

The Prevalence of Traumatic Dental Injuries to Anterior Teeth Among Children of Age Group 4-12 Years Old

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ABSTRACT

Background: Traumatic dental injuries have a strong impact on children's and adolescent's life quality because they cause physical and emotional suffering, and in children, they might have a high negative impact on the social relationships. The aim of the study is to determine the prevalence of traumatic dental injuries to anterior teeth among children of age group 4-12 years old.

Material and methods: The study was conducted among 40 children of age group 4-12 years old. Before commencement of the study, the informed consent was signed by the parents. Study sample was divided into three age groups as, Group I: 4 - 6 years; Group II: 7 - 9 years and Group III: 10 - 12 years. Ellis and Davey's (1960) classification was used for recording injuries. The examination was carried out by a single trained dental surgeon. Data was obtained concerning the prevalence of Traumatic dental injuries. Statistical analysis was done by using SPSS, version 22 (SPSS, Inc., Chicago, IL) and $p < 0.05$ was considered statistically significant.

Results: The traumatic injuries were more prevalent in boys. Class IX was prevalent in both group I and group II, Class I was more prevalent in group III.

Conclusion: The prevalence of traumatic injuries can be reduced by taking into following measures: a. The use of intraoral and extraoral devices for the protection of the teeth and face from trauma. b. The knowledge of dentist should be improved in order to minimize the sequelae of traumatic dental injury. Education regarding the prevention and treatment should be given to children and their parents.

Keywords: Traumatic dental injuries, prevalence, Ellis and Davey's classification.

INTRODUCTION

The greatest asset that a person can have is a "smile" that shows beautiful, natural teeth. An untreated and unsightly fracture of an anterior tooth can affect the behavior of a child, his progress in school, and can have more impact on their daily living. Dental caries and periodontal disease are leading causes of tooth loss. Apart from this, tooth loss also occurs due to trauma. The majority of dental injuries involve anterior teeth.¹ The main cause being accidents such as falls, fights, and during sports. They are associated with biological, socioeconomic, psychological, and behavioral factors.² The predisposing dental risk factors

include increased incisal overjet, open bite, protrusion, and lip incompetence.³ The frequency of traumatic injuries ranging from 9.4%–41.6% in primary dentition.⁴ Traumatic injuries in permanent teeth have been reported to have a prevalence rate between 6.1% to 58.6%.⁵ The aim of the study is to determine the prevalence of traumatic dental injuries to anterior teeth among children of age group 4-12 years old.

MATERIAL AND METHODS

The study was conducted among 40 children of age group 4-12 years old. Before commencement of the study, the informed consent was signed by the

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RESULTS

According to our study the traumatic injuries was more prevalent in boys. Class IX was prevalent in both group I and group II, Class I was more prevalent in group III.

Table 1: Distribution of traumatic injuries according to gender.

Group	Gender		p-value
	Boys	Girls	
Group I	7	5	<0.05
Group II	5	4	
Group III	12	7	

Table 2: Distribution of traumatic injuries according to Ellis classification.

Class	Group I	Group II	Group III
Class I		3	9
Class II		1	7
Class III		1	3
Class IV			
Class V	4		
Class VII			
Class VIII			
Class IX	8	4	

DISCUSSION

Physical activity is a basic need for the growth of a child. World Health Organization (WHO) theme for the year 2002 says 'Move for health', which emphasizes on the role of physical activity in the healthy living of an individual. During these physical activities, injuries to the face are one of the risks associated with it.⁶ Trauma to both primary and permanent dentition continues as a frequent dental

problem. Trauma to the child dentition is an important issue, since fracture of one or more teeth, especially the anterior, may result in pain, loss of function, poor esthetics and psychological trauma.⁷

Gojanur S et al found the prevalence of traumatic injuries to the anterior teeth in 5 to 8 years old age group to be 2.7%. Males accounted for 3.1% whereas females accounted for 2.3%.⁸ Prasad et al found the prevalence of traumatic dental injuries to be 12.8% in which maxillary central incisors were the most common tooth affected due to trauma.⁹

Singh N et al found the prevalence of traumatic dental injuries was 5.6%. Males were slightly more affected than females. Children in the 10-17 years old group were significantly more affected. Maxillary central incisors were most commonly involved whereas Ellis class I fracture were most frequently observed.¹⁰ Rai and Munshi observed a prevalence of 5.29% among 3 to 16 years old school going children in South Kanara.¹¹ Gupta et al found a prevalence of 39.26% in 8 to 10 years old children in south Kanara.¹²

CONCLUSION

Our study concluded that the traumatic injuries was more prevalent in boys. Class IX was prevalent in both group I and group II, Class I was more prevalent in group III. The prevalence of traumatic injuries can be reduced by taking into following measures-

- The use of intraoral and extraoral devices for the protection of the teeth and face from trauma.
- The knowledge of dentist should be improved in order to minimize the sequelae of traumatic dental injury.
- Education regarding the prevention and treatment should be given to children and their parents.

CONFLICTS OF INTEREST

The authors declare they have no potential conflict of interests regarding this article.

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