

Knowledge of Jordanian mothers with regards to emergency management of dental trauma

Al-Jundi SH. Knowledge of Jordanian mothers with regards to emergency management of dental trauma. © Blackwell Munksgaard, 2006.

Abstract – Studies in Jordan indicated that delay in seeking emergency management of dental trauma leads to unfavorable outcome of even mild forms of trauma. The purpose of this cross-sectional study was to assess, by means of a structured questionnaire, the level of general knowledge of mothers in Jordan with regards to the immediate emergency management of dental trauma, and its relation to socioeconomic variables. The questionnaire surveyed mothers' demographic data, basic knowledge of immediate management of tooth fracture, avulsion, and loss of consciousness. It also investigated the participants self assessed knowledge, attitude to public education, and knowledge of availability and priority of emergency services for trauma in Jordan. The sample consisted of 2215 mothers who attended mother and child care centers in the capital Amman, and in Irbid (the second largest city in Jordan) over a period of 3 months (July to September, 2003). Overall the participants' basic knowledge with regards to the emergency management of the trauma cases presented in the questionnaire was deficient regardless of age, level of education, socioeconomic class, or number of previous encounters with dental trauma. Generally, the attitude to public education on the topic was positive and chi-square test indicated that the level of education of mothers positively affected their knowledge of 'during working hour' emergency services and the importance of immediate management of dental trauma. Educational programs that can be added to the mother and child care advice protocols may help improve the knowledge and awareness of mothers and therefore improve the outcomes of dental trauma.

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This report is the second in a series of investigations on the knowledge and attitude of adults likely to be present at accident sites in Jordan, the first report investigated school health education teachers (1). Dental trauma remains one of the important oral health problems in childhood, and can cause much pain and distress. In Jordan, almost 19% of 10 to 12-year-old children have sustained trauma (2). The prognosis of some of the dental injuries highly depends on correct and prompt emergency management and proper advice, that may frequently be

the responsibility of lay people available at the accident site which proved lacking in many reports (3–5). Reports also indicated the deficient knowledge of professionals expected to deal with trauma such as physical health teachers (1, 6, 7), sports coaches (4) and even physicians (8).

In Jordan a recent report indicated that a high percentage of dental trauma in children present late for treatment, possibly because of lack of awareness and knowledge among related adults, resulting in unfavorable long-term prognosis (9). As 41% of

dental injuries occur at home (10), mothers are frequently required to provide prompt and proper action. The aim of this study is to assess, by use of a questionnaire, the general knowledge and attitudes of mothers with regards to emergency management of dental trauma and to investigate the effect of some variables on the responses. The results of this report are expected to lay down information that can help in the design of simple instructions to mothers who attend mother and child care centers (MCCC) in Jordan. The provision of this information could be part of the services provided by these centers, which cover large sectors of the society. The ultimate aim would be to minimize complications from dental trauma among children.

Materials and methods

This study was carried out in the capital Amman and in Irbid governate in northern Jordan, where almost 40% of the Jordanian population reside. In Jordan, MCCC of the ministry of health are distributed to cover all topographic areas, and their main aim is to provide pre- and postnatal care for mothers and children. All mothers are required to attend these centers to get follow-up during pregnancy and then medical check ups and vaccination for their infants until they are of school age. The importance of these centers in providing advice to a large sector of mothers made them the target of the current survey. The survey aimed to (i) assess the general knowledge of Jordanian mothers with regards to immediate dental trauma management, and their attitude to public education on this topic as well as knowledge of availability and priority of emergency services for dental trauma, and to (ii) test the influence of socioeconomic and other related variables on their responses.

The questionnaire was modified from those used in similar reports in the literature (1, 7, 11), and was divided into three parts. Part I consisted of nine questions on personal and educational background as well as questions to establish socioeconomic status of the respondents (Table 1) and part II consisted of questions to survey the basic knowledge of immediate management of three imaginary cases of dental injuries (Table 2).

The third part consisted of five questions investigating self assessed knowledge, attitude to public education programs on dental trauma emergency management, and knowledge of availability and priority of emergency services of dental trauma, (Table 4). A research assistant interviewed all mothers in the sample and filled the questionnaires which were then analyzed. The results were expressed in frequency distribution. Chi-square test was used to test the influence of different variables

Table 1. Responses to part I: personal and socioeconomic characteristics of the respondents

Characteristic	n (%)
Age	
<20	438 (19.8)
20–29	888 (40.1)
30–39	708 (31.9)
40–49	177 (8)
>50	4 (0.18)
Mother's education	
<12 yrs	398 (17.9)
12 yrs (school)	401 (18.1)
14 yrs (diploma)	731 (33)
16 yrs (university)	663 (30)
>16 yrs (higher education)	22 (1)
Socioeconomic status	
Low	554 (25)
Middle	1218 (55)
High	443 (20)
Number of previous trauma encounters	
Zero cases	1329 (60)
1–2 cases	554 (25)
3–4 cases	221 (10)
5 or more cases	111 (5)

Table 2. Part II knowledge questionnaire (case scenario)

Case I: a 9-year-old child fell and broke her upper front tooth
Q1: the broken tooth is likely to be
a: permanent tooth*
b: baby tooth
c: do not know
Q2: your immediate emergency management of the case is
a: send child to the dentist immediately*
b: reassure the child and put her to rest
c: not sure what to do
Case II: a 12-year-old boy was hit on the face and his upper front tooth fell out of his mouth
Q1: the immediate emergency action you would take is
a: put the tooth back in its place in the mouth and send to the dentist immediately*
b: stop oral bleeding then put the child to rest
c: put the tooth in a solution and send child to the dentist immediately*
d: not sure what to do
Case III: A 10-year-old child fell down while playing and lost consciousness
Q1: the immediate emergency action you would take is
a: awaken the child then put him to rest
b: send the child to hospital immediately*
c: not sure what to do

*Correct response.

such as age, level of education of mother, and socioeconomic class, on knowledge, and attitudes of the participants. The level of significance was set at $P = 0.05$.

Results

The number of participants in this survey was 2215 mothers who attended 25 MCCC in Amman and 13 MCCC in Irbid over a 3-month period (July to September 2003). The demographic characteristics

Table 3. Results of part II (knowledge questionnaire)

Case	Incorrect [n (%)]	Correct [n (%)]	Not sure [n (%)]
I Broken tooth			
Type of tooth	709 (32)	1085 (49)	421 (19)
Management	1152 (52)	797 (36)	266 (12)
II Avulsed tooth			
Management	1971 (89)	18 (0.81)	226 (10.2)
III Loss of consciousness			
Management	22 (1)	1750 (79)	443 (20)

Table 4. Responses to part III, self assessed knowledge, attitude, and emergency services for dental trauma in Jordan

	n (%)
Self assessed knowledge	
Enough	44 (2)
Not enough	2171 (98)
Need for further education	
Yes	2105 (95)
No	110 (5)
It is important to seek emergency management of dental trauma	
Yes	1440 (65)
No	775 (35)
Availability of during working hours emergency services	
Correct	1706 (77)
Incorrect	509 (23)
Availability of after hour emergency services	
Correct	487 (22)
Incorrect	1728 (78)

of the respondents are presented in Table 1. The socioeconomic status was determined using three parameters, the type and size of dwelling, annual family income, and level of education and occupation of both parents, and was divided into three classes. High class: where one or both parents had at least 16 years of education, and at least one of them is in a high professional or managerial occupation, living in an owned house with more than four rooms, and an annual family income no less than JD12 000. Low socioeconomic class: where both parents had <10 years of education, work in a semiskilled or unskilled occupation, live in a rented house with less than two rooms and an annual family income less than JD1800. Middle class: where one or both parents had more than 12 years of education, and work in a skilled or a low governmental occupation, live in a rented or owned house with two to four rooms, with annual income less than JD12 000. The responses to part II of the questionnaire which dealt with the case studies were as follows (Table 3):

Case I: broken incisor in a 9-year-old girl

The general knowledge of the respondents was lacking, chi-square test indicated that there was no

significant difference in the number of correct responses in relation to age, level of education, socioeconomic class, or number of observed trauma cases (*P*-values: 0.23, 0.19, 0.1 and 0.12, respectively).

Case II: avulsed permanent tooth in a 13-year-old boy

With regards to the emergency management of this case, only 18 mothers (0.81%) responded correctly by replanting the tooth, or putting it in a solution and going to the dentist immediately. Chi-square test indicated that there was no significant difference in the number of correct responses among the respondents according to age, level of education, socioeconomic class, or number of observed trauma cases (*P*-values: 0.14, 0.2, 0.21 and 0.09, respectively).

Case III: loss of consciousness associated with a fall

The majority responded correctly by sending the child to hospital immediately, only 1% would just attempt to awaken the child. Which was considered a wrong response as loss of consciousness may indicate serious brain injury.

The responses to part III of the questionnaire are illustrated in Table 4. Chi-square test indicated that mothers with university education were more likely to know of the 'during working hour' emergency services, whereas those with previous encounters of trauma were more likely to know of the after hour emergency services (*P*-values: 0.03 and 0.01, respectively). With regards to the importance of seeking immediate care for traumatized teeth, 65% thought it was very important, chi-square test indicated that mothers with >14 years of education were more likely to respond this way with a statistically significant difference (*P* = 0.03).

Discussion

This survey included all MCCC in the capital Amman, and Irbid governate (northern Jordan), These centers cover all geographic areas and are responsible for pre- and postnatal care of both mothers and children, which made them a suitable target for the current survey. The nature of these centers also make them a good source of information about a large sector of the society.

The age of the respondents reflected the child bearing age of females, most of the respondents being between 20 and 40 years of age. About one-fifth of the respondents were below twenty, which is a disturbingly high percentage as these very young mothers usually do not finish their education, and could be confused with regards to raising children.

Four respondents were in their fifties, these mothers were attending the centers for gynecological problems, they were not excluded from the survey as they fit the basic category of being mothers.

It is interesting to notice that more than 60% of the respondents had at least 14 years of formal education, which is a promising finding. It is estimated that 47.6% of the female population in Jordan have at least 14 years of education (12). As the sample was selected from the two largest cities the percentage in this survey is higher than that for the general population.

Part II of the questionnaire dealing with the general knowledge was not detailed as the study aimed at surveying the general basic knowledge of proper immediate actions in situations likely to be faced by mothers at home, therefore; the questionnaire was short with simple, direct, closed questions. Similar studies in the literature surveyed parental knowledge of management of avulsed teeth only in detail (3–5), only one study surveyed tooth fracture as well (13), no studies surveyed knowledge of management of loss of consciousness.

In case I the injured child was 9 years old and sustained a broken incisor; it appeared that almost half of the respondents (49%) know the broken tooth would be a permanent one at this age, this response is higher than that reported by school health teachers in Jordan (1), indicating that mothers are usually more aware of their children's development.

The general knowledge of proper action in Case I was lacking. Only (36%) of the mothers in this study responded correctly by choosing to take the child to the dentist which was less than the correct responses achieved by school health teachers in Jordan (1).

It is crucial to manage avulsed permanent teeth immediately to ensure the best long-term prognosis. The ideal treatment for avulsed teeth is immediate replantation as the promptness of providing such treatment will have a direct bearing on the outcome. This was the concern of the questions for case II. Unfortunately <1% responded correctly by either putting the tooth back into the socket immediately, or looking for the tooth and putting it in the child's mouth or in a liquid and sending him to the dentist. The percentage of school health teachers with correct responses was higher (1) than that in the current survey, which is an expected finding as school health teachers should be more professional in dealing with such injuries, and are expected to receive information on the topic through first aid training. In an Australian survey, more correct responses were achieved, where two thirds of the parents would attempt replantation (3), and half in another study (4).

Overall maternal knowledge with regards to immediate management of dental injuries was

lacking as was found in other studies (3, 4). Generally the results of part III (attitude) of the survey was positive indicating that the respondents were not satisfied with their level of knowledge, and that they were keen to learn more about dental trauma management.

With regards to the knowledge of availability of dental emergency services most of the respondents were aware of the 'during working hours' services, however after hours services were only known by a minority. In Jordan all after-hour emergencies including dental emergencies are dealt with by physicians at general hospitals. Therefore it is important to educate the public of the availability of after hour dental emergency services to overcome delay in seeking professional help in cases of dental trauma, which was noticed to be an important complicating factor in management of dental trauma in Jordan (9).

It is worth noting that the educational background reflected positively on the attitude and perceived importance of immediate management of dental trauma as was found by Sea-Lim et al. (13), however it did not reflect the knowledge of management of dental trauma. The reason for this would be that no information is given about dental trauma through the educational system in Jordan.

Conclusion

The general knowledge of Jordanian mothers with regards to immediate management of dental trauma is lacking regardless of their socioeconomic status, educational background, or previous encounters with dental trauma. In Jordan MCCC can be a useful source of information to a large sector of women with regards to this vital topic.

References

1. Al-Jundi SH, Al-Waeili H, Khairalah K. Knowledge and attitude of Jordanian school health teachers with regards to emergency management of dental trauma. *Dent Traumatol* 2005;21:183–7.
2. Hamdan MA, Rock WP. A study comparing the prevalence and distribution of traumatic dental injuries among 10–12 year-old children in an urban and in a rural area of Jordan. *Int J Pediatr Dent* 1995;5:237–41.
3. Raphael SL, Gregory PJ. Parental awareness of the emergency management of avulsed teeth in children. *Aust Dent J* 1990;35:130–3.
4. Stokes AN, Anderson HK, Cowan TM. Lay and professional knowledge of methods for emergency management of avulsed teeth. *Endod Dent Traumatol* 1992;8:160–2.
5. Hamilton FA, Hill FJ, Mackie IC. Investigation of lay knowledge of the management of avulsed permanent incisors. *Endod Dent Traumatol* 1997;13:19–23.
6. Newman L, Crawford PJM. Dental injuries: 'first aid' knowledge of Southampton teachers of physical education. *Endod Dent Traumatol* 1991;7:255–8.

7. Chan AW, Wong TK, Cheung GS. Lay knowledge of physical health education teachers about the emergency management of dental trauma in Hong Kong. *Dent Traumatol* 2001;17:77–85.
8. Holan G, Shmueli Y. Knowledge of physicians in hospital emergency rooms in Israel on their role in cases of avulsion of permanent incisors. *Int J Pediatr Dent* 2003; 13:13–19.
9. Al-Jundi SH. Type of treatment, prognosis, and estimation of time spent to manage dental trauma in late presentation cases at a dental teaching hospital: a longitudinal and retrospective study. *Dent Traumatol* 2004;20:1–5.
10. Al-Jundi SH. Dental emergencies presenting to a dental teaching hospital due to complications from traumatic dental injuries. *Dent Traumatol* 2002;18:1–5.
11. Sea-Lim V, Lim LP. Dental trauma management awareness of Singapore pre-schoolteachers. *Dent Traumatol* 2001;17:71–76.
12. Department of statistics. The Hashemite Kingdom of Jordan. Jordan in figures. Issue no.4. Jordan: Department of Statistics; 2003.
13. Sea-Lim V, Chulaluk K, Lim LP. Patient and parental awareness of the importance of immediate management of traumatized teeth. *Endod Dent Traumatol* 1999;15:37–41.

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