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PREVALENCE AND CAUSES OF TRAUMATIC DENTAL INJURIES AMONG SCHOOL CHILDREN OF LARKANA

Sandeep Kumar, Kiran Parkash, Amit Kumar, Almas Rahoojo, Waheed Murad Dahiri, Nadeem Ahmed, Faheem Ahmed

[1]Dept. of Science of Dental Materials, Bibi Aseefa Dental College @ SMBBMU, Larkana, Sindh
[2]FCPS Resident, Dept. of Medicine, DUHS, Civil Hospital Karachi, Sindh
[3]Lecturer, Dept. of Prosthodontics, Bibi Aseefa Dental College @ SMBBMU, Larkana, Sindh
[4]Assist. Prof. Dept. of Orthodontics, Bibi Aseefa Dental College @ SMBBMU, Larkana, Sindh
[5]Assist. Prof. Dept. of Science of Dental Materials, Bibi Aseefa Dental College @ SMBBMU, Larkana, Sindh
[6]Dental Surgeon, Jacobabad Institute of Medical Sciences (JIMS), Sindh
[7]Dental Surgeon, Bibi Aseefa Dental College @ SMBBMU, Larkana, Sindh

***Corresponding Author:** Sandeep Kumar (sandeepbds1987@gmail.com)

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ABSTRACT

Objective

The primary objective of our research was to assess the prevalence and etiology of traumatic dental injuries.

Methodology:

A cross-sectional research was carried out among children of school age between 5-15 years at one public and one private school of Larkana. Demographic data, reasons for trauma were recorded in the proforma. Traumatic dental injury (TDI) ranging from normal to tooth fractures involving enamel, dentine or pulp was examined. Reasons of trauma were recorded in the proforma. Data were entered and processed using the SPSS V.21.0

Results:

The average age was 9.47±3.03. Males and females were 54% and 46% respectively. The prevalence of tooth fracture was 8%. The commonest etiology of trauma was observed as a fall 3%, followed by a road traffic injuries, assault, and injuries related to sports with 2%, 1% and 0.5% respectively

Conclusion:

It is concluded that the prevalence of TDI was relatively low among school children and fall was the most common etiology followed by RTA and assault.

Keywords: Trauma, Dental injuries, Children, Oral health, Larkana.

Introduction

The trauma in the oral and facial is one of the commonest oral health complications for children among poor nations[1]. While periodontal diseases and dental caries have received more attention and are still considered the most serious oral health issues around the globe, anterior teeth trauma, along with the associated functional, aesthetic, therapeutic, and psychosocial issues, has a negative impact on quality of life[2-5].

Traumatic dental injuries (TDIs) in school-aged children are a major cause for worry since they can have negative influence on oral health, overall well-being, and quality of life. TDIs are predicted to be the sixth most prevalent condition worldwide[6-9].

According to demographic research, men are more likely than women to endure trauma. Common etiological factors include falling, fighting, athletics, accidents, and striking things or individual. Oral traumatic injuries, such as enamel fractures and enamel and dentin fractures without pulp exposure, are most common at home, school, and on the street[10].

According to demographic research, men are more likely than women to endure trauma. Common etiological factors include falling, fighting, athletics, accidents, and striking things or individuals[11]. Oral traumatic injuries, such as enamel fractures and dental and enamel fractures without exposure of pulp, occur frequently at school, home, and on the street[12]. Similarly, children with untreated dental injuries experience social isolation, humiliation, and a lower quality of oral health[13]. The existing data in our community is scarce, and the causes of TDIs are not apparent, hence the goal of this research was to assess the prevalence of traumatic dental injuries and to identify their causes among school children of Larkana.

Materials and Methods

The data was collected from public and private schools of Larkana. This study was conducted from 20-01-2021 to 06-03-2021. Ethical approval was sought from the research committee of the university. All participants gave their verbal consent. The sample size was calculated using Raosoft online calculator. The total sample size calculated was 376. A convenient sampling method was used to recruit the participants. The inclusion criteria were age between 5-15 years of both genders. As per classification of World Health Organization (WHO (Ellis Class I-III), anterior teeth crown fractures were included. Exclusion criteria were the students not willing to participate in the current study. After explaining the procedure to students, written permission was taken from authorities of selected schools. The achieved data on demographics, causes for trauma was documented on the designed proforma. The same examiner using a disposable tongue spatula and torch examined all the participants. Teeth crown fractures were ranged from enamel fractures confined to pulp and dentine (Ellis Class I-III) were documented. Fracture of the root was not included as no radiographs were obtained. The etiology of trauma was asked from participants and was documented. SPSS V.21.0 was used for analysis of qualitative variables. The chi-square test was

utilized to test the statistical variation among causes of dental trauma for association with gender.

Results

The mean age was 9.47±3.03 (Table-1). Males and females were 54% and 46% respectively (Table-2) Students from public and private schools were 53% and 47% respectively (Table-3) The prevalence of tooth fracture was 8% (Figure-1) The commonest etiology of trauma was fall (3%), road traffic accidents (RTA) (2%), assault (1%) (Table-4) The fracture in teeth was observed more in males (8%) as compared to females. The relationship of gender with trauma was statistically insignificant (p-value=0.91) as presented in table-5.

Table 1 Descriptive Statistics of Participants (n=376)

Parameter				
	Minimum	**Maximum**	**Mean**	**St. Dev.**
Age	6	15	9.47	3.03
Gender	**Frequency**	**Percent**		
Male	204	54.3	-	-
Female	172	45.7		
School				
Public	198	52.7		
Private	178	47.3		

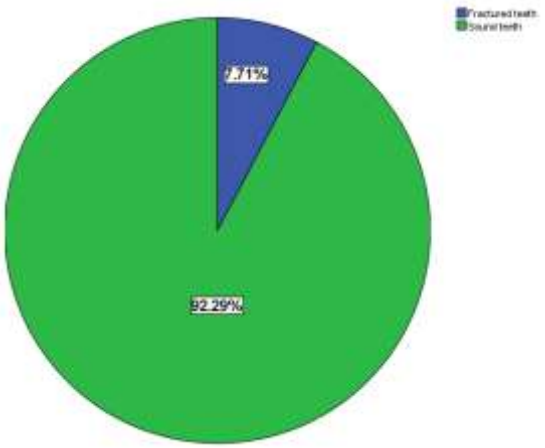

Figure 1: Prevalence of tooth fracture

Table 4 Descriptive statistics of causes of trauma

Causes	Frequency	Percent
Fall	11	2.9
RTA	6	1.6
Assault	4	1.1
Don't Remember	4	1.1
Sports injury	2	0.5
Self-injury in anger	1	0.3
Animal Kicking	1	0.3
Normal	347	92.3
Total	376	100.0

Table 5 Relationship of gender and trauma

Gender	Tooth Fracture		Total	P value
	Yes	*No*		
Male	16 (7.8%)	188 (92.2%)	204 (100.0%)	0.918
Female	13 (7.6%)	159 (92.4%)	172 (100.0%)	
Total	29 (7.7%)	347 (92.3%)	376 (100.0%)	

Discussion

Crown fracture is a persistent topic of concern in dentistry, thus to prescribe appropriate preventive procedures, it is necessary to understand its etiology in addition to its incidence and characteristics. In his study prevalence of dental traumatic injuries was 8% which is lower than the study conducted by Sajid M et al [14] who reported as 15%, whereas the approximately close with the study results of Hashim R et al [15]. It was observed more in males as compared to females which is similar to the study conducted by SAJID M et al [14] This could be attributed to males' greater involvement in sports and violent behaviors such as quarrels and fights than females. The male preponderance is similar to another study that found that males were more affected by tooth traumatic injuries than females.[16]. The fact that girls experienced a lower prevalence of oral damage may be explained in part by their better degree of maturity compared to boys, who are more prone to risk-taking activities [17].

In this study fall was the commonest etiology of dental trauma which is in agreement with the research by Mahwish et al, [18] Abdel Malak et al [19] and Dharmani, C.K. et al [20], but is in contrast with the results of Mercedes et al.[21] who reported that fall as fourth commonest reason of trauma. After fall, RTA (2%) was the second most common reason of truamtic dental injuries which is similar with other study conducted by QADIR A. et al [22.] This study found that assault was also a cause of dental injuries which was slightly increased than results of Davis and Knott[23] and Caliskan and Turkun.[24]. In current research a child reported that TDI was due to self-injury in anger and 1% reported it because of animal kicking while 4% children reported that they do not remember the cause of their injury.

Conclusion

The study revealed that the prevalence of TDI was relatively low among schoolchildren, with falls being the most common cause of trauma, followed by RTA and assault. TDIs are recognized as dental public health issues across the country, necessitating prompt attention and treatment. Parents should be more worried about their children's dental health because youngsters of that age are unaware of the potential dental problems that could arise in the future.

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