

Awareness towards management and prevention of dental injuries among sports instructors in Delhi, India

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Abstract

Background/Aim: The purpose of this study was to assess the level of awareness towards management and prevention of dental injuries among sports instructors in Delhi, India, by a self-administered questionnaire.

Materials and Method: A total of 100 questionnaires were distributed to sports instructors from different sports academies of Delhi, India. The questionnaire surveyed the basic details of the sports instructors, their knowledge in management of dental trauma and awareness regarding use of mouth guards to prevent dental trauma. Statistical analysis was performed using Statistical Package for Social Sciences (SPSS) version 16.0.

Results: 96 out of 100 teachers responded to the questionnaires, who had a mean experience of 6.9 years, out of which 23% gave training for basketball, 20.8% for cricket, 13% for tennis and rest 43.2% for other contact sports. 28% stated that they would preserve a fractured fragment or avulsed tooth, while the remaining 72% won't. The medium which they preferred was ice (35%), handkerchief (22%), any liquid (20%), in child's mouth (9%), cotton (8%) and in child's hand (2%). Amongst ones who preferred other liquid as transportation medium, 57% preferred tap water, 28% fresh milk, 8% spirit while 3% normal saline. Though, 67% of these teachers were aware of the use of mouth guards, 51% of these stated that they wouldn't advice its use.

Conclusion: Hence, the present study indicates that there is lack of awareness among the sports instructors regarding the management and prevention of dental injuries in Delhi, India.

Keywords: Dental Trauma, Sports Instructors, Awareness, Children, Avulsion.

Access this article online

Website:

www.innovativepublication.com

DOI:

10.18231/2393-9834.2016.0007

activities in India, professional sports teacher working with the children on playground should know the importance of emergency management and prevention of dental injuries.

Hence, this present study was planned to assess the level of knowledge of sports instructors in various sports academies in Delhi, India, about the emergency management of dental trauma by means of self-administered questionnaire.

Materials and Method

The present study was conducted in sports academies of Delhi, India. A total of 100 self-administered questionnaires were distributed to the sport instructors of a variety of games, out of which we received 96 fully filled questionnaires back.

Inclusion criteria

- Sports teachers from various sports academies and schools in Delhi, India, giving training of different contact sports.
- Sports teachers who accepted to be a part of the study.

Exclusion criteria

- Teachers for sports like swimming, bowling (with limited or no contact).

The questionnaire was constructed in both Hindi and English, and contained 20 multiple choice, closed ended questions, aimed to evaluate the general information regarding their training experience, knowledge and attitude in management of traumatic

Introduction

Dental traumatic injuries are the fourth most common injuries among 7-30 years of age group.¹ The prevalence of dental injuries is 60%, out of which over 48% involve maxillary teeth.² Oral injuries can be as minor as an enamel infraction or it can be very extensive leading to maxillofacial fractures involving dental and alveolar structures.² Loss of a child's permanent anterior tooth can be devastating for both the parents and the child. Although the main psychological impact is due to the unaesthetic smile of the patient, dental injuries can also interfere with the various other functions like mastication and phonetics.³

The immediate management of a traumatized tooth is critical for its long term survival and the onus of this step lies on the person who is attending to the child at that moment of the injury. This situation will usually be faced by the parents or the school teachers generally. In case of children who are getting professional training for certain contact sports, the most likely person to be attending would be the sports instructor.⁴

As Delhi is a hub for training in various sport

injuries and awareness about the prevention of dental injuries by use of mouth guards. The questionnaire was checked for the content validity by two professors of the Department of Pediatric and Preventive Dentistry and was checked for construct validity by test and retest method.

The questionnaire was divided in three parts. The first part dealt with the basic details of the sports instructor for e.g.: their experience in sports training. The second part contained questions to evaluate the knowledge about the management of traumatic injuries including tooth fracture and avulsion and the third part dealt with the awareness of these teachers regarding the prevention of dental trauma using mouth guards.

Statistical analysis was done using SPSS version 16.0. The level of significance was set at $p < 0.05$.

Results

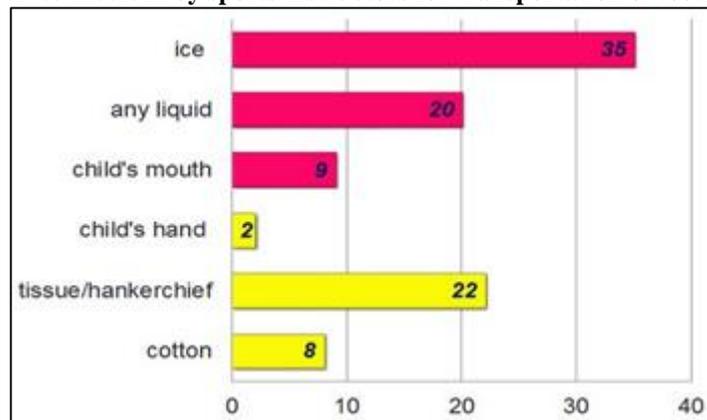
96 out of 100 teachers responded to the questionnaires. They had a mean experience of 6.9 years, out of which 23% gave training for basketball, 20.8% for cricket, 13% for tennis and rest 43.2% for other contact sports like taekwondo, skating, athletics and football (Table 1). 92% of the trainers believed that

immediate attendance to dental traumatic injuries would be beneficial which depicted their attitude towards the injuries. In the second part of the questionnaire, the instructors were questioned about their knowledge regarding management of avulsed, luxated and fractured tooth. The results showed that only 28% would preserve an avulsed tooth, while the remaining 72% won't. The medium which they preferred was ice (35%), handkerchief (22%), any liquid (20%), in child's mouth (9%), cotton (8%) and child's hand (2%) (Graph1). Out of those who preferred a liquid as transportation medium, 57% preferred tap water, 28% fresh milk, 8% spirit while 3% preferred normal saline (Graph 2).

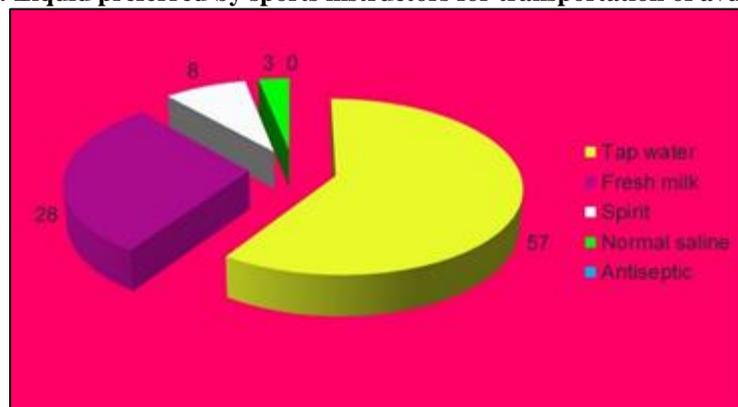
Table1: Fields of the sports instructors

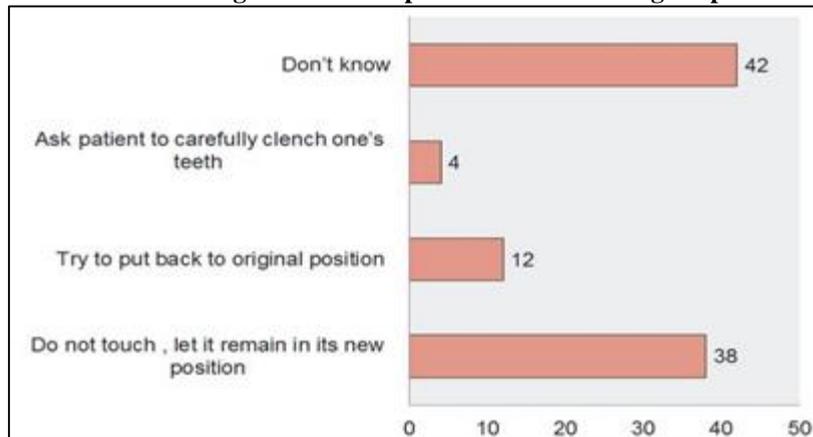
Sport	Percentage
Basketball	23%
Cricket	20.8%
Tennis	13%
Others(skating, football, taekwondo, athletics)	43.2%

Graph 1: Preferred medium by sports instructors for transportation of tooth after avulsion



Graph 2: Liquid preferred by sports instructors for transportation of avulsed tooth



Graph 3: Immediate management of a displaced tooth according to sports instructors

On asking about the immediate management of fractured tooth, 33% didn't know what to do while 25% would ignore it and only 10% would try and find the fragment. While in case of displaced tooth, 42% didn't know what to do, 38% would ignore the displaced tooth, 12% would try to put it back in its location and 4% would ask patients to be careful while clenching.(Graph 3)

The third part of the questionnaire showed that 67% of these teachers were aware of the use of mouth guards to prevent sports injuries, while, 51% stated that they wouldn't advise its use. 49% stated that they would advise the use of mouth guards without any specific reasons.

Discussion

The study assessed the level of knowledge of sports instructors in sports academies of Delhi, India, about the emergency management of dental trauma by means of self-administered questionnaire. The response rate of the sports instructors who trained children in various contact sports was high (96%), compared to other survey based studies done by R. Hashim⁵ in 2011 at Emirate of Ajman, United Arab Emirates, (84.4%) and 86.3% in Jordanian study by Suhad-H Al Jundi⁶ (2005). While the experience of 87.6% of the teachers included in R. Hashim's study was more than 3 years compared to mean experience of the sports trainers in this study being 6.9 years. 92% of the sports teachers believed it to be beneficial to immediately attend to a child with dental trauma which was a favorable number. A study done by Sea-Limet al.⁷ 2001 at Singapore, showed that only 65% of pre-school teachers knew the importance of urgent care which substantiates their perspective in management of dental trauma. Only 28% of the sports trainers agreed to save an avulsed tooth. These results were similar to the earlier survey based studies by McIntyre in 2008 at Orange County, North Carolina⁸, where only 7% of elementary school staff said that they would save an avulsed tooth. 27.7% of the primary school teachers in a study by Blakytyn⁹ (2001) at United Kingdom, didn't

know that an avulsed tooth can be saved. This reflects the lack of awareness of the sports instructors regarding the benefits of immediate reimplantation of an avulsed tooth. The preferred medium for storage and transportation of an avulsed tooth by the majority of teachers was tap water 57%. In an Iranian study by Mesgarzadah et al.¹⁰ in 2009, only 18.7% of elementary school teachers knew the proper storage medium. These results were similar to the study of Mohandas U², 2009, at Bangalore, who stated that 58.3% of physical education teachers had no knowledge about the storage medium for an avulsed tooth and according to Chan et al¹¹ 2001 at Hong Kong, only 15% of the school teachers answered correctly about the storage medium for an avulsed tooth. The results of these studies depict the urgent need for educational training in the management of traumatic dental injuries. In our study, more than half of the instructors stated that they either didn't know the immediate management of fractured tooth or they would ignore it showing their lack of awareness of the treatment options available for fractured tooth fragment. In a study by Feldenset al.¹² 2010 at Brazil, 22.5% of school teachers had completely inadequate knowledge about management of an avulsed or fractured tooth. More than 80% of the sports instructors did not know that a displaced tooth could be repositioned in its original position which is evident about their obliviousness regarding the presence of the permanent tooth bud and possible damage that a displaced tooth can cause to it, if not repositioned. 67% of the sports trainers were aware of the use of mouth guards but only 45% advised its use during the various contact sports and they even agreed with the fact that mouth guard wear was not 100% implemented. The results of all the studies show a severe lack of knowledge regarding dental trauma management among all sections of society. Thus, a community level awareness program needs to be implemented wherein the parents, teachers and even the children themselves can be taught about the protocol for the emergency management of dental traumatic injuries.

Conclusion

Following conclusions were drawn from our study:

- Majority of the sports teachers were unaware of the immediate reimplantation required for an avulsed tooth.
- Although many teachers agreed to preserve the avulsed tooth in a liquid medium but the choice of the medium was very variable with majority of them preferring tap water.
- Very little knowledge regarding the preservation of fractured tooth fragment was evident.

Conflict of interests

The authors declare no conflict of interest.

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