



Prevalence of Anterior Traumatic Dental Injuries among Children Aged 12-15 Years in Dera Bassi Region, Punjab, India

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INTRODUCTION: Tooth trauma, may result in unnecessary pain and an increased burden in the society, apart from increased costs of dental treatment

AIM: To assess the prevalence of trauma of anterior teeth (both maxillary and mandibular) among school going children aged 12-15 years in Dera Bassi Region, Punjab, India

MATERIALS AND METHOD: This cross-sectional study employed a convenience sampling among 415 school-going children (both public and private schools) aged 12-15 years with the help of a pre-tested, pre-validated questionnaire and ADA type III examinations during the day using artificial light. The responses were recorded in a pre-structured proforma and relevant statistical tests were applied.

RESULT: Dental trauma was seen in 104(25.1%) anterior teeth, while the maximum number of fractures were seen in the maxillary teeth (53%), followed by maxillary laterals (30%) while the least affected teeth were the mandibular laterals (8%). No statistical differences were seen among both the genders upon comparing the location and type of tooth fracture.

CONCLUSION: Efforts should be made to educate the general population to get their tooth fracture treated as soon as possible and avoid further complications that arise with fractured teeth

KEYWORDS: Tooth Fracture, Discoloration, Prevalence.

INTRODUCTION

It is an age old saying that children are the gift of god. However, they are very prone to injuries and is stated that approximately 9% of deaths occur due to injuries alone.¹ The oral cavity, although just only comprises of 1% of the total body area, yet Traumatic Dental Injuries (TDIs) account for about 4%-35%. Of all oral injuries combined.^{2,3}

These traumatic dental injuries cause a burden on the society, cause children to miss school, cause them pain and they have to undergo time consuming, at time expensive dental procedures. During the transformation of children into adults, they are bubbling with energy, are highly enthusiastic, participate actively in sports activities which leads to an increased prevalence of TDIs among them. It is also documented that a higher prevalence for trauma is seen in males compared to females.^{4,5}

Frequently, is observed that TDIs occur frequently at home and school; and it was related to gender, i.e. boys had more injuries at school followed by home, while for girls, it was the other way round.⁶ Also, the most frequent TDIs were the ones that included enamel fracture followed by enamel and dentin fracture without involving the pulp.⁷

TDIs can lead to unnecessary pain, unprecedented dental visits and increased dental costs. Such is the burden of these injuries that the study aimed to assess the prevalence of trauma of anterior teeth (both maxillary and mandibular) among school going children aged 12-15 years in Dera Bassi Region, Punjab, India.

MATERIALS AND METHOD

This cross-sectional study, after obtaining an ethical clearance, aimed to assess the prevalence of trauma of anterior teeth (both maxillary and mandibular) among school going children aged 12-15 years in Dera Bassi Region, Punjab, India. A total of 415 school-going children (both public and private schools) aged 12-15 years in Dera Bassi Region, Punjab, India were screened using convenience sampling and with the help of a pre-tested, pre-validated questionnaire and ADA type III examinations during the day using artificial light. The examinations were carried out by two experienced dental professionals duly standardized. The Kappa statistics for intra-examiner reliability and was found to be strong at 0.86. Subjects were asked about their demographic data by the investigator, and the responses were recorded in a pre-structured proforma.

RESULT

The present study consisted of 415 children and dental trauma was seen in 104 (25.1%) anterior teeth (Table 1). Analysis further revealed that majority of the fractures were seen in males 74 (71.2%) and discoloration was seen among 28 (26.9%) teeth with a female predilection (18, 64.3%)

The location and affected anterior teeth is depicted in table 2. The maximum number of fractures were seen in the maxillary teeth (53%), followed by maxillary laterals (30%) while the least affected teeth were the mandibular laterals (8%). No statistical differences were seen among both the genders.

DISCUSSION

In the present study, it was observed that the overall prevalence of anterior tooth fracture was 25.1%, which was higher in comparison to Hedge MN et al. (14.85%)⁸ and Hegde N et al. (8.9%).⁹ Such a high prevalence could be due to the fact that the sampling of the present study adopted a convenience sampling as compared to the sample of certain authors, wherein patients do not report for fractures/ dental care, unless it is accompanied by pain. This also shows the lack of motivation as well as knowledge among people regarding treatment of anterior tooth related fractures.

Fractured anterior teeth with discoloration was seen among 6.7% of children, was lower as compared to Hegde MN et al. (25.9%).⁸ and Chalissery VP et al. (24%)¹⁰, however, the reported percentage in the present study was higher as compared Hegde et al. (2.4%).⁹ The most fractures of anterior teeth were seen among males (71.2%), and it was in agreement to Glendor U¹¹ and Levin et al.¹²

CONCLUSION

The present study reported a prevalence of anterior fractures as 6.7%, and therefore, efforts should be made to educate the general population to get their tooth fracture treated as soon as possible and avoid further complications that arise with fractured teeth.

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LEGENDS

Characteristic	Males n,%	Females, n,%	Total n,%
• With Trauma	74 (71.2)	30(28.8%)	104 (25.1)
• Without Trauma	188(60.5)	123(39.5)	311(74.9)
Total			415
Discoloration	10(2.4)	18(4.3)	28(6.7%)

Table 1. Distribution of the study subjects and discoloration among anterior fractured teeth (percentages rounded off to the nearest decimal)

Affected Tooth	Males	Females	Total	T-test (Males*Female s)
Maxillary Central	39,(37.5%)	16,(53%)	55,(53%)	0.417(NS)
Maxillary Lateral	21,(20.2%)	10,(33%)	31,(30%)	
Mandibular Central	8,(7.7%)	2,(7%)	10,(10%)	
Mandibular lateral	6,(5.8%)	2,(7%)	8,(8%)	
	74,(71.2%)	30,(100%)	104,(100%)	

Table 2. The location and affected anterior teeth among the study subjects(Percentages rounded off to nearest decimal)