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# Knowledge of Emergency Management in Paediatric Dental Trauma among Parents in Jamshedpur City: A Questioner study

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## ABSTRACT

**Background**: Epidemiological studies have shown that approximately 50% of schoolchildren have sustained traumatic dental injuries prior to graduation. Considering the above, the present descriptive questionnaire study was conducted to assess the knowledge, attitude and perception of mothers and school teachers towards emergency management of traumatic dental injuries in children.

**Materials & Methods:** Approximately 1000 parents accompanying children seeking dental treatment were included in the study. The questionnaire was composed of different objective type questions for the assessment of parental knowledge of and attitude towards emergency management of pediatric dental traumatic injuries.

**Results:** Most of the parents agree that they require further and complete knowledge regarding emergency management of dental traumatic injuries in children. Majority of the parents (55.2%) are willing to receive complete knowledge regarding emergency management of dental traumatic injuries in children in future, while around 24% parents were not sure about it.

**Conclusion:** There is a need to improve education of parents towards the management of dental trauma. Directing these efforts towards the parents could help allow them to make first aid decisions that could greatly reduce the morbidity associated with traumatic dental injuries. Additionally, educational campaigns and preventive programs on dental trauma must be organized to improve caregivers' knowledge on emergency management of dental avulsion.

**Keywords:** Knowledge, Children, Dental Trauma, Management.

## INTRODUCTION

Dental trauma may cause both functional and aesthetic problems with possible impact on the patient's quality of life. Primary and permanent anterior teeth are not only important for esthetics but also are essential for phonetics, mastication, integrity of supporting tissues, as well as psychological and mental wellbeing of children. The greatest incidence of trauma to the primary teeth occurs at 2-3 years of age, when motor coordination is developing.[1]

When teeth and their supporting structures are subjected to impact trauma, the resultant injury manifests either as a separation or a crushing injury or a combination of both.[2] Separation injuries are exemplified by displacement of teeth during which there is a cleavage of tissues, such as the

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periodontal ligament (PDL). Dental injuries can be classified into: enamel fracture, crown fracture without pulp involvement, crown fracture with pulp involvement, root fracture, crown-root fracture, luxation, avulsion, and fracture of the alveolar process.[3]

Among the different types of dental trauma, avulsion results in the greatest functional and esthetic impairment due to its worse prognosis. Falls and collisions, followed by sports activities such as cycling and soccer, are the most prevalent etiological factors. There are various dental traumas that can be encountered during sports such as soft tissue injuries, fractures, TMJ injuries, tooth intrusion, tooth extrusion, crown and root fractures, and avulsion.[4, 5]

A traumatic dental injury is a public health problem because of its frequency, occurrence at a young age, costs, and the treatment may continue for the rest of the patient's life. Dental trauma during childhood leads to present and future oral health problems, which can cause pain and distress. Children encounter with many accidents in their routine activities, such as running, skating, and cycle riding etc. Thus, it is important to provide immediate first class emergency care to reduce the possible outcomes.[6]

The main cause of traumatic dental injuries among school-age children are accidental falls in the school environment. Epidemiological studies have shown that approximately 50% of schoolchildren have sustained traumatic dental injuries prior to graduation.[7] Through immediate appropriate action, classroom teachers, physical education teachers, school nurses, secretaries and other school personnel can help to improve the prognosis of traumatic dental injuries. Considering the above, the present descriptive questionnaire study was conducted to assess the knowledge, attitude and perception of mothers and school teachers towards emergency management of traumatic dental injuries in children.

## MATERIALS & METHOD

### Source of Data

Approximately 1000 parents accompanying children seeking dental treatment at the Department of Pediatric Dentistry, associated with Dental College and Hospital, were included in the present study.

The present study is a descriptive, questionnaire study.

Inclusion criteria:

i. Parents accompanying children seeking different types of dental treatment.

ii. Parents, who are willing to participate in the questionnaire study.

### Methodology:

Questionnaires in English and Hindi, based upon Raphael and Gregory's study was designed for parents accompanying children, seeking different types of dental treatment at the Department of Paediatric Dentistry, associated with Dental College and Hospital. A questionnaire was designed and distributed to all mothers/fathers of children between 7 – 11years of age.

The questionnaire was composed of different objective type questions for the assessment of parental knowledge of and attitude towards emergency management of pediatric dental traumatic injuries. The nature and purpose of the study was explained to the parents and its voluntary nature emphasized along with assurance of strict confidentiality. The Parents willing to participate in the study was interviewed and the questionnaire filled. Results obtained from answers provided by parents were expressed in frequency distribution. Chi-square test was used to test the influence of different variables such as age, sex, level of education etc on knowledge and attitude of the participants.

## RESULTS

Approximately 1000 parents accompanying children seeking dental treatment at the Department of Pediatric Dentistry were included in the present study. Demographic data suggest the following: The mean age of the child was 7.73±2.85 and mean age of the parents were 32.23± 3.95. As per the location data, rural population had higher percentage of population compared to urban and semi urban. According to socioeconomic status

majority of the parents belongs to lower (39.2) and middle (39.4) socioeconomic status.

Question was asked whether previously they received any information regarding emergency management of dental trauma in children? Among all 57.7% parents had never received any information regarding emergency management of dental trauma in children previously and 42.3% of cases had received information previously. Of above 42.3% who had received any information regarding dental trauma, majority of the parents had received information from dental professionals (40.4%), and 28.4% had received from the physicians, while small parts had received information from media, friends and relatives. When question related to previous experience of dental trauma was asked. Majority of the parents had received trauma previously (37.3) while around 30% of the parents had no idea about the trauma. Most of the parents do not know that their child had dental trauma previously.

When question related to first aid treatment during dental trauma was asked, in response for that 40% of the parents were in agreement that emergency/first aid measures to be taken when there is dental trauma in children. On question that if your child experiences a tooth injuries while playing what will you do? Majority of the parents will bring their child to dentist, while least number of parents will not provide any treatment. Around 23% parents believe that professional treatment not required who experienced dental trauma, while 24% parents will bring the child immediately. Around 31% of the parents will put the tooth back into socket when asked about the permanent tooth is in child's socket, however out of place.

Majority of the parents beloved that avulsed tooth cannot be saved and around 34% parents did not have single clue about the avulsed tooth. Around 29% parents will Wash avulsed tooth with tap water when it fallen to ground while 22% parents will clean it with tissue paper, while 18% will not clean avulsed tooth and 8% parents did not know what to do with avulsed tooth.

Most of the parents agree that they require further and complete knowledge regarding emergency management of dental traumatic injuries in children. Majority of the parents (55.2%) are willing to receive complete knowledge regarding emergency management of dental traumatic injuries in children in future, while around 24% parents were not sure about it. When asked about Have you received any information regarding emergency management of dental trauma in children previously? It was observed that parents of children who had higher age groups had significantly more information regarding emergency management and who had education primary and secondary had more information compared to other groups.

## DISCUSSION

Playing sports is a way of promoting health as well as a powerful instrument for the promotion of social skills. However, when an athlete is injured, the consequences include emotional stress and frustration. Anyone who participate in sports activities have a risk for dental injuries. Dental trauma is an emergency and requires a rapid response; any delay reduces the chance of successful treatment. Traumatic dental injuries (TDI) are one of the most common causes of oral morbidity in children. There is also evidence that traumatic injuries affect the oral health related quality of life of families and that socio-demographic factors may influence how these injuries are perceived.

Total of 1000 questioners were distributed and consent form was collected along with the questioner. Each of the family received only one form. When the education of the parents was assessed, it was found that most of the parents had received secondary education and least percentage of parents that is 9.6% had received graduation or post graduation level of education. In relation to the occupation of the parents; maximum were found to be unemployed that is 26%, reason for this was that maximum questioners were filled by the mothers, who were unemployed and were house wife. Forty percent of the parents had no knowledge in relation to the previous dental traumas, and only 15% had encountered more than 5 times the incidents of dental traumas. Few of them who had the knowledge, were provided by the dental professional during their visit to the previous dental trauma experience or any other dental problems, few had obtained knowledge from the general physician of their family.

Preference of the avulsed tooth was to be saved in 30% of the parents whereas 36% did not thought of saving avulsed tooth, rest had no idea of it. So majority of the parents were lack of knowledge in relation to the saving the avulsed tooth, this was in relation to the previously done study conducted by Hegde et al.[8], (64.8%) and was much higher than the study conducted by Oliveira et al.[9], (10%). This may be due to the fact that they consider avulsed tooth as an infected material which needs to be thrown out. In the present study, only 30% of the mothers were aware of the immediate reimplantation of an avulsed tooth, similar to a study reported by Al-Jundi[10], and to the reports by Oliveira et al.[9] (39%), Raphael and Gregory[11] (66.6%), and Hegde et al.[8], (66.5%) showed that some of the mothers would reimplant the avulsed tooth, which clearly indicates the insufficiency in the knowledge about the immediate management of avulsed tooth. Therefore, the mothers need to be educated more in this aspect.

Although many of the parents gave correct response to the need of the dental trauma management, it was good and positive sign that 42% believed that their knowledge was not sufficient and they still require complete further knowledge regarding emergency management of dental trauma injuries in children. More than 50% of the parents were willing to receive more knowledge regarding emergency management of dental trauma injury in children in future. Parents should be informed about the possible complications of dental trauma that can ultimately lead to loss of a permanent tooth. It is especially important that information and education concerning the prevention of dental trauma should be implemented in amateur teams, with the highest focus placed on younger age groups, to reduce potential injuries.[12]

## CONCLUSION

There is a need to improve education of parents towards the management of dental trauma. Directing these efforts towards the parents could help allow them to make first aid decisions that could greatly reduce the morbidity associated with traumatic dental injuries. Additionally, educational campaigns and preventive programs on dental trauma must be organized to improve caregivers' knowledge on emergency management of dental avulsion.

## CONFLICTS OF INTEREST

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

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