

School Teacher's Knowledge Regarding Dental Health

Abstract

The seeds of prevention should be sown early in the life to have its benefits in evidence. When it comes to the pediatric age group the information delivered by the school teachers will have better impact. With this background in the mind the survey was designed to assess the school teachers' knowledge regarding dental aspects and also to make them aware about their indispensable role as oral health messengers. The survey contained questions related to their knowledge about dentition, exposure to dental health education, awareness on caries, experience and knowledge on providing first-aid in instances of dental trauma. A total of 850 school teachers were selected from rural and urban areas in and around Guntur city and the questionnaire was distributed. When answers obtained were summarized it was found that the overall knowledge of school teachers regarding the above mentioned dental aspects was relatively low which gives an alarming signal to improvise the knowledge of school teachers. This survey was an effort to interact with the teachers so that the knowledge, attitude and practice of the teachers regarding dental issues can be identified. Thus few recommendations were suggested to achieve the goal.

Key Words

School teachers knowledge, children oral health, knowledge on dental trauma, first aid

Introduction

In every community or country, children play most important role as they are the heart of socioeconomic development. The general health, wellbeing, education and development of the children can be affected by oral health. In many countries, large numbers of children, parents and teachers have limited knowledge about the causes, occurrence and prevention of the most common oral diseases. Children spend considerable period of time in the school right through childhood and adolescence. This period has a special importance in their growing age as they are particularly receptive during this age which is more so when the message has been delivered from a school teacher. The school plays a pivotal role in the growth of young minds and also is an ideal place for learning new information.^[1] In response to the World Health Organization (WHO) guidelines in the year 1978, many countries utilized school teachers as health education promoters for school children, to serve as alternate personnel in primary health care approach in combating preventable diseases. School-based dental education is internationally recognized and most effective because children are approached when their health habits are being formed. This might play an important role in increasing the

knowledge of oral health and disease among school teachers. Several studies have proven success in utilization of school teachers as oral health educators in terms of improved oral health among school children.^{[2]-[7]} Despite the willingness to impart general oral health education, they seem to lack formal basic training in oral health matters which will hinder the effectiveness of teachers role in promoting oral health.^{[4],[8]} Thus the aim of the present study was to assess the school teacher's knowledge concerning dental aspects in health and disease and their aptness to provide first-aid in case of dental emergencies. Based on their levels of knowledge, appropriate dental health education programs can be planned for teachers for oral health promotion among school going children.

Methodology

The survey was conducted in and around Guntur city which is situated in the south eastern region of Andhra Pradesh, India. This city is considered to be one of the major educational centres of this part of the country.

Study population and sampling procedures:

After seeking permission from the higher authorities, this cross sectional study was planned in about 68 primary schools in

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and around Guntur city. A sample of in-service teachers was selected by simple random sampling procedure. An individual teacher was a unit of analysis among all the teachers in the study. A total of 850 teachers were identified in the selected schools including 368 males and 482 females. The mean age calculated was 34.5 yrs, mean teaching experience was 7.1 yrs and 70% of the teachers had a basic educational degree, while the rest had a post graduate degree. A self administered questionnaire was framed both in English and Telugu language and distributed to school teachers by a trained dental personnel who had been deployed to assist them during the answering process. The questionnaire contained 19 items, some questions had 4 options with one correct answer and some had 2 options as yes/no. To make the study purposeful the questionnaire was divided in to 4 dimensions: Dimension I with 3 questions related to their knowledge about dentition (eruption pattern, age and importance for primary dentition), dimension II with 5 questions related to their exposure to dental health education

Table 1 : General knowledge about dentition

Question	Response			
	Once	Twice	Thrice	No idea
1) How many times teeth eruption takes place in human life time?	4% (34)	78% (663)	11% (94)	7% (60)
2) What age the permanent teeth start erupting into the oral cavity?	6-7 yrs	9-10 yrs	12-13 yrs	No idea
	13% (110)	42% (357)	33% (281)	12% (102)
3) Do you think that the primary teeth are as important as permanent teeth?	Yes		No	
	3% (25)		97% (825)	

Table II: Exposure to dental health education

Question	Response		
	Yes	No	
1) Does your teaching curriculum includes education regarding teeth and its importance to children.	73% (621)	27% (229)	
2) If yes, do you teach children about it?	45% (279)	55% (342)	
3) Till now any dental health camp was conducted in your school?	49% (417)	51% (433)	
a) If yes, was it educative	Yes	No	
	90%	10%	
b) If yes, it is educative for	Teacher	Student	Both
	4% (13)	43% (144)	53% (177)

Table III: Awareness on dental caries

Question	Response		
	Yes	No	
1) Did you notice any of your students missing their school because of dental pain?	50.5% (430)	49.5% (420)	
2) Have you ever seen a decayed tooth and how does it appear?	78% (663)	22% (187)	
3) If yes, Do you check the children oral cavity periodically and make necessary referral?	2% (13)	98% (650)	
4) If yes: How often you check the oral cavity of children	Yearly	Half yearly	Quarterly
	100% (13)	—	—

Table IV: Experience and Knowledge on dental trauma

Question	Response	
	Yes	No
1) Did you come across any dental emergency in the form tooth/teeth loss in your school premises?	60% (510)	40% (340)
2) Does your training includes first aid course?	71% (604)	29% (246)
3) If yes, did the first aid course cover the management of dental trauma?	12% (72)	88% (532)
4) If no, have you attended any of the first aid training courses on your own?	2% (18)	98% (832)
5) If a tooth is broken do you know that the broken piece is useful?	29% (247)	71% (603)
6) If complete loss of permanent tooth occurs. Do you know it can be replaced back?	30% (255)	70% (595)
7) If yes, do you know that it should be stored in either in coconut water, milk, egg white and carried to the dentist immediately?	1% (3)	99% (252)

(inclusion of dental health in their teaching curriculum, about their exposure to education camps and their usefulness), dimension III with 4 questions related to their awareness on dental caries (ability to detect decayed tooth, their awareness regarding students missing the school because dental decay and related pain and periodic observation and necessary referrals) and dimension IV with 7 questions related to their experience and knowledge on providing first-aid in case of dental trauma (experience of dental emergency and inclusion of first aid in their teaching curriculum).

Results and Discussion

The answers obtained as a result of distribution of the questionnaire are summarized in tables I, II, III, IV after categorizing the questions in to 4 dimensions as mentioned above in order to present the data in complete and easily understandable form.

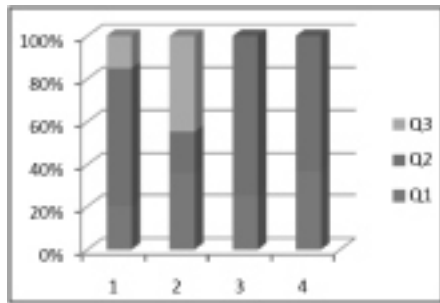
The study design being cross sectional allowed the massive collection of information from many primary school teachers within limits of resources. A direct personal approach was used for this survey because of the inherent advantage of extremely good response rate. A self administered questionnaire was carefully constructed and organized based on questionnaire design updated by WHO to minimize information bias and was designed to obtain relevant background information in line with the

objectives of the study.^[9] School teachers have been considered potentially important primary agents of socialization, with the ability to influence the knowledge, attitudes and behaviour of school children. Thus in the present study an effort was made to assess the school teachers knowledge.

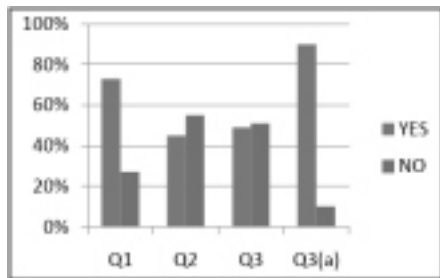
Knowledge about dentition in health and disease was measured from the responses to the 19 questions in the questionnaire. To make the study more purposeful and also to present the data in an organized and structured form the questionnaire was divided into four dimensions.

Dimension I: Comprised questions related school teacher's knowledge regarding dentition, the answers obtained were when summarized 78% of the school teachers know that the teeth eruption takes place two times in human life time; these results were in accordance with the study done by Chaudhary F et al.^[10] Only 13% percent could answer correctly the age of onset of eruption of the permanent teeth as 6-7 yrs and these results were comparable to the study done by Subramaniam R et al,^[11] and few studies conducted in Hong Kong^[12] and England,^[13] and in contrast with a study conducted in two south European countries (Porto and Istanbul).^[14] Only 3% of the study population considered the primary teeth as important as permanent teeth and rest of them does not give much importance to the primary dentition thinking that these teeth will be ultimately replaced by the permanent teeth. In this dimension it is not surprising to have answers of this sort, as it is a general observation to have 2 sets of dentition in humans and the important things are the age of eruption and giving importance to primary dentition, the knowledge regarding these aspects was relatively very much poor in the study population.

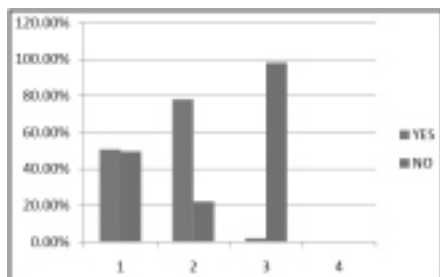
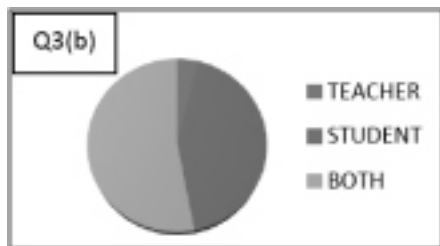
Dimension II: When the questions related to their exposure to dental health education were asked 73% recollected that their teaching curriculum included the education regarding the teeth and its importance for children. Regarding educating children on oral health care, only 27% of the teachers attempted to do so, which is in contrast to the project reports of oral health promotion and intervention activities in which 92% answered that they attempt to educate children about oral health^[15] 49%



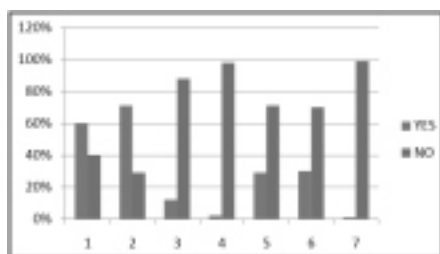
Graph I: General Knowledge About Dentition



Graph II Exposure To Dental Health Education



Graph III: Awareness On Dental Caries



Graph IV Experience And Knowledge On Dental Trauma

teachers have attended the dental camps at least once in their schools and 53% felt that the camps conducted were educative both for children and teachers. Though the teaching curriculum contain teaching dental health education to school children, many of them did not do that, the probable reason could be that, they themselves are unaware of the importance of teeth which indicates the need for upgrading their knowledge as well as making them to realise the importance of prevention.

Dimension III: Dental caries was chosen because it is the most common dental problem in children. When the questions related to caries were asked, 50.5% of the teachers noticed children missing the school because of dental decay and related pain indicating it's prevalence in the community. About 78 % of teachers know how a decayed tooth appears but a small proportion of the teachers check the oral cavity of the children yearly once and refer to the dentist. This dimension indicated the intensity of the problem prevailing in the community and measures should be taken by the concerned authorities to periodically examine the school children oral cavity and to make necessary referrals.

Dimension IV: Dental trauma being an emergency condition, 60% of the study subjects had experienced this sought of emergency in the school premises. These figures were in accordance with the study results of Subramaniam R et al^[11] and Caglar et al.^[14] Regarding teachers' training programme containing first-aid course, 71% of the teachers responded positively which is a promising finding. In similar studies conducted in Hong Kong,^[14] United Kingdom^[16] and Bangalore^[17] the corresponding figures were 99.4%, 57.9% and 95% respectively. Very few respondents (12%) recollected that first aid course covered management of dental trauma indicates that the managing the dental injuries is not given much importance in the curriculum. When a question was asked on whether, they had attended any course on their own, only 2% answered indicating that majority of teachers do not try to upgrade their knowledge after their basic graduation. Only 29% of the teachers know that the broken piece of the tooth is useful which is in contrast with Mesgarzadeh et al^[18] study in which more than 50% knows the same. When

complete loss of the tooth occurs, only 30% of them know that it can be replanted out of which 99% of them does not know that it should be stored in proper medium and to be brought within half an hour to the dentist. Though the direct or indirect experience of dental trauma to the teachers is not an uncommon phenomenon they had little knowledge regarding its prevention and immediate management, and was in accordance with many studies.^{[18]-[21]}

This particular survey was based on the concept of teachers' key role in education and motivation of school children on the importance of dental health and referral to a dental surgeon for timely intervention. These factors would bring awareness among school children regarding oral health which would further help in decreasing the prevalence of oro-dental problems. Thus, few recommendations can be considered to improve the knowledge level among school teachers.

1. The target group in the teacher's community of any particular school should be identified. An ideal target group would comprise of class teachers, teachers appointed for physical education, life sciences teachers and the principal as they directly come in contact with school children.
2. The teacher's effort should be recognized, appreciated and certified as oral health ambassadors, for the particular school where they are working.
3. Educational programmes, trainings in the form of mock drills and incorporation of emergency management of dental injuries in the curriculum of physical education teachers should be considered.
 - a. Educational programmes should include problems and consequences, availability of after hour emergency service, storage media for avulsed teeth, critical timing for reimplantation of avulsed teeth, current concepts of management of fractured teeth.
4. Dental and medical Institutional authorities in co-ordination with the school authorities should plan such educative programmes for teachers so that teachers can educate the children.
5. Periodically the teachers can inspect the oral cavity of the school children and should make the child and parent

realize the problem existing in the oral cavity and consequences of not being treated.

6. Voluntary organizations along with dental educational institute authorities should take active participation in education regarding dental health issues to primary health providers (Anganwadi workers) and school teachers who are working in rural areas, where medical facilities are not readily available.

Conclusion

This survey was an effort to interact with the teachers so that the knowledge, attitude and practice of the teachers regarding dental issues can be identified. Hence, keeping this information as baseline data further educative and motivational programmes can be planned, developed and organized.

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