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Research Article

# KNOWLEDGE AND ATTITUDES OF URBAN AND RURAL SCHOOL TEACHERS TOWARDS THE EMERGENCY DENTAL CONDITION MANAGEMENT IN SCHOOL STUDENTS

Bijay Singh<sup>1\*</sup>, Nidhi Sinha<sup>2</sup>, Gaurav Solanki<sup>3</sup>, Akshay Langaliya<sup>4</sup>

<sup>1</sup>MDS, Dept. of Prosthodontics, Jodhpur Dental College General Hospital, India

<sup>2</sup>MDS, Dept. of Conservative and Endodontics, Jodhpur Dental College General Hospital, India

<sup>3</sup>Post graduate, Dept of Oral Medicine, Jodhpur Dental College General Hospital, India

<sup>4</sup>MDS, Dept. of Conservative and Endodontics, Ahmadabad Municipal Corporation Dental College, India

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\*Corresponding Author: **Bijay Singh**

MDS, Dept. of Prosthodontics, Jodhpur Dental College General Hospital, India Mobile: 9928037800

### ABSTRACT

**Aim:** The aim of this study was to investigate and compare the oral health knowledge and attitudes of urban and rural school teachers towards the emergency dental condition like avulsion in school students.

**Objective:** This study was designed to examine the knowledge and attitude of rural and urban school teachers about the management of avulsed teeth.

**Materials and Methods:** A total of 550 school teachers from 20 randomly selected schools of rural and urban sectors participated in this study. Teachers who were willing to participate in the study were asked to fill questionnaire and immediately submit it. 528 teachers returned completed questionnaires among them 28 had to be discarded as they were incompletely filled. Statistical analysis used: Data was statistically analyzed using chi square test.

**Results:** The results of this study revealed that the knowledge regarding management of dental emergencies among teachers was very poor. It was also found that rural teachers had even less knowledge regarding dental emergencies management as compared to urban teachers.

**Conclusion:** This research clearly shows that the urban schools teachers have better knowledge of emergency management of dental avulsion than compared to rural teachers. The chances of tooth loss due to avulsion are higher in rural areas than urban areas. Also the emergency dental facilities are very poor in rural areas.

**Keywords:** Avulsion, Dental Emergencies, Management, School Teacher Awareness.

**Key Messages:** The research clearly shows that there is a need for future health educational and dental emergency management programs in both the rural as well as urban areas to improve the health of the children and the society.

### INTRODUCTION

A teacher influences and positively reinforces a large numbers of children and their parent not just in their academic development but also creates general awareness among them towards emergencies like dental trauma. They also represent a significant resource in implementing the recommendation for preventing and treating all kinds of diseases including dental diseases<sup>1</sup>. The sports teachers in schools are usually the first ones to encounter dental trauma in young children in cases of contact sports, where a very high incidence tooth morbidity and mortality have been reported<sup>2, 3</sup>. The tooth mortality rate can be definitely brought down if the correct immediate post-trauma care is given to the child at the right time.

School health education and health promotion holds many advantages like community instructions can be given to a large number of people at the same time, integration of general and oral health with other activities as well as the overall costs of such programs are quite less<sup>4</sup>. The benefits of these programs are that they bring about awareness and prevention of diseases like dental caries at a very young age and benefit the individual for life. A very good example of this is school water fluoridation which has shown most promising results in caries prevention<sup>5</sup>.

The use of teachers in health education may not be so effective if the teachers are not well trained and motivated. This lack of training and interest on aspects of oral health has been a major reason for loss of tooth due to traumatic injuries like avulsion. Other barriers for success of oral health education programs in

schools include lack of resources, lack of time and failure to incorporate oral health into the school curriculum<sup>6</sup>.

Lack of teacher training may be the single most significant barrier to the success of health-promoting school programs and may in fact have resultant unfavorable repercussions on the student's health. Several international studies have been conducted to investigate elementary school teacher's oral health knowledge, attitude and willingness to participate in dental health programmes<sup>7-11</sup>. Evidence from the majority of developing countries where these studies have been conducted has shown that teachers, though deficient in their knowledge of oral health, have still shown interest in providing oral health education to their students<sup>12-14</sup>.

**Aim:** The aim of this study was to investigate and compare the oral health knowledge and attitudes of both urban and rural school teachers towards the emergency dental condition like avulsion among school students.

## SUBJECTS AND METHODS

This study was a questionnaire survey of 550 urban and rural school teachers in Jodhpur district of Rajasthan. Questionnaire was designed to explore teacher's knowledge about dental avulsion, their attitudes towards oral health and their actions related to the emergency dental condition like avulsion and their response towards it. Survey was conducted with teachers of 10 schools both in rural and urban Jodhpur. The school teachers were given questionnaire related to emergency dental condition that they may have come across in school while the children are involved in sports activities. The schools were selected by cluster random sampling method with permission from the concern authorities to conduct this study. The teachers participating in the studies were appraised about the aims and objectives of this study. The data was collected and statistically analyzed using chi square test.

## RESULTS

The results of this study clearly indicate that the knowledge about management of dental trauma is less among urban school teachers and even less in rural teachers. The study

result showed that when asked about the advice the teachers would like to give on the use of some kind of protective sport gear during sports and other cultural activity, only 87 urban and 34 rural teachers were knowing about it and 163 urban and 216 rural teachers would not advise the use of such protective gear (Table 1). In case of prior incidence of avulsed tooth, 124 urban and 186 rural teachers had come across such situations while 126 urban and 64 rural teachers didn't come across such emergency (Table 2). When asked about the emergency treatment protocol regarding the avulsed tooth, it was found that only 43 urban and 24 rural teachers knew about it, while the rest were not aware (Table 3). When asked about their plan of action when the avulsed tooth was covered with dirt, maximum of the teachers considered scrubbing of the tooth as the first correct treatment protocol to remove dirt (Table 4). When asked about the storage media for the avulsed tooth, majority of the teachers (106 urban teachers and 171 rural teachers) didn't know about the correct storage media to be used (Table 5). 164 urban and 172 rural teachers reported that they didn't have any immediate access to dental operatory in case of trauma (Table 6). It was surprising that only 81 urban and 58 rural teachers knew that the avulsed/knocked out teeth could be saved by replacing it back in the socket followed by dental treatment and remaining were not aware about any such treatment (Table 7). Regarding the optimum time to reach to a dentist after an avulsion/knocked out teeth, 11 urban and 7 rural teachers said that it was 15 min, 40 urban and 24 rural teachers said it to be 30 min, 51 urban and 44 rural teachers thought it to be 1 hr, 68 urban and 37 rural teachers considered it 24 hrs, 1 urban and 22 rural teachers said that there was no such time limit and 79 urban and 116 rural teachers didn't know the correct answer to it (Table 8). 72 urban and 43 rural teachers said that they would attempt to place the tooth back into the socket while 178 urban and 207 rural teachers said they wouldn't try it (Table 9). Only 43 urban and 21 rural teachers said that they have emergency dental/medical facility in their school rest teachers denied it (Table 10).

**Table 1: Do you advice the use of some kind of protective sport gear during sports and other cultural activity (Question 1)**

	Urban		Rural	
	Yes	No	Yes	No
<b>Total</b>	87	163	34	216

**Table 2: Have you come across an accident where a tooth was Knocked out/ avulsed (Question 2)**

	Urban		Rural	
	Yes	No	Yes	No
<b>Total</b>	124	126	186	64

**Table 3: Are you aware of the emergency treatment protocol for avulsed tooth in children (Question 3)**

	Urban		Rural	
	Yes	No	Yes	No
<b>Total</b>	43	207	24	226

**Table 4: What would you do if the avulsed tooth was covered with dirt (Question 4)**

Options	Urban	Rural
Scrub the tooth to remove the dirt	118	158
Rinse with water	73	49
Wash with sterile saline	27	12
Wash with some other materials	32	31

**Table 5: How would you keep the tooth till you reach the dentist (Question 5)**

Options	Urban	Rural
Child's mouth	43	17
Any antiseptic solution	74	53
Milk	27	9
Don't know	106	171

**Table 6: Do you have immediate access to dental surgeon in case of trauma (Question 6)**

	Urban		Rural	
	Yes	No	Yes	No
<b>Total</b>	86	164	78	172

**Table 7: Are you aware that the avulsed/knocked out teeth can be saved by replacing it back in the socket followed by dental treatment (Question 7)**

	Urban		Rural	
	Yes	No	Yes	No
<b>Total</b>	81	169	58	192

**Table 8: What is the optimum time to reach to a dentist after an avulsion / knocked out teeth (Question 8)**

Options	Urban	Rural
15 mins	11	7
30 mins	40	24
1 hour	51	44
24 hours	68	37
No time constrain	1	22
Don't know	79	116

**Table 9: Should you attempt to place the tooth back into the socket (Question 9)**

	Urban		Rural	
	Yes	No	Yes	No
<b>Total</b>	72	178	43	207

**Table 10: Do you have emergency dental/medical facility in your school (Question 10)**

	Urban		Rural	
	Yes	No	Yes	No
<b>Total</b>	43	207	21	229

## DISCUSSION

An avulsion is an injury in which a body structure is forcibly detached from its normal point of insertion by either trauma or surgery. It can also refer to a surface trauma where all layers of the skin have been torn away, exposing the underlying. Avulsion is more common in children as the bone is still forming and is not completely mineralized so is more resilient thus any injury or trauma to tooth at this stage causes the tooth to avulse instead of fracturing. Due to higher occurrence of avulsion injuries in younger age group. The school children were chosen as study population in this study.

The survey investigated the knowledge and awareness of primary school teachers regarding the emergency management of avulsed teeth in school children. The results of the questionnaire showed that almost 30.8% of the teachers didn't had any information regarding avulsion of the tooth and only about 69.2% of respondents had previous knowledge of tooth avulsion. Further analysis of the result showed that there was significant difference in the knowledge levels among the teachers who had previous experience of dental trauma to those who did not have previous experience of dental trauma and also between those who taught in rural areas and those who taught in urban areas.

It is well known that the ideal treatment for an avulsed tooth is immediate replantation. Only 32.6% of respondents were aware of this emergency which requires immediate attention. Most of them preferred dentist to do this job as they were not sure of the correct management protocol to be followed at the time of such injury. It is important to ensure that teachers are educated to handle and preserve the avulsed tooth till the professional care is delivered<sup>15</sup>.

The present study clearly shows the lack of knowledge and awareness in the management of avulsed tooth of primary school teachers both in rural and urban schools but more so in rural schools in Rajasthan.

There is a need for more effective primary protective method and implementation of community health educational aspects of oral health, prevention and dental treatment is needed by the school teachers for management of emergency dental treatment.

The research shows need for the education of teachers and others involved in the supervision of children at schools. The education of teachers about dental trauma can be a part of school dental program or such education programs can also be included as a part of teachers training program.

Lack of training and resources were major barriers to the implementation of a dental health promotion program. Overall, the findings of this study reflect a fairly good understanding and awareness of dental health and positive attitudes toward prevention among primary school teachers. This is needed as teacher involvement in health education can help to create a supportive environment in the school<sup>16</sup>.

### CONCLUSION

The research clearly shows that the urban schools teachers have little knowledge of emergency management of dental avulsion than compared to rural teachers. The chances of avulsion are higher in rural areas than urban areas. Teachers and other individuals, who are involved with the supervision of children in schools, should compulsorily receive training and instructions in dental first-aid as children spend considerable duration of the active day time at school.

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