

Knowledge, Attitude and Practice of School Teachers Towards Oral Health in Pondicherry

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ABSTRACT

Background: School teachers by virtue of their training can influence a large number of children thereby play major role in the planning and implementation of oral health preventive programs. Hence, this study was undertaken with the objective of assessing the knowledge, attitude and practice of school teachers towards oral health.

Materials and Methods: This was a cross-sectional survey conducted among school teachers of the city of Pondicherry. A structured questionnaire was used and 212 teachers were assessed on their knowledge on oral health, attitude and practice regarding their personal oral health, attitude regarding oral health of children and status of oral health education at the schools. All data collected was entered into SPSS version 21.0.

Results: Around 47% of the participants felt that bacteria and sugar are the main causes of dental caries, while 42% felt that plaque and calculus are the main agents for periodontal disease. Around 82.5% teachers brushed twice daily. However, only 32% felt it is necessary to visit dentist regularly. While 86% of the teachers felt that children's teeth should be checked by dentist, only 51% agreed that it is their duty to impart oral health education to the students.

Conclusion: The knowledge regarding oral health among school teachers was fair. Oral Health education must be imparted to preschool and primary school teachers as a part of National Oral Health care Program on a regular basis and further studies must be done to assess their awareness levels and make the necessary changes in further education modules.

Keywords: Attitude, Knowledge, Oral health education, Practice, School teachers

INTRODUCTION

During the school years, children spend most of their time with their teachers. Similarly, the knowledge and skills needed to attain their future goals and nurture hidden potentials are acquired during this period. Shaping ways of life and personality development of school children during elementary education is the key responsibility of school teachers and parents. Students follow what teachers do and say. Teachers are considered as role models to transmit values of life. School teachers by virtue of their training can influence a large number of children, thereby play major role in the planning and implementation of oral health preventive programs. It is therefore important that their own oral health knowledge is good and their oral health behaviour conforms to expectation of the population.

The Ministry of Health and Family Welfare, Government of India, accepted in principle National Oral health Policy in the year 1995 to be included in national health policy [1]. They launched the National Oral Health care Programme which envisaged the implementation of oral health education, preventive and curative services.

Against this background, the study was undertaken with the objective of assessing the knowledge, attitude and practice of school teachers towards oral health and to assess the attitude and practice of school teachers regarding their personal oral health. This study also attempts to explore the health education regarding dental health being imparted at schools and ways to improve the same.

MATERIALS AND METHODS

A cross-sectional questionnaire study was conducted in and around Pondicherry for a period of 1 yr from 2012-2013. Ethical clearance was obtained to conduct the study. Permission to conduct the study was obtained from the concerned authorities. A questionnaire was formulated to ascertain the level of knowledge of oral health and their determinants like educational qualification and years of experience. The questionnaire was pilot tested for

its feasibility and validity. A few modifications were done and the proforma was finalised. The sample size was derived based on the sample size equation based on pilot study. A stratified random sample of 212 teachers were recruited from randomly selected ten schools both private and government to represent the teachers of Pondicherry city.

The questionnaire included 33 items designed to evaluate the knowledge, attitudes, and behaviour of school teachers regarding their oral health and dental treatment. Assessment of participants' oral health knowledge included items on the causes of decay and their prevention, causes of gum disease and their prevention, causes of malocclusion, effects of brushing and using fluoride on the dentition, the meaning of bleeding gums and how to protect against it, the meaning of dental plaque and its effects, the effects of sweets and soft drinks on the dentition.

Assessment of participants' oral health behaviour included brushing activity (such as frequency, duration, time, and brushing aids) and dental visits (such as regularity, reason behind the visit and sought treatments).

Items that assessed participants' dental attitudes included attitudes towards regular dental visits, attitude towards restricting consumption of sweets and snacks during school hours. Attitude toward inspecting lunch boxes to make sure students eat healthy food. In addition, common complaints faced by the teachers and the type of oral health education provided at school and ways to improve the same were also studied.

Subjects were asked to respond to each item according to the response format provided at the end. One of the investigators was always available during the completion of the questionnaire, and the participants were encouraged to approach him whenever they needed clarification of any point

Statistical Methods

Descriptive statistics were obtained and means and frequency distribution were calculated. The data was analysed using the Statistical Package for Social Science 21.0 (SPSS 21.0).

RESULTS

In the present study, the total numbers of participants were 212 averaging 47 years in age [Table/Fig-1].

Knowledge of Dental Caries

Around 47% of the subjects felt that bacteria and sugar are the main causative agents for dental caries while 53.5% of the teachers felt that regular brushing and avoiding snacking between meals could reduce the incidence of dental caries among school students [Table/Fig-2].

Knowledge of Periodontal and Gingival Disease

Around 42 % of the study population felt that plaque and calculus are the main causative agents for periodontal disease, while 50%

Socio-demographic characteristics	Frequency	Percentage
Gender		
Male	167	78.8
Female	45	21.2
Educational category		
Graduate degree	80	37.7
Postgraduate degree	132	62.3
Years of teaching experience		
0-5	33	15.6
6-10	41	19.3
11-15	136	64.2
16-20	2	0.9

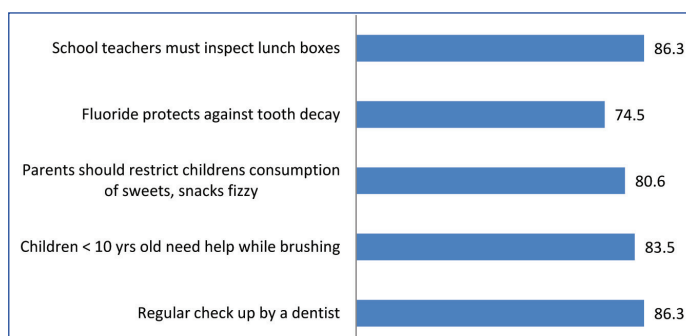
[Table/Fig-1]: Socio-demographic characteristics of the study population

Knowledge of oral diseases	Frequency	Percentage
Causes of tooth decay		
Bacteria	55	25
Bacteria + sugar	100	47
Others	53	26
None of above	4	2
Prevention of tooth decay		
Regular brushing	83	39.3
Regular brushing + avoiding sweets	30	14.2
Regular dental visit	53	24.6
Others	46	22
Causes of gum disease		
Irregular tooth brushing	66	31
Plaque and calculus	89	42
Consuming sweets	32	15
None of the above	25	12
Prevention of gum disease		
Balanced diet	30	14
Avoiding smoking	32	15
Regular visits	25	12
Regular brushing	125	59
Prevent gum bleeding		
Regular brushing	8	4
Toothbrush, paste, floss	59	28
Vitamin C	125	59
Don't know	20	9

[Table/Fig-2]: Knowledge of oral diseases among study population

Oral hygiene methods practiced	Frequency	Percentage
Frequency of brushing		
Once daily	27	12.7
Twice daily	175	82.5
Thrice daily	5	2.4
More than 3 times	5	2.4
Brushing time		
Less than 1 min	6	3
1 minute	42	20
brushing time 2 minutes	105	49.5
More than 2 min	58	27.5
Materials to clean teeth		
Brush + toothpaste	195	92
Brush + tooth powder	8	4
Brush + toothpaste + mouthwash	6	3
Others	0	0
Type of brush		
Soft	88	41.5
Medium	113	53.3
Hard	6	2.8
Do not know	5	2.4
Frequency of brush change		
Monthly	38	18
3 monthly	118	56
6 monthly	40	19
Yearly	16	7
Last dental visit		
6-12 monthly	36	17
1-2 yearly	59	28
Never	45	21
Frequency of visit to Dentist		
When I have dental pain	80	38
Never	44	21

[Table/Fig-3]: Oral hygiene practices among the study population



[Table/Fig-4]: Attitude of school teacher regarding oral health of children

of subjects felt that regular brushing could prevent gum disease. Fifteen per cent of the subjects also felt that avoiding smoking would also maintain gingival health.

Around 59% felt that vitamin C taken as a supplement could reduce gum bleeding while 27% felt that regular use of toothbrush, paste and floss would prevent gum bleeding. Also 57% of subjects felt that lip biting, thumb sucking, tongue thrusting and mouth breathing can cause malocclusion, while 27% felt that only thumb sucking is the main reason [Table/Fig-2].

Attitude and practice of school teachers regarding their personal oral health [Table/Fig-3].

82.5% teachers brushed twice daily out of which 49.5% brushed for duration of 2min. 92% used toothpaste and toothbrush. While

53.5% used a medium bristled brush, 41.5% used a soft bristled brush while toothbrushing. 78% of them cleaned their tongue while toothbrushing. 87% rinsed their mouth after a meal and 56% changed their brush every 3 months.

While 38% visited a dentist only when they experienced dental pain, 32% felt it is necessary to visit the dentist at least every six months. While 28% of the population visited only once every one to two years. Around 21% never visited the dentist in their entire lifetime.

Attitude of school teachers regarding oral health of children [Table/Fig-4]. Around 80.6% of the teachers felt that it is necessary for the parents to restrict their children from consuming fizzy drinks and eating snacks between meals. Inspection of the student's lunch boxes once in a while to check if they bring healthy food to school. It can be even communicated to the parents that sending healthy food to school will create a good habit in the children at a young age itself.

Oral Health Education

Cavities, bad breath, bleeding gums and toothache were the common oral health complaints of school children according to the teachers. Only 42% teachers strongly agreed that it is the duty of school teachers to impart oral health education to the students. More than 50% of the teachers did not impart any oral health education to the students.

The teachers were also questioned on the ways for improving oral health education in their schools. Around 59% of them believed that regular visits by the dentist and annual dental checkups by them would help create better awareness among students as well as the teachers. It would also help to acquire new knowledge about these diseases and hence help in prevention of the same. Awareness camps and workshops could be organized by schools which would involve games, competitions and theatrical performances. Also prizes in the form of toothpaste, brushes and other oral hygiene aids can be distributed to the children, which would create an additional interest for them.

DISCUSSION

This study presented a comprehensive view of the oral health knowledge, attitude and practices of school teachers representative of the city of Pondicherry, India. According to the best of our knowledge it represents the 1st study of its kind among school teachers in Pondicherry. Previous studies involving school teachers in other parts of India are indicative of the fact that there is need to improve their oral health education.

Around 79% of the school teachers in our study were females. This is in unison with a study by Kompalli et al., where 82% of the study population was females [2]. The mean age of the teachers in our study is 47 years, while in other studies, mean age is around 30 years. We can stipulate then that the teachers in our study have more experience of around 10-15 years as compared to the few other studies conducted in our country [3,4].

Around 50% of the subjects had knowledge of the cause of dental caries namely bacteria and sugar. Around the same number also agreed that regular brushing could in fact reduce the incidence of gum disease. Although, this is in agreement with studies conducted by Nyandindi et al., [5] and Khan et al., [6]. It is not in agreement with a study by Paul lang [7] in China.

Around 59% of the school teachers felt that vitamin C supplementation is effective in reducing gum bleeding. While it is proven that deficiency of vitamin C results in scurvy leading to a bleeding tendency in the mouth, it is not the main cause of gum disease [8]. Around 9% of them did not have any idea regarding the causes of bleeding gums nor about its prevention. Poor knowledge of the gum disease among the school teachers is prevalent and thus has to be corrected by health education.

Around 57% of the teachers agreed to the fact that malocclusion can be caused by habits such as lip biting, tongue thrusting, mouth breathing and thumb sucking, while 34% teachers felt that thumb sucking is the main reason for it [9].

All the teachers brushed daily in our study. Around 82% of the study population brushed their teeth twice daily. Most of the teachers (92%) used brush and paste. This is in agreement with a study done by Ling zhu [10]. Only 7 teachers reported the use of mouthwash in addition to brush and paste, in contrast to other studies where over 67% of the study population used mouthwash. However, the percentage of teachers brushing twice daily is higher in our study as compared to others. In agreement with studies by Vanka [3] and Kompalli et al., [2], 78% teachers cleaned their tongue and 87% rinsed mouth after every meal.

It is best to use a soft bristled toothbrush to brush our teeth [8]. However, in our study 53% used medium bristled brushes while 42% used soft bristled brush. Around 56% changed their brushes every 3 months. Change of their toothbrush every 3 months is higher in our study as compared to a study by ling zhu [10]. Change of the toothbrush is dictated by not only the number of months used by the individual, but also dictated by the fraying of the bristles. Fraying of the bristles reduces the efficiency of the tooth brush.

Only 38% of the teachers visited the dentist only when they experienced dental pain. 32% visited every 6-12 months. The awareness regarding dental problems being very poor relates to the percentage of the population visiting the dentist. High cost of dental treatment could be a reason. Teachers may also be very busy in their work schedule. Creating time for them to visit a dentist on a regular basis could also be a considerable problem.

It is the general belief of most teachers that children's teeth should regularly be checked by the dentist for not only treatment but also in the preventive aspect. Many deep pits and fissures can be filled prior to the development of dental caries. Also many malocclusions can be corrected by using appliances at the growth spurts. This attitude of the teachers will be helpful and instrumental in arranging regular visits by the dentist to the school as a part of camps organized by dental colleges and welfare societies.

Young children need to be constantly monitored in all aspects to shape and mould their character. The school teacher not only instills moral values to the children but can also give ideas to the parents so as to improve their children's health. Health is a state of complete physical mental and social well-being and not merely the absence of disease or infirmity [11]. Advice on monitoring their children's brushing and eating habits could be given during the regular parent teachers' association meetings. At these meetings, it is also stressed that the parents send healthy meals and snacks to the children at school. Many schools have an option of midday meals where they see to it that the nutritious food is provided. Inculcating good eating habits is essential as obesity, diabetes; hypertension is affecting individuals at a very young age. Commonly eating junk foods would not only be a risk factor for obesity but also for dental diseases. Thus it is the responsibility of both the teachers and the parents to monitor the children's diet. Teachers must inspect lunch boxes and make sure that parents send healthy food.

Around 74.5% teachers know that fluoride protects against tooth decay. Knowledge about fluoride could be shared with the parents where kids have a higher incidence of dental caries. It is the role of the dentist to do preventive deeds apart from the dental treatments he/she provides.

Primary health care is the best way to provide health services to the community. The Ministry of Health and Family Welfare, Government of India accepted the principle "The National Oral Health Policy" in the year 1995. It plans to extend minimum oral health to the entire Indian population. The policy gave special emphasis to preschool children primary and secondary school children, expected and

nursing mothers and for the increasing geriatric population. It has also emphasized oral health education and training of trainers [12]. Oral health education chapters should be included in the school curriculum. We must promote indigenous time tested practices of rinsing mouth after every meal, massaging gums, promoting traditional diets, brushing of teeth and avoiding smoking or chewing pan.

Teachers training programme is a welcome proposal under National Oral Health care Program and a guide book has been prepared in English and local languages. Regularly one hour can be devoted in each school for socially useful and productive work and that hour can be used for learning correct brushing techniques and other good habits. In that hour lectures can be taken by teachers themselves or a dentist may be called to promote oral health education.

LIMITATIONS

Sample size of the study population must be increased and many areas in India need to be covered to get a real picture of the knowledge attitude and awareness of the school teachers.

CONCLUSION & RECOMMENDATIONS

Hygiene is embedded in Indian culture and it is the way of life. School children are ambassadors of health messages to their homes and can also act as change agents. In our study, the knowledge of the school teachers regarding oral health was fair. Their knowledge regarding gum disease and its treatment options were poor. However, their knowledge regarding preventing dental caries was good. Their attitude towards maintenance of oral hygiene was also not commendable.

Oral Health education must be imparted to preschool and primary school teachers as a part of National Oral Health care Program on

a regular basis and further studies must be done to assess their awareness levels and make the necessary changes in further education modules.

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