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Knowledge on Emergency Management of Avulsed Tooth among Young Male Saudi Soccer Players

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ABSTRACT

Aim: This study aimed to investigate the knowledge of young male Saudi soccer players regarding the emergency management of avulsed tooth during sports activity.

Materials and Methods: This research is a cross sectional questionnaire study conducted among 200 young male Saudi soccer players having age group from 10 to 20 years. Convenience sampling method was followed in this study. The questionnaire was formulated and comprised of two parts: The first portion includes the questions related to the demographic information of participants, such as age. The other part of the questionnaire comprised 10 questions with 'yes' and 'no' pattern, and the multiple-choice question was prepared, and piloting was done to obtain information and knowledge about emergency management of avulsed teeth among young male Saudi soccer players. The data were entered and analyzed using the Statistical Package for the Social Sciences (SPSS 20). A P-value of less than 0.05 was considered to be statistically significant.

Results: When the question related to the dental trauma encountered during playing soccer was asked, 46% of the participants gave a positive response. In case of referring the patient to dentist, 10.5% would visit after a day when the child feels better; 327.5% preferred within 20 minutes; 17.5% of the participants preferred no need to visit a dentist; 44.5% preferred within an hour.

Conclusions: Educational programs and TDI protocols must be implemented to increase soccer players awareness regarding emergency management of avulsed tooth during sports activities.

Key words: Knowledge, Dental emergency, Dental avulsion, Soccer player, Saudi Arabia

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INTRODUCTION

Dental trauma in children is an essential oral health issue worldwide. Dental traumatic with injuries [TDI], which range from simple enamel chip to a comprehensive maxillofacial trauma, are generally the consequence of sports activity, fights, road traffic accidents, and other deliberate attacks [1]. The outcomes of dental trauma can range from fundamental tooth fracture to tooth avulsion. A lot of studies reveal that oral trauma primarily affects the upper central incisors and may lead to a loss of function as well as a negative impact on quality of life, generating psychological and social distress, with decreased self-esteem, humiliation upon smiling and difficulty in relevant with others [2]. The prevalence of orofacial trauma is an appropriate subject throughout the world, especially for public health, since sports activities are attracting a growing number of practitioners. It's estimated that roughly one-third of all dental injuries are due to incidents during sport, specifically contact sports, where individuals physically communicate with each other [3]. With the enhance in the popularity of a few sports modalities and a

greater motivation to sports participation young, the purpose of the dental surgeon about the prevention of dental trauma and orofacial lesions became more important [4]. Among the various kinds of dental trauma, avulsion results in the most significant functional and esthetic impairment because of its poor prognosis. Children in their regular exercises such as playing soccer, running, and bicycle riding can suffer numerous accidents, resulting in dental trauma. School and home are the most common locations where dental trauma occurs. Probably the most severe type of dental trauma is the avulsion of permanent teeth, where quick replantation is necessary to avoid external inflammatory resorption in the future. Tooth avulsion means the total displacement of a tooth from its socket after a traumatic injury. That is among the typical tooth injuries at developing age, involving mainly maxillary anterior teeth, and observed about in 0.5% to 16% of children [5]. This study aimed to investigate the knowledge of young male Saudi soccer players regarding the emergency management of avulsed tooth during sports activity.

MATERIAL AND METHODS

This research is a cross sectional questionnaire study conducted among 200 young male Saudi soccer players having age group from 10 to 20 years. Convenience sampling method was followed in this study. The questionnaires were obtained from different published articles.5,6 The questionnaire was formulated and comprised of two parts: The first portion includes the questions related to the demographic information of participants, such as age. The other part of the questionnaire comprised 10 questions with 'yes' and 'no' pattern, and the multiple-choice question was prepared, and piloting was done to obtain information and knowledge about emergency management of avulsed teeth among young male Saudi soccer players. Ethical letter for carrying out the study was acquired from the Institutional review board (IRB/KKUCOD/ETH/ 2021-22/05) of the College of Dentistry, King Khalid University. Face validity of questionnaire was done by experts review to ensure content validity. Written informed consent was obtained and the questionnaire was distributed to the subjects after giving instructions. Sufficient time was given to the soccer players for completing the forms. Later the forms were collected and the surveys were kept anonymous. Both descriptive and analytical statistical measurements will be used to describe the main variables by SPSS 18 (IBM Corporation, Armonk, New York, USA) software. Chisquare test was used to determine the relationship between categorical variables. The level of significance was set at $P < 0.05$.

RESULTS

This research is a cross sectional questionnaire study conducted among 200 young male Saudi soccer players having age group from 10 to 20 years. Convenience sampling method was followed in this study. Table 1 shoes when the question related to the dental trauma encountered during playing soccer was asked, 46% of the participants gave a positive response. In case of referring the patient to dentist, 10.5% would visit after a day when the child feels better; 327.5% preferred within 20 minutes; 17.5% of the participants preferred no need to visit a dentist; 44.5% preferred within an hour (Figures 1 to Figure 3).

Table 1: Participants' answers to questions regarding emergency management of avulsed tooth.

Questionnaire	No.	%
Knowledge about emergency management of dental trauma		
No	15	7.5
Yes, taught during the educational institute	30	15
Yes, from external sources like workshops , Conferences, first aid training	53	26.5
Yes, Self-study from internet, books , Journals, Television	82	41
Yes, from dentistry sources	20	10
Encountered Dental Trauma during playing soccer		
Yes	92	46
No	108	54
After avulsed tooth time period required to visit a dentist		
No need to visit a dentist	35	17.5
Within 20 minutes	55	27.5
Within an hour	89	44.5
Next day	21	10.5
Importance of primary teeth and permanent teeth		

Important	165	82.5
Not important	45	22.5
Transportation medium to carry avulsed tooth to dentist		
Milk	35	17.5
Water	45	22.5
Child mouth	103	51.5
Tissue	17	8.5
Don't know	35	17.5
Is it possible to reimplant an avulsed permanent tooth?		
Yes	135	67.5
No	65	32.5
Is it necessary to seek medical help after dental trauma?		
Yes	168	84
No	32	16
Cleaning a unclean avulsed tooth prior to replantation or visit to dentist		
Brush	30	15
Tap water	26	13
Rinse gently in water/saline	112	56
Don't know	15	7.5
Other	17	8.5
Do you think it is important to have an educational program regarding management of dental trauma		
Yes	150	75
No	22	11
Don't know	28	14

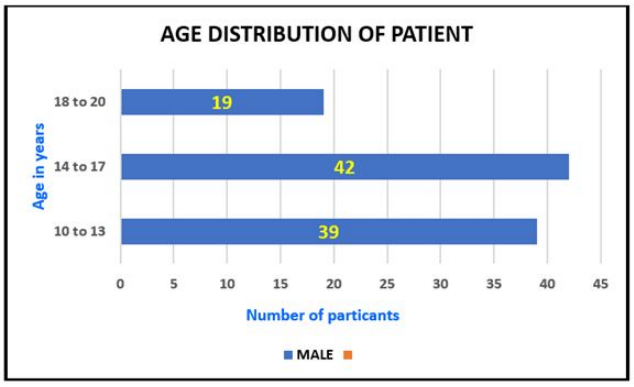

Figure 1: Age distribution of participants.

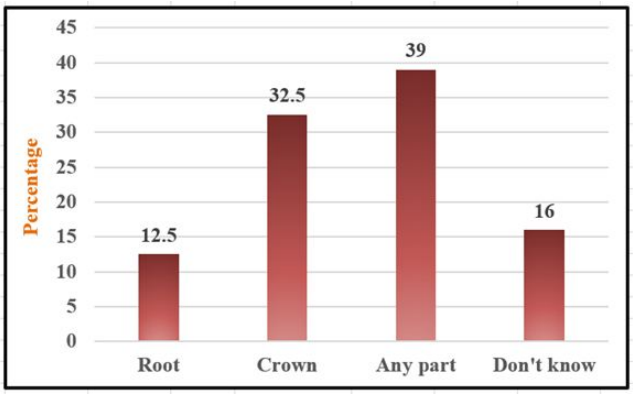

Figure 2: Response of the participants on holding an avulsed permanent tooth after dental trauma.

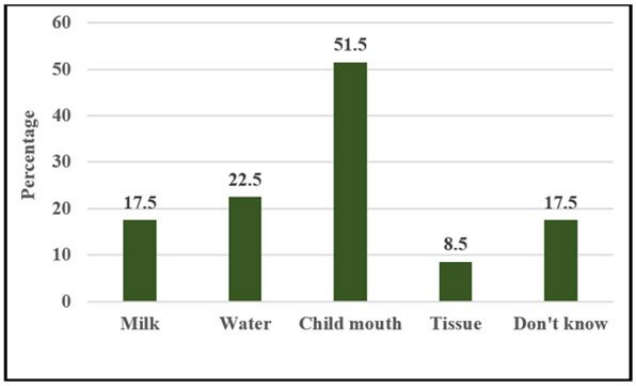

Figure 3: Response of the participants on storage medium for avulsed tooth.

DISCUSSION

Orofacial lesions might occur at various levels of severity. They could lead to esthetic, functional, psychological difficulties, and significant financial effects considering that ultimately the procedure for these varieties of accidents occurs in the medium and long term (19). Participation within sports, specifically contact sports activities, significantly enhances incidents linked to dental injuries. These activities often result in functional, esthetic, emotional, and economic issues. Overall, our data act like those found in another study when we assess the different groups of soccer [6]. Oro-dental injuries due to sports lead to a significant section of all injuries to the various body parts. For example, soccer-related injuries to the facial and neck areas represent about 3%-10% of all soccer-related accidents [7]. Recent research calculates that the occurrence of soccer-related oro-dental care injuries between amateur and professional adolescent and adult players was 0.1%-32% [8].

Previous research in Saudi Arabia reveals that there is a higher occurrence of dental trauma amongst children in Albaha (32%) and Abha (39%) [9,10]. This can reflect the significance of determining the chance of proper management of a dental care avulsion amongst the parents, who are the first line of contact when this event occurs. Some authors report that the increased occurrence of dental or orofacial injuries is relevant to this group of the analyzed group and to the kind of sport performed, which also recommend that the higher the domain of the technical areas of the sport, the lower the chance of injury coming from the training of sports [11]. Soccer is recognized to be sometimes a physically rough sport, which includes many collisions with other players or the ball and also many falls. For several TDIs, the major reported causes are drops and collisions with people and/or objects [12]. Almost all (81%) of soccer-related TDIs in this study were due to collision with another player. The storage medium is essential for preserving periodontal ligament (PDL) cells used in dental reimplanting, and milk were suggested to be an available suitable osmolarity balanced moderate. Tap water and saline are poor mediums because of osmolarity and Ph level. Around 51.5% of the participants inside our research recognized the proper medium for an avulsed tooth; this obtaining was much better than in all of the other researchers conducted in Turkey, Nigeria, Kuwait, and Saudi Arabia, which ranged from 1.1% to 21% [1,9,10].

The individuals in our research recognized the proper choice for proper cleaning (running tap water), time to reimplantation, and seeking help (immediately). In addition, the appropriate placement to hold (crown) an avulsed permanent tooth (13%, 44.5%, and 32.5%, respectively). Unfortunately, this is lower than outcomes in Kuwait and slightly lower than outcomes in Saudi Arabia. Our data can't explain the reason behind this variation, but it might be due to individuals' different medical and educational information, which differs from region to region. However, the percentages of the results in Saudi studies act like some degree and show poor degrees of understanding of aspects that are important for a good prognosis with reimplantation [13]. As our results showed a minimal level of knowledge concerning the management of avulsed administration of tooth among young soccer players, it might be good for promoting educational programs, significantly because the prognosis for an avulsed tooth depends upon appropriate immediate emergency management. Health promotional activities could be conducted using smartphone applications, which were more effective than a lot more conventional educational intervention. Many avulsed teeth could possibly be saved if players learn how to manage cases, and negative consequences such as for example poor aesthetics and psychological and functional effects due to a lost permanent tooth during childhood and adolescent age could be avoided. The results of this study haven't any external validity to Saudi Arabia in general, as the sample was not representative of all of Saudi Arabia. Furthermore, a self-administered questionnaire had been used, making the analysis outcomes subject to personal-reporting bias. Future studies will include a broader range of others who play a significant role in the emergency management of avulsed permanent teeth during sports activities among children and adolescents.

CONCLUSION

Dental and orofacial injuries are a problem frequently experienced in sports activities, also within collective sports, such as soccer. The documenting of soccer-related orofacial injuries is of great significance since it is required for the authorities to depend on a dependable database to take measures such as the mandatory usage of products or the modification of guidelines. More efforts should be placed on enhancing children and adolescents' knowledge about the management of avulsed teeth through promotional health promotions, including the use of smartphone applications. In addition, there will be a requirement to improve the knowledge and awareness of soccer players concerning the possibility of TDIs during soccer playing and the significance of using protective mouth guards to avoid dental injuries.

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this article.

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