

Evaluation of the Tooth Avulsion Knowledge of School Professionals from Abha City, Saudi Arabia

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ABSTRACT

Study Design: Cross-sectional

Aim: This study aimed to determine the knowledge and attitude regarding management of tooth avulsion injuries among school teachers in Abha city, Saudi Arabia

Methods: A cross-sectional study was conducted with a sample of 120 male school teachers, who had an extended contract period with the school students in 14 selected governmental primary schools at Abha, Saudi Arabia. All Saudi male teachers currently employed in male primary schools of the study region were included. Convenience sampling technique was employed for the enrollment of participants. A 10-item questionnaire was developed and translated into the local vocabulary (Arabic) and then back again to English to make sure that the translated edition provides proper meaning. The content validity and reliability was calculated and assessed. The sampling method utilized in the current study was convenience sampling, and the questionnaires were distributed to all the 120 government school teachers and collected back again on the same day time. Data collected was put through both descriptive and analytical statistical measurements that was used to spell out the primary variables by SPSS 18 (IBM Corporation, Armonk, NY, USA) software. The statistical significance for the coefficients in the statistical analyses was undoubtedly tested at 0.05 (≤ 0.05) level.

Results: When question was asked to whom they will contact as first place in the event of avulsion injury, 42 (35%) said they will contact dentists, 29 (24%) will contact general hospital, 35 (29%) will contact school dental service clinic and only small portion 14 (12%) were neutral to this question. Majority of Participants nearly half of participants i.e., 58 (48%) said that they will do immediately manage the urgency in seeking professional assistance following an avulsion dental injury. Most of the participants i.e., 85 (71%) said they will hold the avulsed tooth by crown and 24 (20%) said they will hold by root. Various answers were received when the question was asked regarding the transport medium for an avulsed tooth, they responded as follows sterile gauze (16%), hand (15%), mild (35%), patient's saliva (10%), saline (18%) and water (6%).

Conclusions: The present results revealed considerably satisfactory knowledge of the Saudi school teachers regarding the knowledge of dental trauma and tooth avulsion injuries. The most efficient method to improve the knowledge of school health teachers needs to be further studied.

Keywords: Knowledge, Tooth avulsion, dental trauma, school teachers, Saudi Arabia.

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INTRODUCTION

One of the most important dental injuries that children experience is dental trauma. The child may experience emotional disturbance because of the child’s lack of aesthetics, and the delay in the replanting of the avulsed tooth may affect infra occlusion because of ankylosis.¹ Children between the ages of 8 and 11 are most often affected by dental trauma. A crown fracture is the most common injury, followed by luxation injuries and avulsion, known as the “falling” cause. Injuries in permanent teeth account for 76.26% of all injuries. The most popular places where dental trauma occurs are at home and in their traditional settings, such as playing soccer, running, and riding bicycles.² Avulsion of continuous teeth, which requires immediate replantation to prevent future external inflammatory resorption, is the most serious type of dental trauma. Trauma causes tooth avulsion, which involves the complete removal of a tooth from its socket. Growing children commonly experience tooth injuries, with maxillary anterior teeth being typically involved, with a prevalence of approximately 0.5% to 16%. Researchers have also documented that TDIs in school attendance and other public places followed home-based TDIs.³ The prognosis of traumatized teeth relies on the immediate steps taken after injury, often by lay people such as parents and school teachers, before the first medical contact. Teenagers who are in school are very susceptible to traumatic dental injuries (TDI). Estimates showed TDI rates differed significantly among schoolchildren across countries. Falls, sports, collisions, and fights are the most frequent causes of TDI, which can occur naturally in or around the classroom. After accidents at home, dental injuries occur in school.^{4,5} Children of all ages are at risk of having traumatic dental injuries (TDIs), which have a negative impact on their ability to function, look after themselves, and psychological well-being. The severity of the dental trauma depends on three things: (a) the degree of the damage; (b) primary care’s quality and duration; and (c) follow up care.⁶ The critical principle in the treatment of oral trauma is prevention and care. The existing research investigates Saudi school teachers’ knowledge of tooth avulsion injuries from Abha City, Saudi Arabia.

METHODS

A cross-sectional study was conducted with a sample of 120 male school teachers, who had an extended contract period with the school students in 14 selected governmental primary schools at Abha, Saudi Arabia. All Saudi male teachers currently employed are from male primary schools in this region were included. Any personnel focusing on administrative positions; who have been not directly involved with teaching the students had been excluded. Inclusion requirements include teachers handling the children with a generation of 6-12 years, that are willing to take part and who understands Arabic or English. Convenience sampling technique was employed for the enrollment of participants.

A 10-item questionnaires was developed and translated into the local vocabulary (Arabic) and then back again to English to make sure that the translated edition provides proper meaning. The questionnaire includes structured, self-administered queries that were examined for the face validity of this content of the translated questions. The content validity and reliability was calculated and assessed.

The questionnaires collected demographic information consists of the info on demographic variables like the age of the teacher, academic qualification, teaching experience, marital status and previous knowledge on tooth avulsion injuries. The second set of questions was regarding knowledge and attitude of the school teachers on the management of tooth avulsion injuries. The sampling method utilized in the current study was convenience sampling, and the questionnaires

was distributed to all the 120 government school teachers and collected back again on the same day time. Participation in the survey has been voluntary, and all individuals received an informed consent form combined with the questionnaire. Anonymity and confidentiality had always been maintained throughout the entire study.

Data collected was put through both descriptive and analytical statistical measurements that was used to spell out the primary variables by SPSS 18 (IBM Corporation, Armonk, NY, USA) software. Finally, information was analyzed, and new variables was computed predicated on total ratings. Chi-square, ANOVA was used to evaluate the qualitative and quantitative variables. The statistical significance for the coefficients in the statistical analyses was undoubtedly be tested at 0.05 (≤ 0.05) level.

RESULTS

A total of 120 male school teachers participated in this research. 48% were of <30 years, 28% were of 31-40 years and 17% of study subjects were of 41-50 years [Table. 1]. Knowledge among male school teachers regarding dental trauma and tooth avulsion is shown in Table. 2. The majority of participants, 80 (67%) were said that they did not had previous experience of avulsion injuries. When question was asked to whom they will contact as first place in the event of avulsion injury, 42 (35%) said they will contact dentists, 29 (24%) will contact general hospital, 35 (29%) will contact school dental service clinic and only small portion 14 (12%) were neutral to this question.

Majority of Participants nearly half of participants i.e., 58 (48%) said that they will do immediately manage the urgency in seeking professional assistance following an avulsion dental injury. Most of the participants i.e., 85 (71%) said they will hold the avulsed tooth by crown and 24 (20%) said they will held by root. Various answers were received when the question was asked regarding the transport medium for an avulsed tooth, they responded as follows sterile gauze (16%), hand (15%), Mild (35%), Patients saliva (10%), saline (18%) and water (6%). 36% of said they will wash the avulsed tooth if its gets dirty, others said wash it using detergent (29%), 18% said they will throw it away because its dirty. 52% said they received the training program on management of avulsed tooth during first aid training period.

Table 1. Distribution of demographic data of participants

AGE	n (120)	%
<30 years	58	48%
31-40 years	33	27.5%
41-50 years	21	17.5%
>50 years	8	7%
Marital Status		
Married	91	75%
Unmarried	29	25%
Teaching Experience		
< 5 years	32	27%
6-10 Years	63	52%
>10 years	25	21%
Level of Education		
Bachelor	83	70%
Master	37	30%
Previous Knowledge on Avulsion Injuries		
Yes	99	83%
No	21	17%

n = Number; % = Percentage.

Table 2. Response of male school teachers knowledge towards tooth avulsion injuries

QUESTIONS	Total 120	%
Q1. Previous experience of avulsion injury		
Yes	40	33%
No	80	67%
Q2. First place of contact in the event of avulsion injury.		
Dentist	42	35%
General Hospital	29	24%
School dental services clinic	35	29%
Neutral	14	12%
Q3. Urgency in seeking professional assistance following an avulsion injury.		
Immediately manage	58	48%
Within half an hour	29	24%
Within few hours	22	18%
After 1 day is acceptable	21	10%
Q4. Immediate management of displaced teeth		
Do not touch, let it remain in its new position	41	34%
Try to put back to the original position*	35	29%
Ask the patient to carefully clench one's teeth if it is possible*	20	17%
Do not know	24	20%
Q5. Should knocked-out baby teeth be put back to their original position?		
Yes	68	57%
No	28	23%
Do not know	24	20%
Q6. Should knocked-out permanent teeth be put back to their original position?		
Yes	58	48%
No	29	24%
Do not know	33	28%
Q7. Avulsed teeth should be held by		
The crown	85	71%
The root	24	20%
Do not know	11	9%
Q8. Which medium is the best for the transport of an avulsed tooth?		
Sterile Gauze	19	16%
Hand	18	15%
Milk	42	35%
Patient's saliva	12	10%
Saline	22	18%
Water	7	6%
Q9. What should be done if the avulsed tooth gets dirty?		
Wash it with water	43	36%
Disagree	18	15%
Wash it using a detergent	34	29%
Throw it away because if dirty it is useless	22	18%
No answer	3	2%
Q10. Previous advice (training) on management of avulsed tooth		
during first aid training	62	52%
during teachers training	37	31%
During after graduation	21	17%

n = Number; % = Percentage.

DISCUSSION

Most of our childhood time is spent in schools. The closest companions for children during school days are teachers, apart from their friends. They are the primary source of contact, especially when injuries occur in school. During play, it is common to have injuries due to fall or hit. Avulsion injuries of the tooth due to trauma are common among children of this place. Untimely and improper management of tooth avulsions can lead not only to physical and mental stress to the children and their parents, but also the emotional and social component of the child's development may be impacted which, in turn, can lead to poor oral health related quality of life in these children.

This questionnaire-based study aimed to assess the knowledge of Saudi schoolteachers about the management of trauma particularly avulsed tooth in Abha city, KSA. The current study revealed satisfactory knowledge among schoolteachers in the management of trauma. The current result matches findings from some international⁷⁻¹⁰ and national studies.¹¹⁻¹²

In a study on physical education teachers, Moieni *et al.* reported that 30.3% of teachers had good knowledge, 51.6% moderate knowledge, and the rest had poor knowledge.¹³ Ebrahimi and Mohaajeri¹⁴ reported similar results; that is, most teachers had moderate to low knowledge. However, Wahhabi reported that 87.5% of public health teachers had good knowledge and 12.5% had moderate, and none of them had poor knowledge.¹⁵ Only 52% of teachers acquired first-aid training on traumatic injuries, similar results were reported by Griffin,¹⁶ but it was lower than the percentage found in another study done in Hong Kong.¹⁷

Half of the teachers chose going to the dentist for emergency dental treatment followed by 29% of the teachers who chose to seek school dental service clinic. Other studies showed that almost half of the respondents would seek a nearby emergency service.^{18,19} Raouf *et al.* also reported that only 34.1% of teachers saved the teeth.²⁰ Similar results are reported by Al-Jundi *et al.*,²¹ and Vergotine and Govoni²² indicating that very few teachers know that the dentist can use avulsed teeth. These studies show that teachers do not know the importance of finding an avulsed tooth or a broken piece of tooth. Storage medium is a crucial part in the success of replantation of an avulsed tooth. In the present study, few percentages of respondents could point out the suitable storage medium for storing avulsed teeth; the results were as follows: they responded as follows sterile gauze (16%), hand (15%), Milk (35%), Patients saliva (10%), saline (18%) and water (6%). Nearly similar results were obtained in two other studies,^{23,24} where 21.7% and 17%, respectively, of the teachers selected milk as storage medium.

CONCLUSION

The present results revealed considerably satisfactory knowledge of the Saudi school teachers regarding the knowledge of dental trauma and tooth avulsion injuries. These school teachers who are involved in the supervision of children in schools are targeted for the purposes of this study. In order to raise the awareness and knowledge of this group of society, the annual health academic course for school health teachers should include a formal emergency education program. The most efficient method to improve the knowledge of school health teachers needs to be further studied.

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Potential Conflict of Interest: None

Competing Interest: None

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