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Assessment of Teachers' Awareness Towards Dental Traumatic Injuries in School Children

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ABSTRACT

Introduction: The teeth are the most commonly affected part of the body during accidents. Traumatic injuries can be in the form of tooth fracture to avulsion. Teachers awareness and attitude regarding student's traumatic dental injuries has a major role in the early management of these cases.

Objectives: Present research was done to assess teachers' awareness of dental traumatic injuries in school children.

Materials and Method: This study consists of 2500 school teachers of both genders (males- 1320, females- 1180). A self-designed questionnaire was administered using the cluster random sampling method and awareness was assessed. Statistical evaluation was done using SPSS version 19.0 ((IBM Chicago, USA) with a Chi-square test to record attitude and awareness.

Result: The result showed that 1070 (42.8%) had previous experience of dental trauma in school children. 1040 (41.6%) teachers supervise the students during sports activities, 1720 (68.8%) replied that they would like to have educational training regarding the management of dental traumatic injuries. The difference was significant ($p < 0.05$). 1430 (57.2%) thought that the broken tooth part is important.

Conclusion: It was concluded from our finding that, participants had average knowledge about dental trauma in school children and most of the teacher showed interest to have educational training regarding the management of dental traumatic injuries.

Key Words: Awareness, Children, Dental emergencies, management, Teachers, Traumatic injuries

INTRODUCTION

Children and mishaps are indivisible. Trauma is more likely to occur when kids are playing. The teeth are the most commonly affected part of the body during accidents. Sports injuries are an unavoidable part of life, especially in childhood. For the dentist, parents and society, traumatic dental injuries are the main pediatric distress. Children spend most of their time in schools; hence they are more liable to have trauma. ¹

Dental traumatic injuries are one of the major reasons for mortality and morbidity of teeth, particularly anterior teeth. Dental traumatic injuries are extremely established from infancy to adolescence. Recent researches have demonstrated, dental injuries are quite common among the 8–12 years of age group. Injuries to tooth and supporting structures may

range from slight tooth fracture to wide-ranging dentoalveolar injuries leading to Ellis class IV or even avulsion. The management of these injuries may require extensive skill and money. Repeated recalls may be required adding additional burden to parents. ^{2,3}

Dental traumatic injuries are more common among boys than girls because boys are involved actively in contact sports and outdoor games. Most commonly traumatized teeth are central incisor in maxilla followed by central incisor, lateral incisor in the mandible and lateral incisor in the maxilla. ⁴ Teachers awareness and attitude regarding student's traumatic dental injuries have a major role in the early management of cases. Lack of knowledge can lead to delay in providing emergency treatment to children resulting in severe complications. ⁵ The present study planned to as-

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sess teachers' awareness of dental traumatic injuries among school children.

MATERIALS & METHODS

Present research comprised of 2500 school teachers of both genders (males- 1320, females- 1180). All participants were intimated concerning the usefulness of the study and informed agreement was acquired. Ethical approval was attained from the institutional ethics committee. A self-designed questionnaire was administered using the cluster random sampling method. The closed-ended questionnaire with yes/no answers was categorized into 3 portions. In the first part participants' information for example name, age, gender, education level and earlier experience of dental trauma were noted. In the second portion knowledge and awareness based questions were asked and in the third part attitude of participants towards the education of dental trauma, management was evaluated.

Inclusion criteria include; those who are willing to participate and available on the day of study, primary school teachers. An exclusion criterion includes; those who were not willing include in the study. Conversant approval was obtained from all the participants previous to the study.

All participants were instructed to respond appropriately. Results thus received from participants were tabulated and statistical evaluation was done using SPSS version 19.0 (IBM Chicago, USA) with a Chi-square test to record attitude and awareness. P-value was considered statistically significant at a value lesser than 0.05.

RESULTS

Table 1 shows that there were 1320 (52.8%) males and 1180 (47.2%) in the study, maximum participants were in age group 30- 40 years 1230 (49.2%) followed by 20-30 years 640 (25.6%), 40-50 years 380 (15.2%) and >50 years 250 (10%). 1720 (68.8%) teachers had >7 years and 780 (31.2%) teachers had < 7 years of experience. 1650 (66%) teachers were graduate and 850 (34%) were postgraduate. 1070 (42.8%) had previous experience of dental trauma in school children. The variance was substantial ($P < 0.05$).

Table 2 indicated that 1040 (41.6%) teachers supervise the students during sports activities while 1180 (47.2%) do not and 280 (11.2%) sometimes. 825 (33%) had and 1675 (67%) had no first aid dental trauma management training, 740 (29.6%) replied that they can and 1760 (70.4%) cannot manage dental trauma in school, 650 (26%) teachers were and 1850 (74%) were not satisfied with their knowledge regarding dental traumatic injuries. 1720 (68.8%) replied that they would like to have educational training regarding the

management of dental traumatic injuries. The variance was substantial ($P < 0.05$).

Table 3 indicated that 1430 (57.2%) thought that the broken tooth part is important, 1235 (49.4%) responded that they would try to catch out fractured tooth segment. 1250 (50%) found milk, 725 (29%) water and 525 (21%) cotton as media of storage. Most of the participants 1045 (41.8%) replied that the ideal time for replacing the tooth is 1 hour followed by 1- 2 hours by 735 (29.4%) and > 2hours by 720 (28.8%). The variance was substantial ($p < 0.05$).

DISCUSSION

Dental traumatic injuries are quite common in school children. These may alter the child's facial development, psychological changes in behaviour. The time-lapsed following dental traumatic injuries and first aid are crucial which affects the outcome of treatment. Thus the first one who comes in contact with a person having dental traumatic injuries should have adequate knowledge and awareness.⁶ The present study planned to assess teachers' awareness of students' traumatic injuries. Prasanna et al, evaluated the knowledge and attitude in respect to tooth avulsion and dental first aid amongst primary school teachers and they found deprived knowledge in the supervision of avulsed teeth amongst the school teachers similar to our results.⁷

In the present study, we enrolled 2500 school teacher which comprised 1320 (52.8%) males and 1180 (47.2%) females. We found that maximum teachers were in the age group 30- 40 years (49.2%) followed by 20-30 years (25.6%), 40-50 years (15.2%) and >50 years (10%). 68.8% of teachers had >7 years of experience. While assessing the educational qualification we found that 1650 teachers were graduate and 850 were postgraduate. 1070 had previous experience of dental trauma in school children. Sharma et al found that 136 teachers out of a total of 285 teachers had < 6 years teaching experience, 68 had 6-10 years, 39 had 11-15 years, 23 had 16-20 and 19 teachers had > 20 years of experience. Most of the teachers replied that the upper front teeth are most frequently traumatized teeth. The authors found that female teachers were more knowledgeable than male teachers.⁸

We found that most (47.2%) of teachers do not supervise the students during sports activities. We observed that 1675 (67%) had no first aid dental trauma management training. Most of the teachers (70.4%) cannot manage dental trauma in school and 1850 (74%) were not satisfied with their knowledge regarding dental traumatic injuries. Nirwan et al., in their study, evaluated awareness regarding dental traumatic injuries in 278 teachers and observed that a maximum of the teachers had acknowledged poor knowledge concerning dental trauma, with a mean knowledge of 10.56 ± 2.58 .⁹

We found that a maximum of the teachers had deprived knowledge concerning fracture tooth segment, their storage and importance. A significant difference was found. Kaul et al. evaluated knowledge of school teachers concerning the management of dental traumatic injuries (DTIs) in 400 school teachers and found that it was not satisfactory. 74.9% of women were below 50 years of age. 70.3% had not received any first aid training and 73.4% had not witnessed any dental trauma accident in school. It was found that most of the teachers were approving for taking instant professional discussion for the emergency supervision.¹⁰

Awad et al. included 292 teachers from various schools. 95% were females and 5% were males. It was found that 50% of teachers had first aid training regarding dental traumatic injuries. Teachers had inadequate knowledge about tooth avulsion and first aid training was not related to correct replies to the management of avulsed teeth ($p < 0.05$). The majority of the teachers responded that they do not have satisfactory knowledge about dental traumatic injuries in contrast to physical education teachers and administrators. Most of the younger teachers desired to have future education on dental traumatic injuries management.¹¹ Chandukutty et al., and Daupare et al., evaluated the teacher's awareness about traumatic injury and observed poor knowledge and attitude regarding traumatic dental injuries similar to our findings.^{12, 13, 14} Anand et al., also found poor knowledge among physical teachers about dental injuries and suggested for motivational programs to improve knowledge.¹⁵

Knowledge regarding dental traumatic injuries may help teachers to ensure timely and efficient management of emergencies. Dental trauma may involve deciduous as well as permanent teeth. Thus large scale educational programmes can provide useful knowledge and awareness among school teachers.

Dental trauma in school children is quite common. Teachers should have sufficient knowledge and awareness about dental traumatic injuries. Large scale studies are required in future to provide useful information.

The shortcoming of the study is that only private school teachers were enrolled on the study. The study was based on the response given by participants, which may vary from person to person. The type of tooth fracture was not recorded.

CONCLUSION

It was concluded from our finding that, participants had average knowledge about dental trauma in school children and most of the teacher showed interest to have educational training regarding the management of dental traumatic injuries.

Conflict of interest: None declared

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Authors contribution

1. Dr. Shreyas N SHAH- manuscript writing
2. Dr. PRASHANT VIRAGI- data collection
3. Dr. SANDEEP SHARMA- review
4. Dr. ASHA NARA- interpretation
5. Dr. AZHAR MOHAMMED – editing

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Table 1: Demographic outline of subjects

Demographic data	Number	P value
Gender		
Male	1320 (52.8%)	0.81
Female	1180 (47.2%)	
Age group (Years)		
20-30	640 (25.6%)	0.01
30-40	1230 (49.2%)	
40-50	380 (15.2%)	
>50	250 (10%)	
Experience		
>7 years	1720 (68.8%)	0.01
< 7 years	780 (31.2%)	
Education level		
Graduate	1650 (66%)	0.021
Post graduate	850 (34%)	
Previous experience of dental trauma		
Yes	1070 (42.8%)	0.05
No	1430 (57.2%)	

Chi-square test, $P < 0.05$ **Table 2: Self assessment questionnaire**

Questionnaire	Frequency	P value
Do you supervise the students during sport activities?		
Yes	1040 (41.6%)	0.05
No	1180 (47.2%)	
Sometimes	280 (11.2%)	
Have you had first aid dental trauma management training?		
Yes	825 (33%)	0.001
No	1675 (67%)	
Can you manage dental trauma in school?		
Yes	740 (29.6%)	0.001
No	1760 (70.4%)	
Are you gratified with your knowledge concerning dental traumatic injuries ?		

Table 2: (Continued)

Questionnaire	Frequency	P value
Yes	650 (26%)	0.001
No	1850 (74%)	
Would you like to have educational training regarding management of dental traumatic injuries?		
Yes	1720 (68.8%)	0.012
No	780 (31.2%)	

Chi-square test, $P < 0.05$ **Table 3: Knowledge based questions**

Questionnaire	Frequency	P value
Is broken tooth part is important?		
Yes	1430 (57.2%)	0.81
No	1070 (42.8%)	
Would you try to find out broken tooth segment?		
Yes	1235 (49.4%)	0.92
No	1265 (50.2%)	
What is media for tooth storage?		
Milk	1250 (50%)	0.05
Water	725 (29%)	
Cotton	525 (21%)	
What is the ideal time for replacing the tooth?		
1 hour	1045 (41.8%)	0.04
1- 2 hours	735 (29.4%)	
>2 hours	720 (28.8%)	

Chi-square test, $P < 0.05$