

**A study to evaluate dental traumatic injuries prevalent among children in Sport College, Saifai.**

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**Abstract**

**Objectives:** The objective was to evaluate different dental traumatic injuries among children in Sport College, Saifai, so as to make them aware and increase their knowledge, which will help them to promptly and properly manage an emergency case of dental trauma.

**Material and Method:** A total of 60 children aged 6-18 years of age who came to the OPD of the institution to receive care were included in the study for survey over the time period of 10 months with the help of self administered questionnaire

**Result:** The demographic characteristics of the participating parents; indicate that 80% of children were from rural area and 65% of children belonged to less than 13 years age group with 60% are males and 40% females. Also, 45% of children were educated Primary level and 40% of children had previous experience of trauma to self or others. Conclusion: Lack of proper knowledge on emergency management of dental trauma among the participants of this survey, there was willingness among children to gain

knowledge regarding emergency management of dental trauma.

**Keywords:** Dental trauma, Sport dentistry, traumatic management

**Introduction**

Dental trauma continues to be a commonly encountered issue for the sports medicine team. Studies of dental trauma have shown that most dental accidents in children occur at home, followed by school.<sup>1</sup> Various studies conducted among different populations have reported prevalence rates for traumatic dental injuries to be between 4.9%-37%.<sup>2-7</sup> One of the most serious traumatic dental injuries is avulsion, in which one or more teeth are completely knocked out of their alveolar sockets.<sup>2</sup> Avulsions constitute 0.5%-16% of all traumatic dental injuries to permanent anterior teeth<sup>3,4</sup> and most often involves the maxillary central incisor.<sup>5</sup> Primary and permanent anterior teeth are not only important for aesthetics but also essential for phonetics, mastication, integrity of supporting tissues, psychological and mental wellbeing.<sup>6</sup> Avulsion injuries

are three times more common in boys than girls because of their active participation in sports and games and occur most commonly at the age of 7-9 years when permanent incisors are erupting.<sup>7,8</sup> Ideally, an avulsed tooth should be immediately replanted in its socket in order to avoid further damage to the periodontal membrane.<sup>9</sup> The prognosis of a replanted tooth depends on the period of time elapsed between trauma and replantation, the type and condition of storage medium, the stage of root formation and the presence of contamination.<sup>10</sup> The aim of this study was to assess the knowledge and attitude of parents towards the emergency management of dental trauma. Before planning educational campaigns for parents, it is necessary to be aware of the knowledge level of parents. The objective was to enable the clinician to formulate a set of instructions which can be given to parents, so as to make them aware and increase their knowledge, which will help them to promptly and properly manage an emergency case of dental trauma.

#### **Material And Methods**

A total of 60 children of sport college, Saifai aged 6-18 years of age who came to the OPD of the institution to receive care were included in the study for survey over the time period of 10 months with the help of self administered questionnaire. Participation in the study was voluntary and completely confidential. The questions in questionnaire were based on the awareness among children which was designed and modified from questionnaires used in earlier studies. It was prepared in English as well as in the regional language which was easy to understand and respond to the questions. Before onset of the survey, an ethical permission was taken from the ethical committee of the Institute. A brief explanation was given regarding the questionnaire before distributing

the questionnaire to the children. An investigator was appointed to clear the doubts of the subjects regarding the questionnaire. The questionnaire was divided into 2 parts, the first part of the questionnaire was based on the personal information like name, age, sex, education level, and the second part of the questionnaire was based onto the questions related with attitude and the awareness about dental first aid among children. Education level of the children were divided as- primary level from Class 1 to 5, secondary level from Class 6 to 10 and Higher Secondary Level from Class 11 to 12. The data was analysed on basis of the response given in questionnaire and the results were calculated and expressed in the form of percentage and the statistical analysis was done using a Statistical software namely SPSS version 17.0.

#### **Results**

The demographic characteristics of the participating children; indicate that 80% of Children's parents were from rural area and 65% of children belonged to less than 13 years age group with 60% are males and 40% females. Also, 45% of children were educated Primary level.[Table 1] 40% of children had previous experience of trauma to self or others. 82% of Children felt that it is important to have an educational program in management of dental trauma, 97% of Children would like to attend an educational program on management of dental trauma. 92% of Children were not satisfied with their knowledge on the management of dental trauma. 66.5% of the participants were not able to recognize the anterior tooth trauma & 76% would not search for lost tooth. 44% would seek professional advice immediately, out of which 20% would seek professional advice within 30 min, 35% more than 30 mins but within 6 hours and 38% before next day. 65% would not go for a professional advice if the child

does not have any pain. 67% would take the child to dental hospital after dental trauma and 33% would go to general hospital.[Table 2] 15% would replant the tooth in its socket and 85% would not replant the tooth. Milk was chosen as transport media by 10% of parents, 20% parents would use ice, 30% choose water, 30% parents would use paper tissue or handkerchief, 15% parents would take the tooth in plastic wrap and 5% parents would use antiseptic or alcohol as transport media.[Table 3]

### **Discussion**

The study included 60 children of sport college attending OPD of the institution who were surveyed with the help of a questionnaire for their knowledge and awareness regarding emergency management of dental trauma in a child. The age, gender, education level, residing area and previous experience of dental trauma were recorded in Part I of questionnaire. In Part II of questionnaire, was based on the knowledge and attitude of children towards education of dental trauma management was assessed. Out of 60 children, Extraoral time is paramount in determining the success of tooth replantation. A delay in providing emergency dental treatment may jeopardize the prognosis of an avulsed tooth.<sup>11</sup> Approximately half of the children recognized the urgency of seeking professional help as immediately for avulsion injury. However, some of them did not realize the importance of seeking immediate professional help and were concerned primarily with bleeding and pain control measures. Pain constitutes one of the major reasons for seeking professional help. Many children did not feel the need to see a doctor if the child has no pain. This seems to be a common finding among Indian population. So children should be asserted about significance of seeking professional advice after dental trauma

irrespective of pain. Regarding the important question of replantation, 15% of the participants would have tried to put the tooth back in its socket; although rest of the parents were not confident about undertaking the tooth saving procedure or may not know how to do it. The reasons for reluctance to replant avulsed teeth could be related to lack of knowledge, hurting the child or to the felt urge to stop the bleeding, which is perceived by most people as life threatening. In cases with multi-injury trauma, the replantation of an avulsed tooth may require a low priority but in case of an isolated dental trauma, a simple procedure of replantation could make a huge difference not only in the prognosis of the tooth, but also influence the facial growth, function, esthetics and psychological impact on the patient.<sup>12</sup> Storing the avulsed tooth in a solution compatible with cell viability until replantation is a critical procedure however dry storage selection was prevalent among parents. For transport of an avulsed tooth, paper tissue or handkerchief and water were the favored medium for 30% of children each followed by ice by 20%. In a study on school teachers by Chan et al.<sup>13</sup> a large number of respondents chose ice or iced water as the preferred storage medium; this may be related to the popular use of ice for transportation of human organs and accidentally detached limbs often reported in the mass media. Although patient's mouth may function well as storage medium, only few of the subjects parents were aware of that. The concept of dry storage among parents indicated the lack of knowledge on how avulsed teeth should be handled after an accident. They were not aware that dry storage during transport could seriously prejudice the normal healing process and the prognosis is related to injury to periodontal membrane during the time the tooth is out

of its socket.<sup>14,15</sup> Dental trauma sequelae like pulp necrosis and root resorption may present later sometimes and therefore successive visits are instrumental in timely detecting and treating such problems. The results of this study indicated low level of knowledge regarding tooth avulsion and replantation procedures to be followed in emergency. The findings are in accordance with other studies conducted on parents.<sup>15,16,17</sup> The residing area and age of parent did not affect their knowledge and awareness. Moreover, well-educated parents also had very little or no information about dental trauma first-aid. The lack of significance in correct answers between those with and without such experience indicated that past experience did not seem to have increase the knowledge of the correct emergency procedures. This is because very little or no information about tooth avulsion and replantation had been given to most of them. Dental injury prevention and management should be recognized as a major public health issue and adequate resources to be allocated for research in this area along with the development of prevention programmes.<sup>19</sup>

### **Conclusion**

Traumatic dental injuries are recognized public dental health problem worldwide. A tendency of an increase in prevalence of dental traumas due to the higher interest in sport activities can be observed. The limitations of this study, it can be concluded that despite the lack of proper knowledge on emergency management of dental trauma among the participants of this survey, there was willingness among parents to gain knowledge regarding emergency management of dental trauma.

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**Legends Tables**

Table 1: Demographic Details of the Children

S.No.	Demographic data	Percentage
Age	<13 years	65%
	>13 years	35%
Sex	Male	60%
	Female	40%
Education	Primary level(Class 1-5)	45%
	Secondary level (Class 6 to 10)	35%
	Higher Secondary Level (Class 11 to 12)	20%
Area	Rural	80%
	Urban	20%

Table 2: Questionnaire.

Question	Yes	No
1. What do you think is it important to conduct a program related with dental trauma education?	82%	18%
2. Would you like to attend that program?	97%	3%
3. Are you satisfied with your knowledge regarding dental trauma education?	8%	92%
4. Have your child ever experienced the traumatic injury?	33.5%	66.5%
5. After the control of bleeding will you search for the lost tooth/teeth ? Knowledge about type of tooth.	24%	76%
6. If yes was that tooth/teeth permanent or primary	29.6	70.3
7. Do you think that its important to seek professional help?	44%	56%
8. Would you put back the tooth into the socket?	15%	85%
9.if your child does not have pain still you would go for professional help	35%	65%

Table 3: Attitude of Traumatic Children

S.No.	Action	No.
1.How urgent do you think that its important to seek professional help?	within 30 min	20%
	Within 30 mins-6hrs	35%
	before the next day	38%
	Wihin one week	7%
2. where will you take your child	Dental Hospital	67%
	General Hospital	33%
3. what media you would prefer to keep the tooth	Ice	20%
	Milk	10%
	Water	30%
	Plastic wrap	15%
	Paper	30%
	Other	5%