent was obtained from all teachers. The questionnaire consisted of two parts. Part I comprised of questions on demographic information including age, gender, subject of teaching and teaching experience. Part II included multiple choice questions about management of avulsed teeth. The questionnaire was given to the teachers and then asked to tick the most appropriate answer from the given list of answers, in order to assess their knowledge about the management of avulsed tooth. The data were entered over a spreadsheet, and statistical analysis was performed using SPSS software version 17 (IBM, Chicago, United States) and $p < 0.05$ considered as statistically significant. Chi square test was performed.

Result: After analysis, the data results are shown in tables. Table 1 shows the mean age of the study population. The mean age of study population was 31.72 ± 5.68 . Table 2 shows gender was distribution of study population which shows that out of 100 teachers 56 % were male and 44% were female.

Table 3 shows the result regarding knowledge toward the avulsed teeth. Data show that only 34% of participants were about knocked out teeth. Regarding the prior knowledge about tooth replantation, 64% teachers had no knowledge, while 36% teachers knew what tooth replantation is. When question is asked the first aid training of dental trauma only 24% of teachers replied Yes whereas 76% replied No 19% of teachers replied Yes and 81% replied No for question of “do you have any idea that we can put the tooth in to the socket which is avulsed”. When question is asked about “Would you replant (put back) the tooth into the socket from which it avulsed” only

22% of teachers replied Yes whereas 78% replied No. When respect to the question “How would you transport it to the dentist” 34% of teachers replied holding the tooth in hand as a method of transport method whereas 10% of teachers had no idea about that. Regarding the question If liquid is used to transport the tooth, how would you transport it to the dentist, 24% of the teachers answered tap water as transport media, 46% did not know about the transportation of the avulsed tooth, 14% answered milk and saline 12%, 4% answered coconut water for transportation of avulsed tooth.

Gender	Mean age
Male	32. 32±5.78
Female	31: 13±5.58
Overall Mean Age	31.72±5. 68

Gender	(%)
Male	56 %
Female	44%

Question	Option	%
Do you know, what is knocked-out tooth?	Yes	34
	No	66
Do you know, what tooth replantation is	Yes	36
	No	64
You have first-aid training	Yes	24
	No	76
Do you have any idea that we can put the tooth into the socket again	Yes	19
	No	81

Would you replant (put back) the tooth into the socket from which it avulsed	Yes	22
	No	78
How would you transport it to the dentist	Hold the tooth in a hand	34
	Pack the tooth in ice	3
	Seal the tooth in plastic wrap	11
	Hold the tooth in the child’s mouth	19
	Wrap the tooth in dry tissue paper	12
	Store the tooth in liquid	11
If liquid is used to transport the tooth, how would you transport it to the dentist	No answer	10
	Tap water	24
	Milk	14
	Physiological saline	12
	Coconut water	4
	No answer	46

Discussion

Trauma to the teeth is very common among school-going children and frequently at the age group of 7-11 in India.⁷ Prognosis of the traumatized teeth depends on the prompt treatment and it becomes a fundamental responsibility for

the school teachers especially primary as they are present at the time of trauma.⁸ This study was conducted to assess the knowledge among the primary school teachers in Guwahati, Assam regarding tooth avulsion and its emergency management.

Dental injuries may cause intrusion, extrusion, avulsion, luxation and subluxation of the tooth.^{1,2} Dental avulsion comprises of 0.5%–16% of all traumatic dental injuries.³ 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, and also minimal handling of the root surface and the periodontal ligament.⁹

Over 16% of the dental injuries occur in the school environment and 19% of the injuries are caused due to fall. 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 assess all these factors including the attitude of school teachers toward such injuries. In addition, the study tried to elicit a relationship between teaching experience and knowledge regarding avulsion injuries.¹⁰

The results of the present study showed that teachers had inadequate information regarding tooth avulsion. The poor performance of the teachers may be justified by inadequate training, lack of information and low ability of the teachers in this issue. Therefore, it is necessary to provide emergency management programs concerning traumatic injuries, especially tooth avulsion. Khan SD et al. (2020)¹¹ and Mori et al. (2007)¹² also found the lack of knowledge of teachers on tooth avulsion which is in accordance to our study.

The current study has shown that participants had little knowledge of dental traumas and the proper emergency management in the case of more efforts are needed to expand the knowledge related to dental trauma is the expansion and recognition of health professionals and the general public that traumatic injuries can be prevented when associated with education campaign on dental trauma in schools and the community. Health professionals can contribute in this sector through information and awareness of the importance of the use of mouth guards during sports and in treating dental trauma by correctly registering the place, time, cause, and human intention. Thus, we can identify acts of violence, whose information can contribute to the responsible agencies in the development of an individual protection efficient policy. The school environment is considered a suitable place to start an education program in oral health and dental trauma prevention because more than one billion children are present in schools all over the world. In addition, these programs can humanize the school environment and implement policies and practices that offer multiple opportunities for health. Educational campaigns to prevent accidents involving dental trauma should be instituted to minimize the damage caused by traumatic injuries.¹²⁻¹⁵

Conclusion: It was revealed from the present that knowledge regarding the management of avulsed tooth is low among primary school teachers. There is a strong need for a school health dental program for the management of avulsed teeth among the school teachers.

References

1. Bastone EB, Freer TJ, McNamara JR. Epidemiology of dental trauma: a review of the literature. Aust Dent J 2000; 45(1):2-9

2. Manjeet Kaur, Kanika Gupta, Ruchika Goyal, Navdha Chaudhary. "Knowledge and Attitude of School Teachers Towards Tooth Avulsion in Rural and Urban Areas". International Journal of Scientific Study. 2014;1(4):17-20.
3. Andreasen JO, Andreasen FM. Textbook and Colour Atlas of Traumatic Injuries to the Teeth. 3rd ed. Copenhagen: Munksgaard Publishers; 1994.
4. Blakytyn C, Surbutts C, Thomas A, Hunter ML. Avulsed permanent incisors: Knowledge and attitudes of primary school teachers with regard to emergency management. Int J Paediatr Dent 2001;11:327-32..
5. Andreasen JO, Borum MK, Jacobsen HL, Andreasen FM. Replantation of 400 avulsed permanent incisors. 4. Factors related to periodontal ligament healing. Endod Dent Traumatol. 1995; 11(2):76-89
6. Abuelqomsan MA, Aljeaidi ZA, Albalawi AO, Abalkhayl IA, Gowdar IM. Knowledge about management of avulsed tooth among primary school teachers of Riyadh. SRM J Res Dent Sci 2017;8:5-8
7. Gupta S, Jindal S, Bansal M, Singla A. Prevalence of traumatic dental injuries and role of incisal overjet and inadequate lip coverage as risk factors among 4-15 years old government school children in Baddi-Barotiwalwa Area, Himachal Pradesh, India. Med Oral Patol Oral Cir Bucal. 2011 Nov 1;16; e960-e965.
8. Singh TP, Bhambal A, Bhambani G, Pandya P . Knowledge, Attitude and Practice of Primary School Teachers regarding Emergency Management of Dental Trauma in Primary School Children of Bhopal City, Madhya Pradesh, Central India. Int J Oral Health Med Res 2019;6(4):8-12.
9. Mohandas U, Chandan GD. Knowledge, attitude and practice in emergency management of dental injury among physical education teachers: A survey in Bangalore urban schools. J Indian Soc Pedod Prevent Dent 2009;27:242-8.
10. Shamarao S, Jain J, Ajagannanavar SL, Haridas R, Tikare S, Kalappa AA. Knowledge and attitude regarding management of tooth avulsion injuries among school teachers in rural India. J Int Soc Prevent Communit Dent 2014;4, Suppl S1:44-8.
11. Khan SD, Assiry AA, Al Yami SM, Al Makrami MH, Al Milaq FH, Al Hareth IS, Al Yami HS. Assessment of Knowledge and Attitudes of School Teachers Regarding Emergency Management of an Avulsed Permanent Tooth of Southern Region of Saudi Arabia. Int J Clin Pediatr Dent. 2020 Nov-Dec;13(6):644-649.
12. Mori GG, Turcio KH, Borro VP, Mariusso AM. Evaluation of the knowledge of tooth avulsion of school professionals from Adamantina, São Paulo, Brazil. Dent Traumatol. 2007 Feb;23(1):2-5.
13. Bahammam LA. Knowledge and attitude of emergency physician about the emergency management of tooth avulsion. BMC Oral Health. 2018 Apr 2;18(1):57.
14. Abidi SY, Khan AM, Khan MA, Qazi F, Ghazali NZ. Knowledge about the management of avulsed tooth among Karachi school teachers. Pak Oral and Dental J. 2010; 30:515-20.
15. Leila B, Elahe H, Maasome K, Omid G, Sahame A. Primary school teachers' knowledge regarding emergency management of Avulsed permanent incisors in Ahvaz, Iran. Avicenna J Dent Res. 2013; 5:e19431