

Knowledge Assessment of School Teachers in Providing Emergency care to a Child with Avulsed Permanent Incisor in Jazan & Dammam region of Saudi Arabia.

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Abstract:

The nature and complexity of dental trauma in children vary widely. In nearly all cases, prompt and appropriate management can significantly minimise the distress associated, and improve the prognosis of many of the resulting injuries. Often these injuries occur in school environment therefore, the perception of school teacher towards these is crucial to prognosis. The most serious tooth injury is the tooth avulsion. Hence the present study was planned among school teachers to assess knowledge towards the emergency management of avulsed tooth and compare the level of knowledge of school teachers in Jazan & Dammam region of Saudi Arabia. This cross sectional study was conducted among 111 school teachers. The questionnaire comprised of stemmed questions to evaluate the knowledge, attitude and practice regarding management of traumatic tooth avulsion. Around three quarter of the study group from Dammam region had received first aid training while merely 10% from Jazan had received training. Around half of the study population from Jazan was not in favour of permanent tooth reimplantation. Knowledge regarding emergency management of avulsed tooth is insufficient.

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I. Introduction:

Dental avulsion is defined as the complete displacement of tooth out of socket along with severed periodontal ligament with or without fracture of the alveolar bone¹. The prognosis of avulsed tooth often depends on the prompt and appropriate treatment, which often relies on the people who are present at the site. Children spend a considerable amount of waking hours in school where they are engaged in physical activities. Often these injuries occur in school environment. As children are incompetent to carry out emergency treatment of an avulsed tooth, the immediate caregivers are teachers; therefore, the perception of school teacher towards these is crucial to prognosis². Hence the present study was planned among school teachers, to assess their perception, awareness, level of knowledge towards the emergency management of avulsed tooth and compare the level of knowledge of school teachers in Jazan & Dammam region of Saudi Arabia.

II. Materials and methods:

- Study design & study setting** This cross sectional study was conducted among school teachers in Jazan & Dammam region of Saudi Arabia.
- Ethical approval** Ethical approval was taken by the Institutional Review Board of our college.
- Sample selection** A total of 111 teachers, who gave an written informed consent to participate in the study, were included in the survey.
- Questionnaire:** The questionnaire comprised of stemmed questions to evaluate the knowledge, attitude and practice regarding management of traumatic tooth avulsion. Questions were formulated in simple Arabic language.

III. Results:

Only 43% of the Jazani teachers were of the opinion that permanent tooth should be reimplanted. On the other hand, around 2/3rd of the Dammam teachers felt that permanent teeth should be reimplanted. (Table 1)

Around 30-40 % of the school teachers in Dammam and Jazan region had received dental trauma first aid (DTFA) training. Even though 40 % of Jazani teachers had received training but it didn't cover management of tooth injury. (Table 2)

When questions were asked in response to a given "virtual" clinical situation, very few of the Jazani teachers (3.3 %) could correctly identify if the avulsed tooth is permanent or primary (Table 3).

Merely 5.8 % of Jazani teachers knew the right way of holding the avulsed tooth. On the other hand, 68.6 % of the Dammam teachers gave the correct answer. (Table 3) Majority of the teachers didn't opt to reimplant tooth, if they come across a child with avulsed tooth (Figure 1 c). The main reason seems to be the fact that they lack the knowledge of how to replace the avulsed tooth.

IV. Discussion:

School and home are the most common locations where traumatic dental injuries are prevalent. Fall is most common etiological factor. It is evident that these young children are predisposed to falls due to immature motor coordination and hence are potentially at risk of sustaining dental trauma^{3,4}.

Among the dental professionals, it is accepted that prompt and adequate management of traumatic dental injury is important factor for prognosis^{5,6}. The prognosis quite often depends on people such as child's parents and school teachers who are present at the site of accident, prior to referral to dentist. In the present study, few teachers in Jazan (16.6 %) felt the urgency in seeking dental consultation while 58.8 %. Of the Dammam teachers felt the need to refer the child with avulsed teeth to dentist immediately (Figure 1 d). Similar results were seen in a study by Kumar S et al in Nagpur, Central India⁷.

It has been proved that if an avulsed tooth is restored within 15 minutes in a proper transport media like saliva, milk or saline, and then replanted instantly, there is a probable chance of survival in some of the cemental and PDL cells which can play a role in regeneration^{8,9}. Only 15 % of the Jazani teachers answered correctly that avulsed tooth should be transported in milk to the dentist (Figure 1 e).

V. Conclusion:

Provided that they are carefully designed, questionnaires are good tools for screening studies. This is the first study reported so far in Dammam & Jazan region of Saudi Arabia to assess the information about knowledge, attitude and practices of handling tooth avulsion among school teachers using a questionnaire. Knowledge regarding emergency management of avulsed tooth among the school teachers of Jazan & Dammam region is insufficient and an educational campaign dedicated to this topic is highly suggested for school teachers. Teachers of Dammam region were better in giving correct response to questions. This could be attributed to the fact that only 10% of Jazani population had received first aid training in management of tooth injury (Table 2).

VI. Recommendations:

1. Dental trauma management needs to be added to first aid training and also a part of teachers training program.
2. Guest lectures by a dentist can help in educating/refreshing knowledge/creating awareness among the school teachers.
3. Dental trauma management posters suitably displayed in school clinics is highly recommended.

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Table 1: Level of knowledge of tooth anatomy and treatment need for avulsed incisor.

S. NO	QUESTIONS	OPTIONS	Percentage in Dammam region (n= 51)	Percentage in Jazan region (n= 60)	chi square	P value
1	Can you differentiate between milk and permanent teeth?	Yes	58.8	56.6	34.5	0.001
		No	41.1	43.3		
2	Should knocked out milk teeth be put back in to its original position?	Yes	21.5	13.3	18.14	0.001
		No	78.4	86.6		
3	Should knocked out permanent teeth be put back in to its original position	Yes	74.5	43.3	36.42	0.001
		No	25.4	56.6		

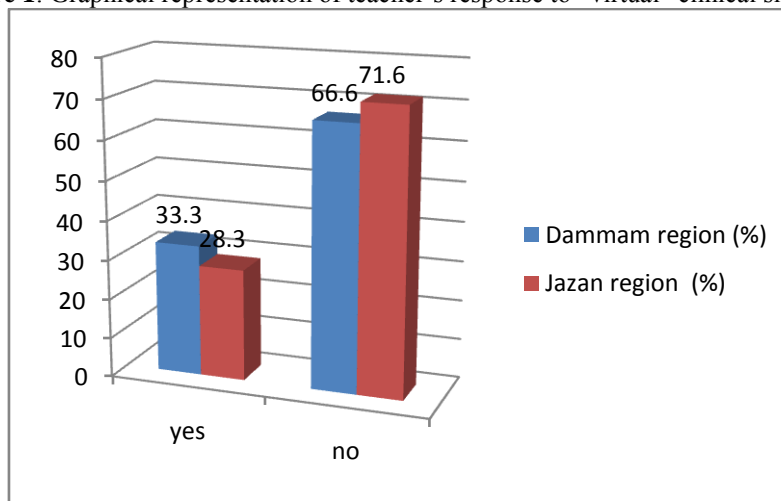
Table 2: Training Level for Dental Trauma First Aid.

S. NO	QUESTIONS	OPTIONS	Percentage in Dammam region	Percentage in Jazan region	chi square	p value
1	Have you received first aid training?	Yes	29.4	40	23.906	0.001
		No	70.5	60		
2	If yes, did it cover management of tooth injury?	Yes	78.4	10	39.74	0.001
		No	21.5	30		

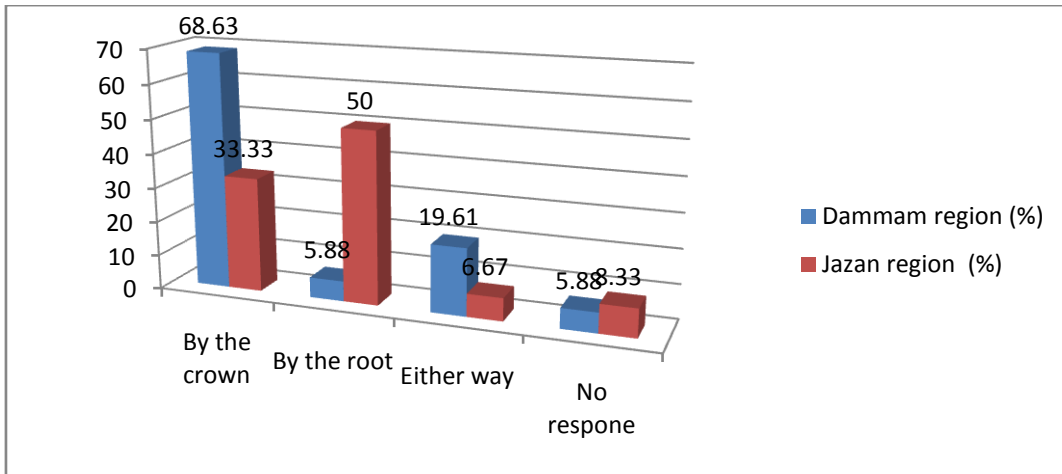
Table 3: Comparison of correct response that a teacher would take in a given “virtual” clinical situation.

S. NO	QUESTIONS	OPTIONS	Percentage of correct answer (Dammam)	Percentage of correct answer (Jazan)
1	During school hours, a 12 year old boy fell from stairs and was hit in mouth, his upper front tooth is found to be missing, what would you do?	Replace the tooth in the socket	33.3	28.3
2	The avulsed tooth is most likely to be	Permanent teeth	27.4	3.3
3	During the placement of the tooth back in its socket, how would you hold the tooth?	By the crown	68.6	5.8
4	How urgently do you think will you seek a dentist help?	Immediately	58.8	16.6
5	If you would take the avulsed teeth to dentist, how would you do it?	Wet gauze	33.33	25
6	If you use liquid to transport the tooth, which liquid would you use?	Milk	45.1	15
7	If you decide to take tooth to dentist but the tooth had fallen onto ground and was covered in dirt, what would you do?	Rinse it under tap water gently	56.8	41.6

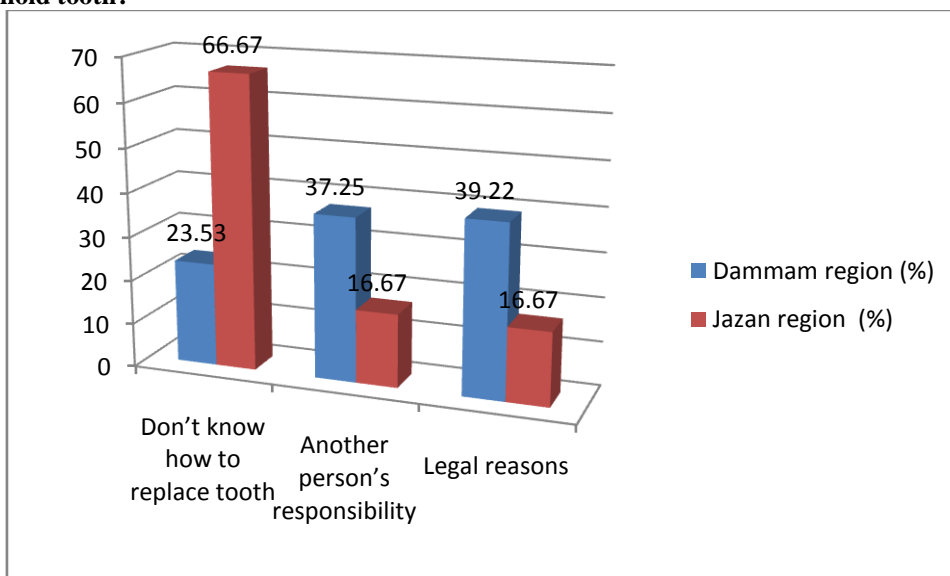
Figure 1: Graphical representation of teacher’s response to “virtual” clinical situation.



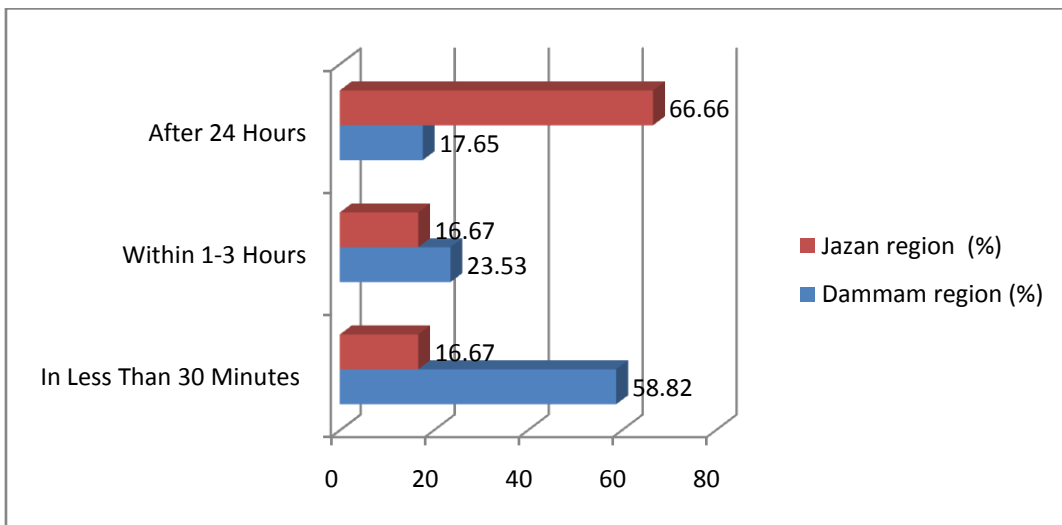
a. Will you reimplant?



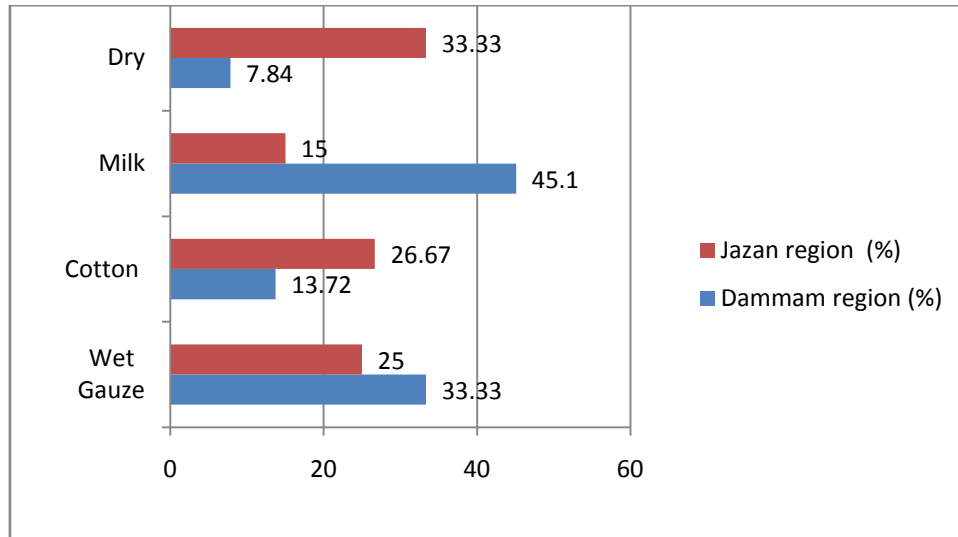
b. How to hold tooth?



c. Reason for not reimplanting tooth?



d. When to seek a dentist help?



e. How to transport the teeth to the dentist?

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