

DENTISTS' KNOWLEDGE, ATTITUDE AND PERCEPTION OF FAMILY EDUCATION TOWARDS THE TRAUMATIC DENTAL INJURIES IN PEDIATRIC POPULATION IN IASI

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ABSTRACT

Aim: is to evaluate dentists' knowledge and attitude in relation to the management of the emergency treatment in the traumatic dental injury in children and teenagers as well as the level of parents' information. **Material and methods:** We elaborated our own 23 question questionnaire that was distributed to a number of 151 dentists of Iasi, both general dentists and pediatric dentists. **Results:** The study results show that the generalists have less knowledge about the traumatic dental injury as compared to the pediatric dentists, and the level of information of the families is also reduced. We also identified other factors that may have negative effects on the successful treatment of these disorders such as the low professional expertise of the dentists, their attitude by avoiding such patients, the fear of failures and complications, the lack of cooperation from the part of parents or the cover of some additional costs. **Conclusion:** We consider as necessary the organization of continuous medical education courses on these topics and the introduction of oral health educational programmes in the school curriculum that might provide useful information both for parents and teachers.

Keywords: traumatic dental injuries, children, dentists' knowledge, family education

Traumatic dental injuries occur frequently in children and young adults, comprising 5% of all injuries. Existing data on prevalence of traumatic dental injuries varies between countries, age groups and gender. The prevalence among schoolchildren 1-15 years range between 4.9% in Turkey and 27.56% in Iran (1). Prompt management is necessary to improve prognosis for many traumatic injuries, especially in a young patient and for avulsed teeth. Treatment is often complex, time-consuming, expensive and requires multidisciplinary approaches (2).

The literature shows that the correct procedures to follow in case of a dental trauma depending not only by the dentists, but both, parents and teachers and reported gross lack of knowledge of mothers and teachers regarding traumatic injuries management (3, 4, 5, 6). There is no information about knowledge and attitudes among Romanian dentists, or teachers and families.

For this reason, this research aims to evaluate

the level of knowledge and attitude of the dentists of Iasi towards the patients having traumatic dental injuries and the perception related to the minimum knowledge of families.

MATERIAL AND METHODS

Data items

We used our own questionnaire elaborated according to other instruments of appreciation of dentists' knowledge to emergency care in dental trauma in children that were used in other specialized surveys (7). The questionnaire contains 23 questions referred to dentists' knowledge and attitude about the emergency treatment of dental trauma and dentists' perception of families' education concerning prevention and immediate management of traumatic injuries in children.

The survey group contained 151 dentists aged between 28 and 57 with an age average of 38.02 ±7.022 years. They were divided into 2

categories: young graduates (>10 years experience), 72 (48%) and qualified dentists (< 10 years experience) 79, (52%); by gender 95 (63%) women and 56 (37%) men. As the professional competences, 67 (44.3%) had pediatrics competences and 84 (55.7%), generally dentistry competences; 87 (58%) of the dentists participated at post-graduated courses of dental trauma in last five years. Data were analyzed with the SPSS 18.0 system for Windows (SPSS Inc. Chicago, IL, SUA). Differences between groups were assessed by the Pearson chi-square test at the 0.05 level.

RESULTS

Out of the 180 questionnaires distributed, and after having eliminated the incomplete ones, we finally had 151 questionnaires representing a response rate of 87.8%.

Depending of frequency of pediatric patients with dental injuries, 58% of dentists reported less than 10 patients with dental traumas in last year. The most common trauma entity encountered within the last 12 month was dental fracture, reported by 76% of the dentists; the least encountered were avulsion, reported by 6% and dental luxation, reported by 8% of the dentists.

The answers related to the knowledge about the dental trauma in children are given in table 1. The analysis was performed comparatively according to the variables “professional competence:

pediatric dentists and general dentist” and “years of professional experience: <10 years, and >10 years”.

As for professional expertise, a much higher number of pediatric dentists gave correct answers as compared to the general dentists. The answers that had statistically significant differences were given to question 3-*emergency treatment of luxation*, (p=0.019), question 4- *emergency treatment of avulsion injuries* (p=0.002), and question 5, respectively-*replantation of avulsed teeth* (p=0.001).

The statistic analysis made for the years of professional experience registered statistically significant differences for questions 2-*emergency treatment of root fractures* (p=0.022), 3-*emergency treatment of luxation*, (p=0.011) and 5-*replantation of avulsed teeth* (p=0.003), the physicians having more than 10 years of professional experience giving more correct answers as compared to those having less than 10 years of professional experience.

As for the knowledge related to complications and treatment failures in dental trauma, most general and pediatric dentists, 78.1% and 82.1%, respectively demonstrated that they have sufficient information. The Chi-square test did not show any statistically significant differences between the answers 5 and 6 given by the two categories of physicians, p>0.05.

Table 1 -Dentists’ knowledge regarding emergency care in dental trauma

Questions	Correct answers		Professional competence			Years of professional experience		
	Nr	%	Pediatric dentist (%)	General dentist (%)	p value	<10 years(%)	>10 years(%)	p value
1.Emergency treatment of crown fractures	13	8.67	48.1	51.9	0.43	42.1	57.9	0.331

2. Emergency treatment of root fractures	11 8	7 8.1	45.7	54.3	0.38 9	33. 9	66. 1	0.022 *
3. Emergency treatment of luxation	88	5 8.2	76	24	0.019*	31. 2	68. 8	0.011 *
4. Emergency treatment of avulsion injuries	78	5 1.6	87.2	12.8	0.002*	51. 6	48. 4	0.336
5. Replantation of avulsed teeth	75	5 0.2	83.7	16.3	0.001*	31. 1	68. 9	0.003 *
6. Complications of dental trauma	11 8	7 8.1	45.8	54.2	0.76 1	47. 3	52. 7	0.755
7. Failure of the treatment	12 4	8 2.1	49.2	50.8	0.66 8	43. 8	56. 2	0.478

*Pearson chi-square, $p < 0.05$

In table 2 we presented the answers to the questions showing dentists' attitude in relation to the granting of emergency and definitive treatments to the patients having dental traumas.

We noticed that 76.4% of the **general dentists** do not agree to the affirmation 1-*general dentists should treat all dental trauma to permanent teeth*, $p=0.002$, and 82.3% consider that dental trauma belongs to the competence of the pediatric dentist, item 2-*dental trauma to young permanent teeth should be referred to a pediatric dentist*, $p=0.001$; 62.6% of the dentists having general competence consider that the non-cooperating patients may represent an obstacle against the completion of a correct treatment, ($p=0.012$); 60.8% do not want to treat such patients, $p=0.024$. Statistically insignificant differences were registered only for affirmation 4- *the difficulty in keeping current in trauma management makes its treatment unappealing*, $p=0.431$.

Pediatric dentists' attitude is different as we may see in table 2: 68.9% of them consider that the lesions of young permanent teeth should be

treated by specialists, $p=0.003$ and only 15.6% avoid treating such patients, $p=0.001$. For the affirmations 1, 2 and 3 the differences between answers did not have any statistic significance, $p > 0.05$.

Table 2 -Pediatric and general dentists' attitude toward pediatric patients with dental injuries

Statement	Level of agreement					
	Pediatric dentist			General dentist		
	Agree(%)	Don't agree(%)	p value	Agree(%)	Don't agree(%)	p value
1. General dentists should treat all dental trauma to permanent teeth	45.8	54.2	0.378	23.6	76.4	0.002*
2. Dental trauma to young permanent teeth should be referred to a pediatric dentist	68.9	31.1	0.003*	82.3	13.6	0.001*
3. Uncooperative children are a barrier to the correct management of dental trauma	47.9	52.1	0.612	62.6	37.4	0.012*
4. The difficulty in keeping current in trauma management makes its treatment unappealing	45.7	54.3	0.558	49.1	50.9	0.431
5. I would prefer not to treat patients with dental injuries	15.6	84.4	0.001*	60.8	39.2	0.024*

*Pearson chi-square, $p < 0.05$

As for dentists' perception towards families' knowledge and attitude when coming to the dental room with their children having traumatic lesions, we noticed the following aspects:

- 74.3% of dentists consider that the families involved in this situation are non-cooperating;
- 72.2% say that parents have less information about the methods of prevention of the dental traumas;
- 65.4% consider that parents do not have any

knowledge about the first aid management.

As for the organization of some information and educational sessions on this topic, 70.9% of physicians consider that this aspect might have a positive impact on families.

Unfortunately, only 49.1% consider that the family may have the financial means necessary to continue treatment being the only question that did not have any statistical significance, $p = 0.087$. Results are given in table 3

Table 3-Dentists' perception of families' knowledge about management care in dental trauma

Questions	Responses		p value
	Nr	%	
1.Cooperative/uncooperative families			0.023*
-yes	38	25.7	
-no	113	74.3	
2. Families' knowledge about preventive methods			0.027*
-yes	42	27.8	
-no	109	72.2	
3. Families' knowledge about management in emergency care			0.001*
-yes	34.6	32.4	
-no	65.4		
4. Financial possibilities for supplementary costs			0.087
-yes	74	49.1	
-no	77	50.9	
5. Willingness to education programs			0.018*
-yes	107	70.9	
-no	44	29.1	

DISCUSSIONS

It has been unanimously recognized the

fact that the successful treatment of dental injuries depends on many factors, such as

dentist's competence, knowledge and attitude when accepting and performing the treatment, on one hand, and family's direct involvement by the emergency measures that must be taken by them, on the other hand (8).

These lesions, though not very frequent (only 58% of all dentists reported less than 10 traumatic lesions per month), require promptitude and correct management of the emergency and definitive treatment. According to the type of trauma encountered, dentists reported mostly coronary fracture (78%), whereas dental luxation and avulsion were the least encountered traumatic lesions having a frequency of 8%, and 6%, respectively.

This might explain the high number of correct answers for coronary fracture, 86.7%, and only 58.2% for dental luxation, and 51.6% for dental avulsion. This situation was also reported by Yeng, in Australia, in a study run on a group of 693 dentists, where the percentage of correct answers related to coronary fracture was 90% (7).

In our research, we found statistically significant differences in terms of the knowledge about the treatment of luxation and avulsion for the two categories of general and pediatric dentists. These percentages vary from 76% for pediatric dentists to only 24% for general dentists. A similar situation was also registered for the dental avulsion, the percentage varying from 87.2% for pediatric dentists to only 12.8% for general dentists. Conversely, in Turkey, Cinar do not register statistically significant differences between the answers of general dentists and those of pediatric dentists (9).

If we analyse the attitude in relation to the treatment of the traumatic lesion in children, we notice that 60.8% of general dentists do not want to treat such patients, and 76.4% consider that they must be treated only by the pediatric dentist. Unfortunately, these findings reinforce the conviction that many general dentists refuse to treat such patients

for different reasons (the preference for certain dental treatments that are better paid and less stressful) by sending them to specialized clinics. Although dental avulsion requires urgent action both from the part of the families and dentists, answers offered surprising results since only 51.6% of dentists had knowledge about this situation, and 50.2% had little information regarding the conditions and technique for the replantation of the avulsed tooth.

Many studies in the specialized literature have focused on the issue of management in dental avulsion, and the results obtained are different. In Nepal, Upadhyay found a percentage of 61.8% dentists that knew the correct type of successful intervention, whereas in Italy their percentage is much higher reaching 99.3% (10, 11). As we may have expected, the analysis of the dentist's experience demonstrated that the physicians having more than 10 years of professional experience have more correct answers than the younger ones having a more reduced experience in all the fields under study.

In our research we also wished to find out dentists' perceptions regarding families' education in this field. Answers suggest that a few parents know such information, only 34.5% of them, and 25.7% are non-cooperating with the team in the dental room. Al-Jundi in Jordan reached the same conclusion in a research run in Amman and Irbid through the verification of the knowledge of 2215 mothers, thus noticing that they had insufficient knowledge about the issue of dental trauma in children (5). In other studies, the percentage of parents having such information is much higher: 71% in Italy (12).

CONCLUSIONS

This research highlights some aspects that we may consider as *barriers* against the success of dental trauma treatment in children and teenagers.

The first refers to the attitude of general dentists who avoid or even refuse to treat such patients, for the reason that they have a reduced level of knowledge about the traumatic pathology in children. The second barrier is represented by parents' attitude by

the lack of their cooperation, the reduced level of medical information to which we add the additional costs, the repeated meetings in the dental room and the potential complications and sequels.

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