

## **Knowledge, attitude and awareness of patents towards emergency management of dental trauma in Kanpur, Uttar Pradesh**

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### **Abstract:**

**Aim:** The purpose of the study was to assess the knowledge, attitude and awareness of parents regarding emergency management of dental trauma.

**Materials and Method:** A total of 2000 parents were surveyed using a self-administered structured questionnaire. The questionnaire was divided into three parts. The questionnaire assessed the knowledge, attitude and awareness of parents towards emergency management of dental trauma. The data obtained was statistical analyzed using SPSS.

**Results:** The overall knowledge of parents regarding emergency management of traumatic dental injuries was not satisfactory. The residing area and age of parents did not affect the knowledge and awareness of parents. Most of the parents were unaware of the steps that need to be taken on their part so as to minimize complications and improve prognosis.

**Conclusion:** There was lack of knowledge and awareness among patents regarding emergency management of dental trauma. Educational programs and campaigns would be necessary to increase the knowledge of parents regarding emergency management of dental trauma.

**Keywords:** Attitude, dental trauma, management, knowledge

## Introduction

Traumatic injuries to both the permanent and primary dentition and their supporting structures have been one of the most important oral health concerns especially in children. Dental trauma can cause both functional and esthetic problems which may affect the child psychologically and physiologically.<sup>1</sup> The consequences of dental trauma range from a simple minor tooth fracture to an extremely invasive injury affecting the tooth and supporting structures.<sup>2</sup>

The prevalence of traumatic dental injuries to children's teeth is high.<sup>3</sup> It is known that majority of dental injuries is seen in children between ages of 8 and 11 years.<sup>4</sup> Incidence of trauma to primary and permanent teeth in children is 1–3% with a steady prevalence of 20–30%.<sup>5</sup> Data from many countries showed that one-third of all preschool children suffered traumatic dental injuries involving the primary dentition, one-fourth of all school children, and nearly one-third of adults have suffered trauma to permanent dentition.<sup>6</sup> The general causes of injuries include falls, collision, fighting or pushing.<sup>7</sup>

Dental trauma occurs at home or at school, and parents, caregivers, and teachers, respectively, are usually present at the time of injury. Epidemiological studies of dental trauma have shown that most dental accidents in children occur at home, followed by school.<sup>8</sup>

The prognosis for teeth affected by trauma depends on timely and adequate treatment, which frequently depends on the understanding of laypeople who are typically present at the accident scene before receiving initial professional dental care. Given that the majority of dental injuries happen at home and then at school, parents must act promptly and appropriately. If parents are aware of what to do in the event of an accident and know what first aid measures to take, they can significantly improve their child's prognosis for severe dental damage to their permanent teeth. The prognosis for the teeth can be affected by the parents' awareness of and familiarity with handling these emergency situations. Past research from a variety of nations has demonstrated that laypeople lack enough understanding on emergency dental trauma care.<sup>9,10</sup>

Despite the significance of this issue, no study has been carried out in the Kanpur area of Uttar Pradesh to find out what parents knew about the emergency management of dental trauma. The purpose of this study was to evaluate parents' attitudes, level of knowledge and awareness regarding dental trauma emergency care.

## Materials and Method

The study population consists of 2000 parents who accompany their children, aged between 6-12 years, for receiving dental care for the first time in the Department of Pediatric and Preventive Dentistry, Rama Dental College Hospital & Research Centre, Kanpur. The protocol was approved by the Institutional Ethical Committee. The objective and nature of the study was explained to the participants, while the voluntary nature of the participation was emphasized and strict confidentiality was assured. A written informed consent form according to the ethical guidelines was subsequently obtained from the participating parents. A three part questionnaire which is a modified form of that used by Raphael and Gregory (1988) was used in the current study. The questionnaire was provided to the participating parents in both English and Hindi. Part 1 was consisting of questions on personal and basic demographic information. Part 2 was consisting of multiple choice questions regarding parental knowledge and attitude towards the emergency management of dental trauma. Part 3 was consisting of multiple choice questions regarding parental awareness towards the emergency management of dental trauma.

All parents were interviewed by the examiner and asked to fill the questionnaire. The participants were requested to mark the option which they perceive to be the most appropriate answer. Collection of the completed questionnaire was done on the same day, immediately after the parents completed the questionnaire. The data obtained was tabulated and statistical analysis was done using SPSS. A descriptive analysis in the form of frequencies and percentage was performed to present the overview of the findings.

## Results

Demographic characteristics of participants are shown in Table 1. A total of 2000 parents participated in this study, of which 63.4% belonged to greater than 30 years of age, 44.5% were from urban area and 55.5% were from rural area. Amongst the respondent parents, 617 % had primary education, 35.1% had their higher schooling education and 3.2% had degree. The number of different answers to part 2 of questionnaire is shown in table 2 and table 3.

Table 1: Demographic characteristics of the participants

Total Respondents	Frequency (n)	Percentage (%)
	2000	
<b>Age</b>		
<30	732	36.6
>30	1268	63.4
<b>Gender</b>		
Male	940	47
Female	1060	53
<b>Place of residence</b>		
Rural	1110	55.5
Urban	891	44.5
<b>Education</b>		
Primary education	1234	61.7
High school	702	35.1
Degree	64	3.2

Table 2: Response of parental knowledge (K) and attitude (A) of different gender towards  
 first- aid management of dental trauma

Questions	Answers	Frequency	Percentage
K1- Did your child ever had any dental trauma in past?	Yes	492	24.6
	No	1508	75.4
K2- If your child fell and broke an upper front tooth, do you think the broken piece of the tooth should be saved?	Yes	120	6.0
	No	646	32.3
	Don' know	1234	61.7
K3- Do you think a tooth can be completely knocked out?	Yes	629	31.5
	No	137	68.6
K4- Do you think primary teeth should be put back in, after they were knocked out?	Yes	30	1.5
	No	1970	98.5
K5 -Do you think permanent teeth should be put back in, after they were knocked out?	Yes	631	31.6
	No	1369	68.5
A1- In case of dental trauma which would be right place for seeking treatment	Physician Office	0	0
	Dental clinic	2000	100
	Don't know	0	0
A2- How urgent do you think is it necessary to seek professional help?	Immediately	1775	88.8
	Next day	0	0
	Only if any pain or other symptoms are noticed	225	11.3
A3- What would you do if the tooth was completely out of the socket ,but still in the child's mouth	Put the tooth back into the socket	142	7.1
	Leave the tooth inside the mouth	0	0
	Remove the tooth from the mouth	1382	69.1
	Don't know	476	23/8
A4 -What will you do with a knocked out tooth that has fallen on the ground and become dirty?	Wash with water/other liquid	1159	58
	Clean it with a tissue or a piece of paper	101	5.1
	Don't clean it	172	8.6

	Don't know	568	28.4
A5- Will you attempt for self reimplantation?	Yes	338	16.9
	No	1662	83.1
A6- How will you carry the tooth to the dentist?	Wrap in paper/tissue	1081	54
	Liquid transport medium like water	487	24.3
	Don't know	428	21.4

Table 3: Response of parental awareness (P) of different gender towards first-aid management of dental trauma

Questions	Answers	Frequency	Percentage
P1- Do you think use of mouth guard is appropriate for your child during sport activity?	Yes	1727	86.4
	No	273	13.7
P2- Is the follow-up of the child by dentist important?	Yes	1957	97.9
	No	43	2.2
P3- Have you ever received any information regarding traumatic dental injuries previously?	Yes	1415	70.8
	No	585	29.3
P4- If yes, what is your source of information?	No information	586	29.3
	Dentist	350	17.5
	Physician	117	5.9
	Friends	503	25.2
	Internet/social network	258	12.9
P5- Would you be willing to do your part to make other patients aware of the same ?	Yes	2000	100
	No	0	0

## Discussion

Physical activity is a basic need for the growth of a child. During these physical activities, injuries to the face are one of the risks associated with it. Trauma to both primary and permanent dentition continues as a frequent dental problem. As long as young children remains active, trauma to both primary and permanent dentition continuous to be a frequent dental problem.

The prognosis of traumatized teeth depends on prompt and appropriate treatment, which often relies on knowledge of lay people such as the child's parents. Parents or guardians of the child are the first ones to report this to dental professionals; therefore, the awareness and knowledge in emergency management is of paramount importance.<sup>11</sup>

The study included 2000 parents attending OPD of Pedodontics and Preventive Dentistry, Rama Dental College Hospital & Research Centre, Kanpur U.P. India, who were assessed with the help of a questionnaire.

Demographic characteristics of the participants were recorded in part 1 of questionnaire. In part 2 of questionnaire, an imaginary case of dental trauma was presented and questions were designed to test the parent's knowledge.

In the present study, 88.8% parents immediately seek professional help in case of dental trauma. This was lesser than the study conducted by Oliveria et al.,<sup>12</sup> (98%) and was much higher than the study conducted by Namdev et al.,<sup>13</sup> (63.17%).

In present study, 61.7% parents did not know that broken piece of the tooth should be saved or not.. In present study, 69.1% parents would be removing the tooth from the mouth if the tooth was completely out of the socket, but still in the child's mouth. The study conducted by Loo et al.,<sup>14</sup> and Namdev et al.,<sup>13</sup> reported that 27.6% and 31.8% parents respectively were aware of reimplantation, which was in contrast to our study.

Raphael and Gregory<sup>15</sup> had reported that 62.1% of respondent in their study were willing attempting self-reimplantation. Loo et al.<sup>14</sup> (27.6%), Namdev et al.<sup>13</sup> (31.8%) also reported 27.6% and 31.8% were aware of reimplantation, which was in contrast to our study. Regarding cleaning of contaminated avulsed tooth in present study, 58% respondents stated that they clean

it with water or other liquid tissue while 5.1% stated that they will clean it with a piece of tissue or paper. While 28.4% don't know what to do. Loo et al.<sup>14</sup> also reported that 43.8% of the respondents have opted plain water. However, in contrast to our study, Namdev et al.,<sup>13</sup> reported in their study that 51.3% did not have any clue what to do and how to clean the tooth before reimplantation. This indicates many parents don't know the correct method to clean the contaminated avulsed tooth. When the immediate reimplantation is not performed, storage medium that can aid in pulpal and periodontal healing are HBSS, saliva, milk, sterile saline solution etc. In the present study 24.3% parents opted for a liquid transport medium (water), whereas 54% parents opted 'paper' because it is easily available. Dry storage during transport seriously prejudices normal healing and repair following replantation. In contrast to our study, Loo et al.<sup>14</sup> reported that a total of 43.8% of the respondents have opted plain water, which is followed closely by salt water (43.3%). Namdev et al.<sup>13</sup> also reported 37.7% of parents favoured paper tissue as storage medium for avulsed tooth. Similarly, Murali et al,<sup>16</sup> 2014 reported that majority of the parents were unaware of proper storage medium.

On enquiring about source of information about tooth avulsion and its immediate treatment, was found to be most by from friends (25.2%) followed by dentist (17.5%) and internet/social media (12.9%) in participants. In contrast to this study, Loo et al.<sup>14</sup> reported that participating parents have opted for internet as their most preferred source.

A total of 86.4% of parents responded that the use of mouth guards was appropriate for their children during sports activities. This was much lesser than the study conducted by A. Quaranta et al.,<sup>17</sup> (62.9%) reported that more male than female parents were likely recommend the use of mouth guards for their children while playing sports. To prevent sport related dental trauma, it is important to promote the use of mouth guards.

The result of this study indicated low level of knowledge regarding dental trauma and its emergency management. The residing area and sex of parents 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 reimplantation had been given to most of them.

Majority of the parents in our study were willing to attend an educational program on dental trauma. This indicates the need for educational programs and campaigns would be necessary to increase the knowledge of parents regarding emergency management of dental trauma.

### **Conclusion**

From the present study, it is concluded that both urban and rural parents in and around Kanpur are lacking in knowledge regarding emergency management of dental trauma in their children. These people need advice and training regarding emergency management in dental trauma. Educational programs especially via online platforms would be necessary to improve awareness of the immediate management of dental trauma. Further studies to assess and compare the knowledge and attitude among urban and rural parents in other areas, regarding emergency management of dental trauma would give a broader perspective.

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