



KNOWLEDGE, ATTITUDE AND PERCEPTION OF MOTHERS ABOUT TOOTH AVULSION IN RURAL AREAS OF MODINAGAR (U.P)

Dental Science

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ABSTRACT

Traumatic dental injuries (TDIs) are a common occurrence in primary as well as permanent dentition. Among them dental avulsion is the most serious form of dental trauma which can be best treated by reimplantation of the avulsed tooth. The extra oral time of avulsed tooth governs the prognosis of reimplanted tooth. Thus, avulsed tooth should be transported to dental clinic on an urgent basis. These injuries occur frequently at home or during playground activities in children and adolescents. Since, mothers are the in the immediate vicinity of children in such situations, their knowledge regarding the emergency management of avulsed tooth is of great importance. Therefore, this study aimed at evaluating the knowledge and awareness of Indian mothers regarding management of avulsed tooth. **Aim:** The study was conducted to evaluate the knowledge, attitude and perception of mothers in rural areas of Modinagar with regard to avulsed tooth and its management using a questionnaire. **Materials and Methods:** The study was conducted on 300 mothers who accompanied their children while visiting Department of Pedodontics and Preventive dentistry. A questionnaire comprising 10 questions in local vernacular (Hindi) language was used. Mothers were instructed to mark one option in multiple choice questions, which they assume to be correct. **Conclusion:** It was concluded from the study that mothers knowledge of management of tooth avulsion was insufficient to provide emergency care to their child.

KEYWORDS

Trauma, knowledge, attitude, paediatric, dental avulsion

INTRODUCTION

Traumatic dental injuries are one of the major concern during children's growing years. These injuries are common in young children as well as adolescents due to sports and playful activities. Mothers are in the immediate vicinity of children in such situation^[1]. Lack of awareness and knowledge of mothers about emergency management of avulsed tooth leads to late presentation in dental clinic which results to unfavorable long term prognosis.^[2] Mothers are the primary source of knowledge for the children and their appropriate decision making plays an important role in the management of avulsed tooth. Most dental injuries occur to permanent teeth with incomplete root development in children in mixed dentition. 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., thus, the loss of a tooth can cause significant effect on a child's quality of life.^{[3],[4],[5],[6]}

exarticulation or total luxation implies total displacement of tooth out of its socket.^[7] During tooth avulsion there is a discontinuity of tissues, such as the periodontal ligament (PDL). Avulsion of teeth most often occurs in children from 7-9 years of age, when the permanent incisors are erupting. At this tooth developing age periodontal ligament are loosely structured and surrounding by low mineralized bone, thus the erupting tooth provide minimum resistance towards an extrusive force.^[4] Maxillary central incisors are the most frequently avulsed teeth while the lower jaw is rarely affected.

Various treatment modalities are available for avulsed tooth such as prosthetic replacement ,functional appliances , minor orthodontic movement and immediate reimplanation of avulsed tooth followed by endodontic treatment, among this immediate reimplantation of avulsed tooth is considered to be the ideal treatment choice.^[3] The prognosis of reimplantation depends on the viability of PDL fibres and the time elapsed post avulsion.^{[7],[8]} Thus, it becomes necessary to prevent the drying of the root surface of avulsed tooth. This can be prevented by storing avulsed teeth in different favourable medium. But , unfortunately many parents lack knowledge and awareness for the same. Through immediate action the prognosis of traumatic dental injuries can be improved.^[2]

Maternal awareness about avulsion injuries have an immediate impact on the outcome of this kind of dental trauma. Timely intervention by

the dentist can save the tooth limit the damage that has occurred. In rural areas, mothers are guided by village elders and socio cultural beliefs of a region. Therefore, this study was planned with the aim to assess the knowledge, attitude and perception of mothers about tooth avulsion in rural areas of modinagar (Uttar Pradesh). So that awareness programmes could be directed accordingly

Considering the above, the present questionnaire based study was conducted to assess the knowledge, attitude and perception of mothers towards emergency management of avulsed tooth in children in rural areas of modinagar.

MATERIALS AND METHODS:

The present questionnaire based study was conducted in the Department of Pedodontic and Preventive dentistry, IDST, Modinagar. All the mothers who accompanied their children to the department for receiving dental treatment were included in the study. A written informed consent according to the ethical guidelines was obtained from the participants. A questionnaire based on the Raphael and Gregory PJ model was formulated in local vernacular language. It comprised of 10 questions concerning avulsion of a tooth in permanent dentitions and regarding knowledge and attitude of the mothers on the management of tooth avulsion injuries (Figure 1: questionnaire).

The questionnaire was pretested in a group of 20 mothers for standardization and estimating the validity and modifications were made accordingly. The test-retest analysis showed a good reliability of 0.7 of the questionnaire.300 mothers participated in the study who were made to fill the questionnaire and the respondents were asked to tick the appropriate answer, which they perceive according to their knowledge is correct. Responses obtained were tabulated and expressed in computed percentages, and then as frequency distributions. SPSS software version 21.1 was used for statistical analysis.

QUESTIONNAIRE ON AVULSED TOOTH

NAME:

AGE:

PLACE

1	Have you or your family ever had any dental trauma?	A)	Myself
		B)	My husband / mother/ father
		C)	My children
		D)	No one

1	Have you or your family ever had any dental trauma?	A) Myself B) My husband / mother/ father C) My children D) No one
2	Do you have any experience with avulsed tooth?	A) Yes B) no
3	Do you think that avulsed tooth can be saved?	A) Yes B) no
4	Do you think treatment is needed after tooth avulsion in a child?	A) Very essential B) Essential C) Desirable D) Not necessary
5	What would you do if the tooth is knocked out of the socket?	A) Save B) Discard C) Don't know
6	What would you do with the saved tooth?	A) Wash with water B) Wash with soap and water C) Clean it with soft cloth or a paper D) Don't clean it
7	What would you do if the tooth was in child's mouth, however, out of place?	A) Put the tooth back into the socket B) Leave the tooth inside the mouth C) Remove the tooth from the mouth D) Don't know
8	What would you do when avulsion of tooth occurs?	A) Visit a general physician B) Visit a dentist C) Will give self-medication D) No treatment required
9	When do you think a professional treatment is needed?	A) Immediately B) Next day C) After a week D) Only when if any pain or other symptoms noticed
10	How will you carry the tooth to the dentist?	A) Wrap in paper or gauze B) Water C) Milk D) In the mouth

Figure 1: questionnaire

RESULTS:

A total of 300 mothers participated in the present study. The responses of mothers recorded through the questionnaire revealed that significant number of mothers (43%) did not experience any trauma in their life, a smaller number of mothers (11.7%) had a previous experience of dental trauma and 23 % of mothers said their child experienced dental trauma. When asked about experience of mothers towards avulsed tooth, only a small number of mothers (1.7%) had received previous experience with avulsed tooth. (table.1)

When the perception of mothers regarding the preservation of avulsed tooth was recorded, only 25% were found to believe that avulsed tooth can be saved and 75% did not know that there is a possibility of saving an avulsed tooth. This difference was found to be statistically significant. (table.2)

When mothers responses were recorded on the need of seeking treatment in case of avulsion, 31.5% considered it to be desirable but a huge percentage (25%) thought it is unnecessary to treat an avulsed tooth. Other responses recorded were very essential (16.7%) and essential (26.7%). (table.2)

When asked “what would you do if the tooth is knocked out of the socket?” majority of mothers (60%) said they would discard the avulsed tooth and only 30% would prefer saving an avulsed tooth and 10% did not have any idea about what they are suppose to do with the avulsed tooth. (table.3)

On asking about the ways of saving an avulsed tooth, maximum number of mothers (60%) would prefer cleaning it with water, instead of trying other ways like washing with soap (1.7%) and clean it with soft cloth or paper (10%). On the contrary, 28.3% said that they are hesitant in cleaning the teeth on their own. The mothers responses were statistically significant. (table.3)

When asked “What would you do if the tooth was in child's mouth, a statistically significant differences were observed in mother's opinion. About 65% of mothers responded that they would remove the tooth from the mouth, 20% of them do not know what to do. 10% said they would put the tooth back into the socket and 5% of mothers said they would leave the tooth inside the mouth. (table.3)

On exploring the perception of mothers whose child had undergone tooth avulsion, 58.7% of them responded they would visit dentist for further treatment while 16% of mothers said they would give self-medication. Equal amount of respondent (10%) replied that they would visit a general physician (10%) or treatment is not required. (table.3)

Regarding urgency of need of treatment, a significant high number of parents (46.7%) would seek the dental treatment only if any pain or other symptoms are noticed. 35% of mothers replied that they would seek immediate treatment. About 18.3 % of mothers said that they would meet dentist on next day. (table.3)

When asked about the transport media for avulsed tooth, 80% of mothers preferred carrying avulsed tooth by wrapping in a paper or gauze. Remaining 20% of them preferred water as transporting media. None of parents were aware of carrying avulsed tooth in mouth or milk. (table.3)

The overall awareness amongst mothers is 32.5% showing lack of technical information regarding the preservation and management of avulsed tooth

Table 1: parental experience about dental avulsion

1 Have you or your family ever had any dental trauma?	N	%	Chi square	p-value	
Myself	35	11.7	12.667	0.005	
My husband / mother/ father	65	21.7			
My children	70	23.3			
No one	130	43.3			
2 Do you have any experience with avulsed tooth?	Yes	5	1.7	56.067	0.0001
	No	295	98.3		

Table 2: Parental knowledge about tooth avulsion

	N	%	Chi square	p-value	
3 Do you think that avulsed tooth can be saved?	Yes	75	25	15.000	0.001
	No	225	75		
4 Do you think treatment is needed after tooth avulsion in a child?	Very essential	50	16.7	2.800	0.423
	Essential	80	26.7		
	Desirable	95	31.7		
	Not necessary	75	25		

Table 3: Parental attitude towards tooth avulsion

	N	%	Chi square	p-value	
5. What would you do if the tooth is knocked out of the socket?	Save	90	30	22.80	0.000
	Discard	180	60		
	Don't know	30	10		
6. What would you do with the saved tooth?	Wash with water	180	60	48.13	0.001
	Wash with soap and water	5	1.7		
	Clean it with a soft cloth or a paper	30	10		
	Don't clean it	85	28.3		
7. What would you do if the tooth was in child's mouth, however, out of place?	Put the tooth back into the socket	30	10	54.00	0.001
	Leave the tooth inside the mouth	15	5		
	Remove the tooth from the mouth	195	65		
	Don't know	60	20		
8. What would you do when avulsion of tooth occurs?	Visit a general physician	30	10	54.00	0.001
	Visit a dentist	190	58.3		
	Will give self-medication	50	16.7		
	No treatment required	30	10		
9. When do you think a professional treatment is needed?	Immediately	105	35	7.300	0.026
	Next day	55	18.3		
	After a week	0	0		
	Only when if any pain or other symptoms noticed	140	46.7		
10. How will you carry the tooth to the dentist?	Wrap in paper or gauze	240	80	21.60	0.000
	Water	60	20		
	Milk	0	0		
	In the mouth	0	0		

DISCUSSION-

Dental traumatic injuries are common in young children and adolescents. They are mostly encountered at home or while playing sports. Since, mothers are in close vicinity of children in most of the occasions, their emergency knowledge for handling the situation is of prime importance. The prognosis of avulsion depends on quick and prompt emergency management. Being considered as the most severe form of dental trauma, dental avulsion is characterized by complete severance of the periodontal ligament and neurovascular bundles of the tooth, leading to the loss of pulp vitality. Immediate reimplantation of the avulsed tooth, followed by endodontic treatment is, hence, considered as the best treatment modality.

The purpose of this study was to evaluate, by means of a questionnaire, mother's awareness of the emergency management of avulsed permanent teeth. The present study results showed lack of awareness in 67% mothers and only 32.5% were found to be aware amongst the total sample. It was found that 43.3% mothers did not experience any kind of dental trauma amongst their family members and 98.3% never experienced avulsion.

The present study results justified the general perception that an avulsed tooth cannot be saved since only 25% mothers were of the opinion that avulsed tooth should be saved and 75% said that it is not necessary to save an avulsed tooth.

In the present study, 35% of mothers said that they would immediately seek professional treatment for avulsed tooth these responses were similar (35%) to the study conducted by kruthika murali et al.^[9]

The present study found that about 60% of the mothers would discard an avulsed tooth, which was similar to the study conducted by Hegde et al.,^[10] (64.8%) and was much higher than the study conducted by Oliveira et al.,^[11] (10%). This may be due to the fact that they are under the impression that once the tooth is fallen from the socket it will not be of any use and will not serve any purpose.

The PDL fibres must remain intact because they are the main determinant of success of replantation procedure. In the present study due to lack of awareness 60% mothers said that they would wash the teeth with water, 10% would clean it with tissue and 1.7% prefer washing with soap and water. About 28.3% of the mothers in the present study answered that they will not clean the avulsed tooth before going to the dentist and these responses were found to be slightly less (31%) when compared with the study by Oliveira et al.^[11]

The storage mediums that can aid in pulpal and periodontal healing are milk, sterile saline solution, saliva, etc. But in the present study, most of the mothers responded that they would wrap the avulsed tooth in the cloth or paper (80%), which was found to be much higher when compared to the studies reported by Oliveira et al.,^[11] (45%) and Hegde et al.^[10] (35.8%). In a the study by Sarah L Raphael and Peter J. Gregory^[12] regarding transport medium, only 5% knew that milk was the medium of choice. Though very few (5%) said that they would leave the avulsed tooth inside the mouth and it was much lesser (32%) than the study conducted by Oliveira et al.^[11]

Preference of mothers (58.3%) to visit a dentist in case of dental trauma was higher than those who preferred going to a general physician (15%). However, some mothers (16.7%) did not feel the need for medical intervention and preferred giving self-medication. Majority of mothers responded that they would seek professional treatment only if pain or symptoms were noticed but a few (35%) would like to visit the dentist immediately. In this study 65% of mothers were not aware about the reimplantation of avulsed tooth. The study by parikh & shah,^[13] Al Ghamdi et al.,^[14] Hedge et al.^[10] and sood et al.^[15] showed similar results of attitude of mothers towards the immediate treatment of avulsed tooth.

The present study result revealed the lack of experience and knowledge among the mothers regarding the management of dental trauma and necessitates the need of measures to increase the awareness.

The present study results reflect the need for more effective communication between dentist and mothers to make them aware of the proper management while facing a situation of dental avulsion. Also this study indicates the need of educational and community based

programs to improve mothers knowledge for emergency management for avulsed tooth.

CONCLUSION

Within the limitations of the present study, it can be concluded that there is a less awareness among mothers regarding emergency management of avulsed teeth.

Lack of knowledge regarding transporting medium and late presentation in dental clinic which results to unfavorable long-term prognosis.

These data reinforce the need to provide the population with some important information regarding the emergency management of avulsed tooth.

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