

Evaluation of the Knowledge and Attitude of the School Teachers on Oral Health and Dental Trauma Management in Mathura City

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Abstract

Introduction: Children spend a considerable amount of time in school, especially during their habit-forming time. Schools can provide an effective platform for promoting oral health in children. School teachers play an essential role in managing traumatic dental injuries.

Purpose: This study aimed to assess the knowledge and attitude of school teachers in Mathura city regarding oral health and first aid management of dental trauma.

Materials and Methods: In this cross-sectional study, 120 school teachers were selected through cluster sampling to answer the questionnaire. The data collected were sent for statistical analysis using the ANOVA test and *t*-test.

Results: The result of the study shows a fair knowledge of teachers on oral health and practices. However, knowledge of dental trauma management was inadequate among the school teachers of Mathura.

Conclusion: We conclude that although the school teachers had a fair knowledge of dental health and practices that there is still an immediate need for educational intervention to increase their knowledge and awareness regarding traumatic dental injuries and the protocol to be followed in school-going children.

Key words: Oral health, Knowledge dental trauma, School teachers

INTRODUCTION

Oral health surveys have concluded that the most common dental problems that occur are due to the lack of knowledge and awareness of dental health. It is very important to educate school children about oral health to instill a positive dental attitude at an early age for the development of good oral hygiene habits.^[1]

Oral health means the health of the mouth and it is vital to general health and well-being.^[2] Oral health not only

causes tooth damage but is also responsible for a number of systemic infections. If left untreated they may affect the quality of life of the child, for example, the ability to eat and chew, the way they look and feel how they communicate. Pain from teeth or mouth compromises their focus and participation at school, thus preventing their proper development, and also forbidding full profit from schooling.

Teachers are role models for children to transmit good habits and values. The teachers should have a thorough knowledge and attitude toward oral health. They can play a major role in the early diagnosis and prevention of oral problems.^[3] Traumatic dental injuries are a public dental health problem due to their frequency and occurrence at a young age. Statistics from many countries showed that one-third of preschool children suffered a traumatic dental injury of primary dentition while one-fourth of permanent dentition.

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Dental emergencies are also very common in school-going children, as they may injure themselves during playing, fights, etc. Complications after trauma include discoloration, coronal fractures, ankylosis root resorption, and avulsion.^[4] Among the various types of dental injuries, avulsion leads to the greatest impairment of function and esthetics due to its poor prognosis. The primary and emergency management of such a situation is crucial to ensure a favorable treatment outcome.^[5] Only a few children visit the dentist immediately as a result of dental trauma, which shows the lack of knowledge and awareness among the general population regarding the same.^[6]

Hence, it is very important for the school authorities especially the teachers to have good knowledge about the protocols to be followed during these emergency situations. Therefore, this study aimed to assess the knowledge and attitude of school teachers on oral health and first aid management of dental trauma.

MATERIALS AND METHODS

A cross-sectional study was conducted among 120 school teachers in Mathura between January 2022 and May 2022. Data were collected in a questionnaire format. A structured self-administered questionnaire had been adopted and modified from the previous studies related to oral health and dental trauma in children.

Ethical approval for conducting the study was obtained from the Institutional Ethical Committee of the college and respective schools.

A questionnaire was prepared consisting of the following sections:

1. Knowledge and awareness about oral health problems and their prevention
2. Knowledge and awareness about the type and importance of the different types of dentitions
3. Knowledge about teachers' role in maintaining oral health among children.
4. Types of dental emergencies in school children and the related protocols to be followed.

Scores were given to each question. The maximum score was given to the correct answers and the minimum was given to incorrect answers. The scoring criteria were as follows:

- 75% and above – Good
- 50–75% – Average
- Below 50% – Poor.

With the permission of the principal of the respective schools, the questionnaire was distributed to the teachers.

They were then collected back after 30 min which was followed by a PowerPoint presentation to educate the teachers about oral health and first aid management for dental trauma in children.

The data from the questionnaire were then tabulated and sent for statistical analysis. The statistical analysis was done using SPSS Version (20.0)

RESULTS

The results were tabulated, and conclusions were drawn.

Table 1 describes knowledge and awareness about oral health problems and their prevention. Most of the teachers were aware of oral health problems and their prevention. Around 63% of teachers concluded that “not brushing properly” causes tooth decay, while 25% of them concluded that “eating sweets and ice cream” causes tooth decay. About 7% suggested “not rinsing in-between meals” to be the reason for tooth decay, while only 5% of teachers thought “not regularly visiting a dentist” can cause tooth decay.

About 54% of teachers selected regular brushing and avoiding sweets and sticky foods as a way of preventing tooth decay while 20% thought regular brushing alone can prevent tooth decay. About 13% concluded that regularly visiting the dentist can prevent tooth decay while the rest 13% reported that rinsing in between meals can prevent tooth decay.

About 67% of the teachers were aware of the brushing techniques for children while the rest 33% were unaware of the techniques used for children. About 82% of teachers brushed twice daily, and 18% brushed once a day. About 45% of teachers changed their brushes every 3 months, while 55% changed their brushes every 6 months. All the teachers (100%) knew that it is important to visit a dentist periodically to maintain oral health. About 77% of teachers were aware that oral health can affect general health while the rest 23% were unaware of the fact.

When knowledge and awareness about the type and importance of the different types of dentitions were measured [Table 2], 65% of teachers were aware of the type of dentitions present in an individual at different ages of life. About 77% agreed with the fact that milk teeth are required for eating, speaking, and space maintenance while 23% did not agree with this fact.

When knowledge about teachers' role in maintaining oral health among children was measured [Table 3], 80% knew

Table 1: Knowledge and awareness about oral health problems and their prevention

1. A/c to you what are the causes of tooth decay	Eating sweets and ice cream: 30=25%	Not brushing properly: 76=63%	Not rinsing in-between meals: 8=7%	Not regularly visiting a dentist: 6=5%
2. Prevention of tooth decay can be done by?	Regular brushing: 24=20%	Regular brushing+avoiding sweets and sticking foods: 64=54%	Regular dental visit: 16=13%	Regular rinsing between meals: 16=13%
3. How to prevent gum bleeding?	Regular brushing: 8=7%	Flossing: 6=5%	Mouthwash: 14=12%	All of the above: 92=76%
4. What is the frequency of brushing?	Once-daily: 22=18%	Twice daily: 98=82%	Thrice daily: 0=0%	More than 3 times: 0=0%
5. How often do you change your brush?	Monthly: 0=0%	3 monthly: 54=45%	6 monthly: 66=55%	Yearly: 0=0%
6. Are you aware of the brushing techniques for children?	Yes: 80=67%	No: 40=33%		
7. Do you think it is important to visit a dentist periodically to maintain oral health?	Yes: 120=100%	No: 0=0%		
8. Did you notice any of your students missing their school because of dental pain?	Yes: 86=72%	No: 34=28%		
9. Have you ever seen a decayed tooth and how does it appear?	Yes: 76=63%	No: 44=37%		
10. If yes, do you check the children oral cavity periodically and make necessary referral?	Yes: 52=43%	No: 68=57%		
11. Do you think that oral health affect general health?	Yes: 92=77%	No: 0=0%	No idea: 28=23%	

Table 2: Knowledge and awareness about the type and importance of the different types of dentitions

1. What are the dentition an individual has?	Primary dentition: 14=12%	Permanent dentition: 28=23%	Both: 78=65%
2. Do you agree milk teeth are required for eating, speaking and space maintenance?	Yes: 92=77%	No: 28=23%	

Table 3: Knowledge about teachers' role in maintaining oral health among children

1. Can teachers play effective role in oral health promotion?	Agree: 96=80%	Not sure: 24=20%	Disagree: 0=0%
2. Does your teaching curriculum includes education regarding teeth and their importance to children?	Yes: 76=63%	No: 44=37%	
3. What kind of oral education have you given your school children?	About tooth types, functions, structure, eruption: 8=6%	About brushing, good dietary habits, injurious oral habits: 30=25%	Education about tooth decay, gum diseases, irregular teeth, their causes and prevention: 20=17%
4. Till now any dental health camp was conducted in your school?	Yes: 62=52%	No: 58=48%	All of the above: 62=52%

that teachers play an effective role in oral health promotion while 20% were unsure. About 63% of teachers stated that their teaching curriculum includes education regarding teeth and their importance to children, while 37% reported that their curriculum did not include education regarding oral health and its importance.

When types of dental emergencies in school children and the related protocols to be followed were measured [Table 4], 68% of teachers reported that they have come across dental emergencies in the form of tooth/teeth loss in their school while the rest 32% reported that they have not come across any such dental emergencies. About 67% of teachers knew that the broken piece of a tooth is useful while 33% were unaware of the fact. About

70% of teachers knew the fact that after a complete loss of a permanent tooth, it can be replaced back while the rest 30% were unaware of this. About 58% of teachers did not know that a lost tooth can be stored either in coconut water, milk, or patient's own saliva and carried to the dentist immediately while the rest 42% were aware of this fact.

DISCUSSION

A child during his pre-primary and primary school time period goes through an active developmental stage and so during this stage, the teachers can greatly influence their health behavior.^[3] Well-informed teachers have a great

Table 4: Types of dental emergencies in school children and the related protocols to be followed

1. Did you come across any dental emergency in the form of tooth/teeth loss in your school?	Yes: 82=68% No: 38=32%
2. If a tooth is broken do you know that the broken piece is useful?	Yes: 80=67% No: 40=33%
3. If complete loss of permanent tooth occurs: Do you know it can be re-implanted?	Yes: 84=70% No: 36=30%
4. If yes do you know that it should be stored in either in coconut water, milk, patient's saliva and carried to the dentist immediately?	Yes: 50=42% No: 70=58%
5. If given a chance will you be keen on receiving more information regarding dental injuries and its management	Yes: 115=96% No: 5=4%

potential in providing good oral health education and thereby instilling a positive dental attitude in children at an early stage of life.^[4] This could be achieved only if the teachers are aware of the oral health problems and their prevention.

This study was conducted with the aim to assess the knowledge and attitude of school teachers on oral health and dental trauma management in school children. According to the best of our knowledge, no such study has been conducted among school teachers in the Mathura district.

The overall knowledge of the school teachers on oral health was fair. In our study, 63% of subjects reported not brushing properly to be the cause of tooth decay which is similar to the study done by Maganur *et al.*,^[3] in which 58% of the subjects concluded not brushing properly that is the main cause of dental problems.^[3] A similar study was conducted by Shekhar *et al.* and only 14.2% of subjects concluded that tooth decay can be prevented by regular brushing and avoiding sweets, while, in our study, 54% concluded that regular brushing and avoiding sweets and sticking foods can prevent dental caries.^[7]

In present, 82% of the teachers reported that they brushed their teeth twice daily, and 18% brushed once a day, this was similar to the study conducted by Mota *et al.*^[8] The teachers showed fair knowledge and awareness of oral health problems and their prevention. About 77% of teachers were aware of the fact that oral health affects general health, while 23% of the teachers had no idea on this. In another study conducted by Maganur *et al.*, 100% of the teachers were aware of the fact that oral health affected general health.^[3]

The majority of teachers (65%) in the study were aware of the type of dentition an individual has. Most of the teachers

knew the importance of primary teeth for eating, talking, and space maintenance. About 80% of the teachers agreed to the fact that teachers can play an effective role in oral health promotion.

According to the results of the present study, 82% of teachers did not receive any training for dental emergencies. This finding was in accordance with Chandukutty *et al.*^[9] About 70% of the teachers knew that if complete loss of permanent teeth occurs that it can be re-implanted, while 30% of the teachers were unaware of this fact. A similar study was conducted by Mohamed, in which it was observed that 41.2% of teachers were aware of the re-implantation of permanent teeth, while 58.8% of teachers were unaware of this^[1] which indicates inadequate knowledge regarding traumatic dental injuries and the need for in-service dental emergency training for school teachers.

The time-lapse after avulsion and storage media is two of the most important factors for preserving the periodontal ligament cells and thereby improving the prognosis of an avulsed tooth. On being asked if they knew that a lost tooth should be stored in either coconut water, milk, or the patient's saliva and carried to the dentist immediately, 42% answered yes while 58% were unaware of this fact. Another similar study was conducted by Prasanna *et al.* according to which 88% of teachers were unaware of the storage of an avulsed tooth.^[10]

School teachers' overall knowledge about dental emergencies among school children was not really up to the mark suggesting the need for educational interventions. This was similar to the study conducted by Yilmaz *et al.*^[11] which stated that the teacher's knowledge about dental trauma management was inadequate.

The current results revealed that 96% of the teachers were keen to receive more information on dental injuries and their management, which is in agreement with the previous results in literature among the different population.^[6,10,11] The majority of the teachers felt that educating children about oral health could prevent most dental diseases. School teachers in the present study demonstrated fair oral health knowledge, oral practices, and favorable approaches to children's oral health.

Overall results of our study showed a positive attitude toward managing traumatic dental injuries although their knowledge is inappropriate. The results revealed that the majority of the teachers neither received any first aid training nor any dental trauma management. Providing oral health education in schools not only develops personal skills but also instills a positive dental attitude and healthy behavior

among school children at an early and developing stage of life. Hence, first aid and trauma management training should be made compulsory for all primary school teachers.

CONCLUSION

The findings of our present study indicate that the school teachers in Mathura showed satisfactory oral health knowledge and their attitude toward oral health education. Their knowledge of dental trauma and its management was inadequate. There is an immediate need for educational intervention to increase their knowledge and awareness regarding traumatic dental injuries and the protocol to be followed in school-going children.

RECOMMENDATION

1. Dental emergency education program should be made a part of the annual health educational course carried by the school management.
2. Educational posters and pamphlets should be circulated in schools.
3. More school oral health programs should be conducted in schools.

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