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Awareness on the Emergency Management of Dental Trauma among Parents and Medical Professionals in Greater Noida, India: A Questionnaire study

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KEYWORDS

Dental Trauma, questionnaire, Medical Professionals

ABSTRACT:

Dental trauma can cause extreme distress and pain to the individual. Awareness and knowledge about management of dental injury plays critical role in predictable outcome. The purpose of the study is to establish the level of knowledge with the help of a questionnaire on the management of dental trauma among parents and medical professionals in Greater Noida, Uttar Pradesh, India.

Introduction:

Dental trauma is among one of the commonly ocurring accidental injuries and the success of the treatment greatly depends on the immediate protocols followed therafter. Dental injuries are now considered as public health problem due to the growing rates of road accidents, violence and injuries to children 1.2 .Several studies state that dental trauma may surpass dental caries and periodontal problem in incidence (3,4).

Individuals managing dental trauma individuals must befamiliarized with dental emergency maneuvers.(1,2) Multiple studies conducted in different regions of the world have reported that there is inadequate awareness regarding emergency measures for traumatized teeth. Bearing in mind the importance of this issue and the lack of information the survey was conducted.

Multiple studies conducted in different regions of the world have reported that there is inadequate awareness regarding emergency measures for traumatized teeth. The purpose of the study is to establish the level of knowledge with the help of a questionnaire on the management of dental trauma among parents and medical professionals in Greater Noida, Uttar Pradesh, India.

Material and Methods

According to 2011 census greater noida population ,Sample size for both Medical Professional and parents was calculated..The sample size for parents were 500 and for medical professionals came out to be 201. Data was collected by means of questionnaire. The questionnaire comprised of 3 Parts objective questions. The first part of the questionnaire mentioned general information about personal and professional profiles of the participants. The second part consisted of questions with reference to knowledge about dental trauma and the last part included dental emergency management hypothesizing situations that could protocols by occur.(ANNEXURE IA & IB)). The questionnaire was checked for the content validity by two professors in the Department of Conservative Dentistry Endodontics. The frequency of responses given by both Medical professional and parents were compared by means of chi-square test (P > 0.05).

RESULTS:

The educational status was compared between parents using the chi-square test. Post-Graduate, PHD and Others were significantly more among Medical professionals(Table 1).

The knowledge about the first aid measures to be taken in dental trauma and any formal training of first aid was

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compared between parents using the chi-square test. knowledge about the first aid measures to be taken in dental trauma and any formal training of first aid were significantly more among Medical professionals(Table 2). The knowledge about the first aid measures to be taken in dental trauma and any formal training of first aid was compared between parents using the chi-square test. knowledge about the first aid measures to be taken in dental trauma and any formal training of first aid were significantly more among Medical professionals(Table 3).

The knowledge about a 9-year-old girl fell and broke her upper front tooth - The broken tooth is likely to be and the immediate emergency management of the case was compared between parents using the chi-square test. Knowledge about a 9-year-old girl fell and broke her upper front tooth - The broken tooth is likely to be and the immediate emergency management of the case was significantly more among Medical professionals(Table 4).

The knowledge about the immediate emergency action you would take is, a 10-year-old child fell down while playing and lost consciousness - The immediate emergency action you would take is and urgent do you feel that a dentist's opinion is needed was compared between parents using the chi-square test. Put the tooth back in its place in the mouth, or in a solution and send the girl to the dentist immediately, sending the child to hospital immediately and taking immediate opinion was significantly more among Medical professionals.(Table 5)

The knowledge about broken tooth piece be reattached and can a completely fallen off tooth be replanted back was compared between parents using the chi-square test. Knowledge about broken tooth piece be reattached and can a completely fallen off tooth be replanted back was significantly more among Medical professionals.(Table 6)

The knowledge about how to keep the tooth till you reach the dentist was compared between parents using the chi-square test. Knowledge about to keep the tooth till you reach the dentist was significantly more among Medical professionals.(Table7)

The knowledge about heard of mouth guards used to prevent traumatic injuries to the teeth and recommend your child/children to wear mouth guards while playing games was compared between parents using the chi-square test. Knowledge about heard of mouth guards used to prevent traumatic injuries to the teeth and recommend your child/children to wear mouth guards while playing games were significantly more among Medical professionals.

(Table 8)

The knowledge about educational program in 'Management of dental trauma', satisfied with your knowledge on 'the management of dental trauma' and attending an educational program on 'management of dental trauma' was compared between parents using the chi-square test. Knowledge about educational program in 'Management of dental trauma', satisfied with your knowledge on 'the management of dental trauma' and attending an educational program on 'management of dental trauma' were significantly more among Medical professionals.

(Table 9)

Table 1:

Ques 1	Parents	Parents		professionals	Chi-square value	p-value
Illiterate	20	4.0%	0	0.0%	10.258	< 0.001*
High school	100	20.0%	0	0.0%		
Graduate	380	76.0%	167	83.1%		
Post Graduate	0	0.0%	19	9.5%		
PHD	0	0.0%	4	2.0%		
Others	0	0.0%	11	5.5%		

Chi-square test

* Significant difference

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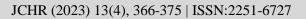




Table 2:

		Parents	Parents		Medical		p-value
				professionals		value	
Ques 2	Yes	60	12.0%	156	77.6%	8.146	< 0.001*
	No	440	88.0%	45	22.4%		
Ques 3	Yes	3	0.6%	58	28.9%	9.288	< 0.001*
	No	497	99.4%	143	71.1%		
Ques 4	Yes	80	16.0%	133	66.2%	8.019	< 0.001*
	No	420	84.0%	68	33.8%		

Chi-square test

Table 3:

Ques 5	Parent		Medical Profess	ional	Chi-square value	p-value
Broken tooth without						
bleeding	289	57.8%	109	54.2%		
Broken tooth with bleeding	17	3.4%	37	18.4%	9.124	< 0.001*
Tooth that had fallen off	12	2.4%	13	6.5%		
Displaced tooth (intrusion)	98	19.6%	21	10.4%		
Soft tissue injuries	77	15.4%	14	7.0%		
Others	7	1.4%	6	3.0%		

Chi-square test

Table 4:

Q6 (1)A	Parents		Medical		Chi-square	p-value
				sional	value	
Permanent tooth	233	46.6%	167	83.1%		
Baby tooth	128	25.6%	23	11.4%	6.475	0.001*
Do not know	139	27.8%	11	5.5%		
Your immediate emergency management	ent of the ca	se is				
Send child to the dentist immediately	209	41.8%	191	95.0%	7.108 0.001*	
Reassure the child and put her to rest	239	47.8%	8	4.0%		
Not sure what to do	52	10.4%	2	1.0%		

Chi-square test

* Significant difference

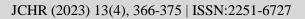
Table 5:

		Parent		Medical Professional		Chi-square value	p-value
9	Put the tooth back in its						
	place in the mouth, or in a						
	solution and send the girl	174	34.8%	178	88.6%		

^{*} Significant difference

^{*} Significant difference

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	to the dentist immediately						
	Stop oral bleeding then put					8.288	< 0.001*
	the child to rest	106	21.2%	0	0.0%		
	Put the tooth in a solution						
	and send the child to the						
	dentist immediately	127	25.4%	21	10.4%		
	Not sure what to do	93	18.6%	2	1.0%		
Ques -	Awaken the child and put						
8	him to rest	269	53.8%	32	15.9%		
	Send the child to hospital					8.958	< 0.001*
	immediately	179	35.8%	169	84.1%		
	Not sure what to do	52	10.4%	0			
Ques -	Immediate	189	37.8%	187	93.0%		
9	Within 30 min	143	28.6%	10	5.0%		0.0044
	Within few hours	59	11.8%	4	2.0%	6.475	0.001*
	Before next day	82	16.4%	0	0.0%		
	Others	27	5.4%	0	0.0%		

Chi-square test

Table 6:

		Parent		Medical Professional		Chi-square value	p-value
Ques 10	Yes	173	34.6%	163	81.1%		< 0.001*
	No	327	65.4%	38	18.9%		
Ques 11	Yes	166	33.2%	167	83.1%		< 0.001*
	No	334	66.8%	33	16.4%		

Chi-square test

Table 7:

			Table 7.			
Q-12: How would	Parent		Medical Pro	Medical Professional		p-value
you keep the tooth till					value	
you reach the dentist						
Ice	19	3.8%	2	1.0%		
Tap water	88	17.6%	7	3.5%		
Wet handkerchief	109	21.8%	9	4.5%		
Sterile saline	17	3.4%	4	2.0%	8.928	< 0.001*
Cotton pad	67	13.4%	11	5.5%		
Child's mouth	13	2.6%	147	73.1%		
Any aseptic solution	139	27.8%	13	6.5%		
Milk	40	8.0%	7	3.5%		

Chi-square test

^{*} Significant difference

^{*} Significant difference

^{*} Significant difference

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Table 8:

		Parent	'arent		Professional	Chi-square value	p-value
Ques -13	Yes	231	46.2%	188	93.5%		< 0.001*
	No	269	53.8%	13	6.5%	11.256	
Ques 14	Yes	211	42.2%	164	81.6%	9.987	< 0.001*
	No	289	57.8%	37	18.4%		

Chi-square test

Table 9:

Part 3		Parent	Parent N		ofessional	Chi-square	p-value
						value	
Ques 15	Yes	389	77.8%	199	99.0%		
	No	83	16.6%	2	1.0%		
	Don't know	28	5.6%	0	0.0%	8.958	< 0.001*
Ques 16	Yes	93	18.6%	143	71.1%		
	No	407	81.4%	58	28.9%	8.173	< 0.001*
Ques 17	Yes	354	70.8%	183	91.0%		
	No	139	27.8%	18	9.0%	7.904	< 0.001*
	Don't know	7	1.4%	0	0.0%		

Chi-square test

Discussion:

The present survey was conducted with intention of creating understanding ,retrieving data about knowledge and awareness of people who are generally the first one to deal with dental trauma patients. One of the major reason to conduct the survey in greater noida is the high incidence of road accidents in this region.

It is worth noting that 16% of parents have experienced a kind of dental trauma. This finding reinforces the need for parents to be well informed in a dental emergency management

An even more disturbing fact is that the knowledge about use of mouth guards to prevent traumatic injuries to the teeth and recommending your child/children to wear mouth guards while playing games were significantly less among parents. A delay in emergency treatment dramatically reduces the long-term prognosis, especially in avulsed cases while the response for immediate treatment was 93% among medical professionals and only 37.8% among parents Extra-oral time and storage media are two of the most important factors preserving the periodontal ligament (PDL) cells and improving the prognosis for an avulsed

* Significant difference

toot and management . The knowledge about the immediate emergency action was significantly less among parents. The results of our survey and various studies; have suggested future dental emergency education efforts should be directed toward continuing educational programs for parents as well as medical practitioners who mostly assist children under scenarios where traumatic dental injuries are likely to occur.

Conclusion:

A multidisciplinary interaction between dentists and parents as well as medical practitioners from other fields as well is necessary for positive interference in health promotion and prevention of more severe complications of dental trauma and sequalae.

- 1. Problems and consequences of dental trauma.
- 2. Availability of after-office hour emergency services
- 3. Specific storage media for avulsed teeth
- 4. Critical timing for replantation of permanent avulsed teeth for long success
- 5. Current concepts of management of fractured teeth

^{*} Significant difference

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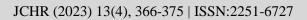
ANNEXURE I A

Questionnaire Form Regarding the Awareness on Dental Trauma (Parents) Part 1

1.	Parents education								
		Graduate							
		Higher Secondary Schooling							
		Illiterate							
2.	Do you	know about the first aid measures to be taken when there is dental trauma?							
		Yes							
		No							
3.	Do you	have any formal training of first aid?							
		Yes							
		No							

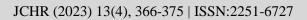
Part 2

4.	Have yo	ou came across or witnessed any kind of dental trauma?
		Yes
		No



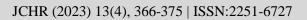


5.	What k	ind of trauma it was?				
		Broken tooth without bleeding				
		Broken tooth with bleeding				
		Tooth that had fallen off				
		Displaced tooth (intrusion)				
		Soft tissue injuries				
		Others				
6.	A 9-year-old girl fell and broke her upper front tooth					
	The broken tooth is likely to be					
		Permanent tooth				
		Baby tooth				
		Do not know				
	Your	immediate emergency management of the case is				
		Send child to the dentist immediately				
		Reassure the child and put her to rest				
		Not sure what to do				
7.	A 12-ye	ear-old girl was hit on the face & her upper front tooth fell out of her mouth				
	The i	mmediate emergency action you would take is				
		Put the tooth back in its place in the mouth, or in a solution and send the girl to the dentis				
		immediately				
		Stop oral bleeding then put the child to rest				
		Put the tooth in a solution and send the child to the dentist immediately				
		Not sure what to do				
8.	A 10-year-old child fell down while playing and lost consciousness					
	The i	mmediate emergency action you would take is				
		Awaken the child and put him to rest				
		Send the child to hospital immediately				
		Not sure what to do				
9.	How ur	gent do you feel that a dentist's opinion is needed?				
		Immediate				
		Within 30 min				
		Within few hours				
		Before next day				
		Others				
10.	Can a b	roken tooth piece be reattached?				
		Yes				
		No				
11.	Can a c	ompletely fallen off tooth be replanted back?				
		Yes				
		No				
12.	How we	ould you keep the tooth till you reach the dentist?				
		ce				
		Γap water				
		Wet handkerchief				
		Sterile saline				



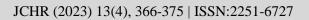


		Cotton pad
		Child's mouth
	\Box A	Any aseptic solution
		Лilk
		Others, Please state
13.	Have yo	ou heard of mouth guards used to prevent traumatic injuries to the teeth?
		Yes
		No
14.	Do you	recommend your child/children to wear mouth guards while playing games?
		Yes
		No
PART 3		
15.	Do you	think it is important to have an educational program in 'Management of dental trauma'?
		Yes
		No
		Do not know
16.	Are you	satisfied with your knowledge on 'the management of dental trauma'?
		Yes
		No
17.	Would	you like to attend an educational program on 'management of dental trauma'?
		Yes
		No
	П	Do not know
		20.000.000
		ANNEXURE I B
Ouestionnai	ire Form	Regarding the Awareness on Dental Trauma (Medical Professionals)
10	Madiaa	l Professional
10.		
		Graduate-167
	П	Post Graduate-19
		PHD-4
10		Others, Please State11
19.	•	know about the first aid measures to be taken when there is dental trauma?
		Yes-156
•		No-45
20.	-	have any formal training of first aid?
		Yes-58
		No-143
21.	Have yo	ou came across or witnessed any kind of dental trauma?
		Yes-133
		No-68





22.	What ki	What kind of trauma it was?			
		Broken tooth without bleeding-109			
		Broken tooth with bleeding-37			
		Tooth that had fallen off-13			
		Displaced tooth (intrusion)-21			
		Soft tissue injuries-14			
		Others-6			
23.	A 9-yea	r-old girl fell and broke her upper front tooth			
	The b	proken tooth is likely to be			
		Permanent tooth-167			
		Baby tooth-23			
	□ Do not know-11				
	Your	immediate emergency management of the case is			
		Send child to the dentist immediately-191			
		Reassure the child and put her to rest-8			
		Not sure what to do-2			
24.	A 12-ye	ear-old girl was hit on the face & her upper front tooth fell out of her mouth			
	The i	mmediate emergency action you would take is			
		Put the tooth back in its place in the mouth, or in a solution and send the girl to the dentist			
		immediately-178			
		Stop oral bleeding then put the child to rest-0			
		Put the tooth in a solution and send the child to the dentist immediately-21			
		Not sure what to do-2			
25.	-	ear-old child fell down while playing and lost consciousness			
		mmediate emergency action you would take is			
		Awaken the child and put him to rest-32			
		Send the child to hospital immediately-169			
		Not sure what to do-0			
26.	6. How urgent do you feel that a dentist's opinion is needed?				
		Immediate-187			
		Within 30 min-10			
		Within few hours-4			
		Before next day-0			
		Others-0			
27.	Can a b	roken tooth piece be reattached?			
		Yes-163			
		No-38			
28.	Can a c	ompletely fallen off tooth be replanted back?			
		Yes-167			
		No-33			
29.	How would you keep the tooth till you reach the dentist?				
		ce-2			
		Sap water-7			
		Vet handkerchief-9			
		Sterile saline-4			





	Ш	Cotton pad-11	
		Child's mouth-147	
		Any aseptic solution-13	
		Milk-7	
		Others, Please state	
30. Have you heard of mouth guards used to prevent traumatic injuries to the teeth?			
		Yes -188	
		No-13	
31.	ou recommend your child/children to wear mouth guards while playing games?		
		Yes-164	
		No-37	
32.	Do you think it is important to have an educational program in 'Management of dental trauma		
		Yes-199	
		No-2	
		Do not know	
33.	3. Are you satisfied with your knowledge on 'the management of dental trauma'?		
		Yes-143	
		No-58	
34. Would you like to attend an educational program on 'manag		d you like to attend an educational program on 'management of dental trauma'?	
		Yes-183	
		No-18	
		Do not know	