

Assessment of knowledge of school teachers about the management of specific emergencies among children in Bagalkot, Karnataka

¹Dr. Tharani P, Post-Graduate 3rd year , Department of Pediatric and Preventive Dentistry, P.M.N.M Dental College and Hospital, Bagalkot, Karnataka-587103, India

²Dr. Shivaprakash P. K, Professor and Head, Department of Pediatric and Preventive Dentistry, P.M.N.M Dental College and Hospital, Bagalkot, Karnataka-587103, India

³Dr. Hina Noorani, Professor, Department of Pediatric and Preventive Dentistry, P.M.N.M Dental College and Hospital, Bagalkot, Karnataka-587103, India

Corresponding Author: Dr. Tharani P, Post-Graduate 3rd year , Department of Pediatric and Preventive Dentistry, P.M.N.M Dental College and Hospital, Bagalkot, Karnataka-587103, India

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Abstract

Background: Emergency situations like epilepsy, oral trauma and foreign body aspiration can happen at an unexpected time among children. The prognosis of such conditions to a great extent depends on prompt emergency measures taken at the site of accident.

Aim: The aim of the study was to assess the knowledge of school teachers about the management of emergency conditions such as epilepsy, oral trauma and foreign body aspiration.

Methods: A cross sectional survey was conducted on 100 school teachers of Bagalkot using a self-administered questionnaire. The questionnaire had 4 parts: part 1 contained questions on demographic information. Part 2 contained questions which assess knowledge about

epilepsy. Part 3 contained questions assess knowledge about oral trauma. Part 4 contained questions assess knowledge about suffocation

Results: Majority of the study participants are females [82%] teaching in Primary school [41%]. A significant proportion of teachers are less aware about appropriate management of medical [28 – 41%] and dental emergencies [28 – 54%] at their school [P<0.001]. A significant proportion of school teachers [95%] felt for an awareness program for management such emergencies at school [P<0.001].

Conclusion: There is a need to conduct an awareness program to school teacher's for managing medical and dental emergencies which occurs among children.

Keywords: Epilepsy, foreign body aspiration, trauma

Introduction

Emergency situations such as epilepsy, oral trauma & foreign body aspiration may happen at an unexpected time among children. Epilepsy account for one percent of the global burden of disease; however, 80% of the burden of epilepsy is in the developing countries.^[1] Epilepsy is the second most common chronic neurological condition seen by neurologists. Children with seizure disorder face social discrimination and stigma due to negative perception, lack of knowledge and understanding of the condition.

Dental trauma is common in childhood, causing a major psychological, social and economic impact on children as well as parents.^[2] The most common cause of dental trauma among children is an accident because of a fall and sports activities.

Foreign body aspiration (FBA) is a frequent cause of accidental death in children below the age of 6 years all over the world.^[3] A large number of FBAs in the tracheobronchial tree occurs in the Indian sub-continent.

Timely administration of first aid in response to injuries and medical emergencies will help to reduce complication, the cost of treatment and mortality among children.^[4] As schools do not usually have trained health care providers on site, it is essential for the teachers to be trained in first aid procedures. It is equally important for schools to be well equipped with first aid facilities, in order make appropriate intervention possible.^[5]

This study was undertaken to assess the knowledge of school teachers among management of certain emergency conditions.

Materials and Methods

The present study was a cross-sectional study. 3 schools were selected in Bagalkot district, Karnataka. Official permission was obtained from the head of the selected schools. Informed consent was taken from the school teachers who were willing to participate. The questionnaire consists of sections related to demographic details, assessing knowledge about epilepsy, assessing knowledge about oral trauma, assessing knowledge about suffocation (APPENDIX). The questionnaire was personally distributed to a total of 100 teachers and filled on the same day. The questionnaire had 4 parts:

Part 1 - Contained questions on demographic information.

Part 2 - Contained questions which assess knowledge about epilepsy.

Part 3 - Contained questions assess knowledge about oral trauma.

Part 4 - Contained questions assess knowledge about suffocation

Results

In this study, majority of the respondents, that is 44% were in the age group of 21-30 years, 82% were female staff, 56% had educational qualification of Bachelor degree, 39% had teaching experience of 6-10 years, 41% were primary school teachers. The data was tabulated, analysed and interpreted using descriptive and inferential statistics methods. Chi Square Goodness of Fit Test was used to compare the distribution of responses for study questionnaire among the school teachers. The level of significance [P-Value] was set at $P < 0.05$

Table 1: Assessment of knowledge about epilepsy

Comparison of distribution of responses towards awareness of management of epilepsy among school children using Chi Square Test					
Questions	Responses	n	%	χ^2 Value	P-Value
Any students have an epilepsy/seizure/fits attack	Yes	22	22%	31.360	<0.001*
	No	78	78%		
During a seizure	Turn over the person	19	19%	34.880	<0.001*
	Keep soft cloth between upper and lower teeth	5	5%		
	Do not know how to proceed	31	31%		
	Call an ambulance if the seizure lasts more than 10 mins	45	45%		
Epilepsy treatment	Placing iron object in patient's hand	51	51%	30.380	<0.001*
	Restraining/holding the jerky movements	8	8%		
	Do not know	41	41%		
Do you have first aid kit in your school?	Yes	95	95%	81.000	<0.001*
	No	5	5%		

Figure 1 and 2: Assessment of knowledge about oral trauma

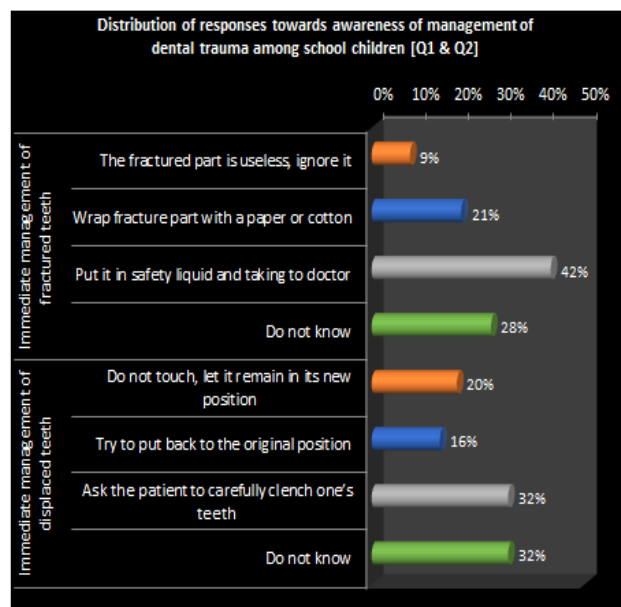


Figure 1

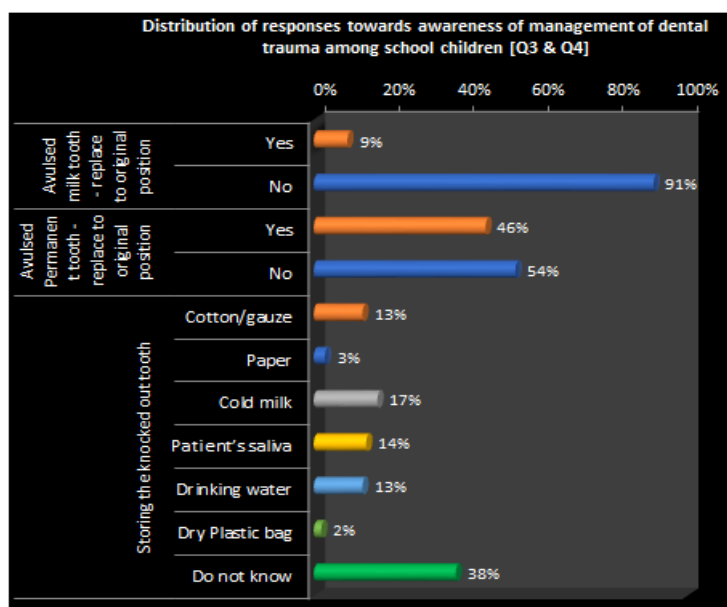


Figure 2

Table 2: Assessment of knowledge about foreign body aspiration

Comparison of distribution of responses towards awareness of management of suffocation / Foreign body ingestion among school children using Chi Square Test					
Questions	Responses	n	%	χ^2 Value	P-Value
Have you ever dealt a child with foreign body aspiration/inhalation or ingestion?	Yes	24	24%	27.040	<0.001*
	No	76	76%		
How dangerous is foreign body aspiration?	Not very dangerous	0	0%	1.520	0.47
	Slightly dangerous	38	38%		
	Life threatening	34	34%		
	Not sure	28	28%		
How would u recognise of foreign body aspiration?	Breathlessness	41	41%	18.240	<0.001*
	Choking/cough/vomiting	25	25%		
	Restlessness	11	11%		
	Can't recognize	23	23%		
Treatment for Foreign Body Aspiration	Check nasal and oral cavity for foreign body and trying to retrieve	25	25%	41.280	<0.001*
	Giving drinks to the patients	9	9%		
	Treatment on own by making the patient upside down	15	15%		
	Taking to physician	51	51%		
Measures to prevent foreign body aspiration	Educate the child	60	60%	71.280	<0.001*
	Small objects out of reach	21	21%		
	Supervise child all the time	15	15%		
	None	4	4%		
Need for awareness program for managing such emergency situations	Yes	96	96%	84.640	<0.001*
	No	4	4%		

Discussion

In the present study, 22% teachers reported that they ever had a child with epilepsy/seizure/fits attack in classroom which is nearly consistent with the findings of Thacker^[6] in which 12.1% school teachers agreed to have students with epilepsy in their classroom. During an episode of seizure, majority of school teachers answered, call an ambulance if the seizure lasts more than 10 mins (45%), do not know how to proceed (31%), turn over the person (19%) and keep soft cloth between upper and lower teeth

(5%). Knowledge about epilepsy is shown to be high in several studies from developed as well as developing countries. Despite that, misconceptions have been associated with epilepsy since ancient times causing a great amount of stigma and discrimination against its sufferers.^[7] A study conducted by Ezeala-Adikaibe BA et al stated that 28.6% teachers believed that epilepsy is better cured in spiritual and prayer houses.^[8] In our study, 51% teachers reported placing iron object in patient's hand is the treatment for epilepsy, 41% do not know and

8% reported restraining or holding the jerky movements is the treatment.

Appropriate management is very much important for the future prognosis of teeth affected by traumatic dental injuries (TDI), especially in young children. Those most likely to be involved at the site of a TDI are school-aged children and school teachers, making teacher knowledge of TDI emergency management fundamental to the provision of correct care to an injured child.^[9] In the present study, majority of the participants (42%) reported that the immediate management of fractured tooth is transferring it in safety liquid and taking it to the doctor. 32% teachers had no idea about the immediate management of displace teeth, 32% believed that asking the patient to carefully clench the teeth would be the immediate management. Similar results were obtained in a study conducted by Kaul et al ^[10], resulted that despite the anxiety involved in seeking emergency care for an injured child, majority of the school teachers (60.99%) stated that they would ask the child to keep the tooth safely in his mouth and take him to nearest dental clinic or dentist. Around 54% of the participants were not conscious of the fact that the knocked out permanent tooth can be replanted. Regarding the storage media for avulsed tooth in the present study only 17% of the school teachers chose milk. The awareness regarding storage media for avulsed tooth was low in our study which was similar to studies conducted by Mesgarzaden AH et al., and by Pithon MM et al., ^[11, 12]

Gregori D et al (2009) conducted a retrospective study in 19 major European countries regarding foreign bodies in upper airway causing complication and requiring hospitalization. It was found that 552 cases were recorded in which foreign body was found in trachea and lungs and in 12.7% cases the complication occurred. Children were mostly from the age group of 0-4 years. The most

common foreign objects were nuts, seeds, berry, corn, and beans. ^[13] In this study, 24% of the teachers stated that they encountered a child with foreign body aspiration/inhalation or ingestion. A study conducted by Gencer H et al stated that 12.2% of the teachers came across foreign body airway obstruction. ^[14] Only 34% of the teachers knew that it is a lifethreatening condition. Only 25% of the teachers responded correctly that choking will be present during foreign body aspiration and majority of the participants (51%) stated that taking the child to the physician will be the treatment of it. A study conducted by Simpson S and Yadav R stated that maximum teachers 52% had average knowledge regarding first aid management of choking. ^[15] In our study, 60% of the teachers believed that educating the child is the best way to prevent foreign body aspiration.

A statistically significant amount of participants (96%) wanted an awareness programs for managing such emergency situations. Henceforth, an awareness program was conducted using powerpoint presentation and videos were shown regarding epilepsy, oral trauma and foreign body aspiration and their management which can be performed by the teachers.

The present study, revealed that optimum and essential knowledge about emergency management of school teachers is grossly insufficient. It can be summarized by stating that all the school teachers should have the basic knowledge to recognize and handle emergencies to prevent its consequences in the child's future.

Due to the limitation of this study being restricted to only one region of Bagalkot, the data presented may not be fully represent the knowledge level of school teachers of entire city. Therefore, a city and perhaps a state wide investigation could be conducted to shed valuable light on this important subject matter.

Conclusion

This study highlighted the substantial lack of knowledge regarding emergency management of epilepsy, oral trauma and foreign body aspiration. Thus, strategies to improve the teacher's knowledge about the management of emergency situations must be planned along with

inclusion of this topic in the teachers curricular training in a continuous manner. It is the pediatric dentist's role to create awareness among persons who are directly associated with the upbringing of children. This can be achieved by conducted camps and educating them through posters, advertisements and audiovisual aids.

Appendix

Questionnaire

Demographic information

1) Gender

- ☐ Male
- ☐ Female

2) Age

- ☐ 21-30 years
- ☐ 31-40 years
- ☐ 41-50 years
- ☐ >50 years

3) Level of education

- ☐ Diploma
- ☐ Bachelor's
- ☐ Master's or Ph.D.

4) Total years of teaching experience

- ☐ 1-5 years
- ☐ 6-10 years
- ☐ >10 years

5) Which class are you teaching

- ☐ Primary
- ☐ Upper primary
- ☐ High school
- ☐ Higher secondary

Assessing Knowledge about epilepsy

1) Did any of your students have an epilepsy/seizure/fits attack

- ☐ Yes
- ☐ No

2) During a seizure

- ☐ Turn over the person

- ☐ Keep soft cloth between upper and lower teeth
- ☐ Do not know how to proceed
- ☐ Call an ambulance if the seizure lasts more than 10 mins

3) Epilepsy treatment

- ☐ Placing iron object in patient's hand
- ☐ Restraining/holding the jerky movements
- ☐ Do not know

4) Do you have first aid kit in your school?

- ☐ Yes
- ☐ No

Assessing knowledge about oral trauma

1) Immediate management of fractured teeth

- ☐ The fractured part is useless, ignore it
- ☐ Try to find the fracture part, wrap it with a paper or cotton
- ☐ Put it in safety liquid and taking it along with the patient to the doctor
- ☐ Do not know

2) Immediate management of displaced teeth

- ☐ Do not touch, let it remain in its new position
- ☐ Try to put back to the original position
- ☐ Ask the patient to carefully clench one's teeth if it is possible
- ☐ Do not know

3) Should knocked-out milk tooth be put back to their original position?

- ☐ Yes
- ☐ No

4) Should knocked-out permanent tooth be put back to their original position?

- ☐ Yes
- ☐ No

5) How do you store the knocked out tooth?

- ☐ Cotton/gauze
- ☐ Paper
- ☐ Cold milk
- ☐ Patient's saliva
- ☐ Drinking water
- ☐ A container or plastic bag in dry condition
- ☐ Do not know

Assessing knowledge about suffocation

- 1) Have you ever dealt a child with foreign body aspiration/inhalation or ingestion?
 - ☐ Yes
 - ☐ No
- 2) How dangerous is foreign body aspiration?
 - ☐ Not very dangerous
 - ☐ Slightly dangerous
 - ☐ Life threatening
 - ☐ Not sure
- 3) Recognition of foreign body aspiration
 - ☐ Breathlessness
 - ☐ Choking/cough/vomiting
 - ☐ Restlessness
 - ☐ Can't recognize
- 4) Treatment
 - ☐ Checking out the nasal and oral cavity for foreign body and trying to retrieve
 - ☐ Giving drinks to the patients
 - ☐ Treatment on own by making the patient upside down
 - ☐ Taking to physician
- 5) Measures to prevent foreign body aspiration
 - ☐ Educate the child
 - ☐ Small objects out of reach
 - ☐ Supervise child all the time
 - ☐ None
- 6) Do you think it is necessary to conduct an awareness program for managing such emergency situations
 - ☐ Yes
 - ☐ No

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