

Nurturing Radiant Smiles: A Deep Dive into Teachers Knowledge and Dedication to Oral Health Education in Jammu Province, J&K.

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Abstract

Background: School teachers, by virtue of their training, can influence a large number of children, thereby playing a major role in the planning and implementation of oral health preventive programs.

Aim: To assess the dental health knowledge and the interest of school teachers in imparting oral health education in Jammu Province of J&K.

Materials and Methods: This was a cross-sectional survey conducted among schoolteachers of Jammu

Province. A structured questionnaire was used, and 212 teachers were assessed on their knowledge of oral health, attitude, and practice regarding their personal oral health, attitude regarding the oral health of children, and the status of oral health education at schools. All data collected were entered into SPSS version 21.0.

Result: Teachers in Jammu Province demonstrated a satisfactory level of knowledge in some aspects of preventive oral health, they still lack knowledge in some key areas of oral health but they follow good oral hygiene practices and expressed a keen interest in contributing to the advancement of oral health education.

Conclusion: In light of the study's outcomes, it is advisable to incorporate dental health education into the school curriculum. Additionally, providing thorough training to teachers is recommended to empower them to engage proactively in activities aimed at promoting oral health.

Keywords: Dental, Oral Health Education, Oral Health Promotion, Jammu Province, School Teachers.

Introduction

In the journey of nurturing young minds, teachers serve not only as imparters of academic knowledge but also as influential guides shaping the overall well-being of their students. One often overlooked yet critical aspect of holistic education is oral health. The role of teachers in imparting oral health education to children extends far beyond the confines of the traditional classroom, reaching into their alms of lifelong habits and overall health. Oral health is not a standalone facet but an integral part of a child's overall well-being. Beyond the sparkle of a bright smile, good oral hygiene plays a pivotal role in preventing dental issues, contributing to self-esteem, and influencing broader health outcomes.

Several studies have substantiated the claim that school teachers possess fundamental knowledge regarding oral hygiene and dental health. Across various nations, educators have undergone training and have proven to be effective instruments in the reduction of dental plaque and the enhancement of oral hygiene practices among school children. This preventive approach serves a dual purpose: it alleviates young children from the distress of undergoing anxiety-

inducing dental treatments and preserves their invaluable academic. This study presented a comprehensive view of the oral health knowledge, attitude and practices of school teachers representative of Jammu district, India. According to the best of our knowledge, it is the pioneer study of its kind among school teachers in Jammu district. Various studies involving school teachers in other parts of India are indicative of the fact that there is a need to improve the oral health knowledge of school teachers.

Material and methods

All school teachers who were present on the given day were included in the survey. School teachers who did not want to participate were excluded from the survey.

Questionnaire comprising 19 closed-ended questions related to oral health knowledge, attitude and practices.

Each questionnaire composed of three parts: The first part comprised questions related to socio demographic profile of the participant. The second part included questions based on knowledge, 3rd part shows attitude of the participants related to oral health. The 4th part of the questionnaire consisted of questions about oral hygiene practices and dental visit.

Interview was taken by one of the investigators and response of study participants recorded in the questionnaire. All the participants signed a consent form

and assurance was given to them about maintaining their confidentiality. Permission for the study was obtained from the schools well before the commencement of the survey where the teachers were working.

To ensure the validity of the questionnaire, two dentists with experience in public health were engaged as validators. Moreover, the questionnaire was in English. To verify the correctness of the questionnaire, a back translation was carried out. The questionnaire was distributed to the teachers of the school. The purpose of the study was explained and the teachers were guided to fill in the questionnaire.

To eliminate social desirability bias, school teachers were asked to complete the form themselves without pressure from the interviewer. Moreover, it was voluntary for them to reveal their identity in the questionnaire. Data obtained from the questionnaire were analysed using the Statistical Package for the Social Sciences (SPSS version 20). A chi-square test was used to check for association between genders.

Result

Out of 230, 219 completed questionnaires were collected (94.4% - response rate), and details of the socio demographic characteristics of the study population are tabulated in Table 1.

Table 1: Socio-demographic characteristics of the study population

Socio-demographic characteristics	Frequency	Percentage
Gender		
Male	80	36.5
Female	139	63.4
Educational		
Graduate degree	120	54.7
Post graduate degree	99	45.2
Years of teaching experiences		
0-3	25	11.4
3-6	69	31.5
6-12	90	41.09
12-20	35	15.9

Majority 80.3% of the teachers agreed that both bacteria and sugary food are responsible for the caries to develop while 8.6% and 4.5% of respondents marked only sugar and cold drink being responsible for tooth decay, respectively. 77.1% of the teachers had correct knowledge on the number of teeth present in the oral cavity.

15.9% of the teachers agreed that by avoiding sugary food we can prevent tooth decay, but majority was in favour that proper brushing, avoiding sugary food and eating fibrous food altogether prevent tooth decay.

Only 69.8% knew the role of fluoride in toothpaste. 59.3% of the teachers knew about plaque. Only 30.1% of the teachers knew the importance of primary teeth.

53.8% of the teachers were aware of brushing technique in children whereas only 20% of them knew about age specific amount of tooth paste to be used. 63.8% said that we should brush two times a day but only 22.8% knew the correct time of brushing in the morning.

Majority (86.3%) of the teachers agreed that oral health is beneficial for the children, 87.6% were willing to have training in oral health education and 95.8% were in favour that teachers can play an active role in oral health promotion. 87.6% said that dental camps should be organised in the school. (Table3)

52% said that we should change our brush every month. 79.4% agreed that we should use toothbrush and 64.3% said that brushing should be done for 2-3 minutes (Table4).

Statistically significant association were found $p < .005$ among respondents from both genders who knew the role of fluoride in tooth paste, knowledge of dental floss and plaque (Table5).

Table 2

Knowledge of oral diseases	Frequency	Percentage
1. Main cause of dental caries		
a. Sugary food	19	8.6
b. Snacks	14	6.3
c. Sugary food + Bacteria	176	80.3
d. Cold drinks	10	4.5
2. Number of primary and permanent teeth		
a. Correct answer	169	77.1
b. Incorrect answer	50	22.8
3. How dental caries can be prevented?		
a. Brushing twice daily	22	10.0
b. Avoid sugary food	35	15.9
c. Eating fibrous food	7	3.19
d. All of above	155	70.7
4. Do you know the role of fluoride in tooth paste ?.		
a. Yes	66	30.1
b. No	153	69.8
5. Do you know what is plaque?		
a. Yes	130	59.3
b. No	59	40.6
6. Primary teeth are important ?		
1. Yes	69	31.5
2. No	150	68.4
7. Do you know brushing technique in children?		
a. Yes	118	53.8
b. No	101	46.1

Table 3: Attitude

Attitude	Frequency	Percentages
1. Oral health education is beneficial for the children		
a. Yes	189	86.3
b. No	30	13.6
2. All teachers must have training in Oral health education?		
a. Yes	192	87.6
b. No	27	12.3
3. Dental camps in school should be organised		
a. Agree	186	84.9
b. Disagree	33	15.0
4. Can teachers play an active role in oral health promotion?		
a. Yes	210	95.8
c. No	9	4.1

Table 4: Practices

Practices	Frequency	Percentages
1. When should we change our brush?		
a. Every 15 days	29	13.2
b. Every month	114	52.0
c. Every 3 months	61	27.8
d. When bristle frays away	15	6.8
2. Brushing time		
a. 1 min	63	28.7
b. 2–3 min	141	64.3
c. 5 min	15	6.8
3. Type of brush with bristle.		
a. Soft	32	14.6
b. Medium	174	79.4
c. Hard	13	5.9
4. Last dental visit		
a. Within past 6 months	26	11.8
b. 6 months–1 year	63	28.7
c. Never	130	59.3

5. When should we visit dentist ?		
a. Every 6 months	48	21.9
b. When some one is having pain	111	50.6
c. Every year	60	27.3

Table 5

Variables	N%	Male	Female	X ²	Pvalue
1. Bacteria and sugary food	176 (78.9)	120 (81.08)	56 (74.66)	1.4	0.23
2. Role of fluoride in toothpaste	169 (77.1%)	118	71	8.5	0.003*
6. Plaque	130 (59.3%)	77	53	8.3	0.003*

Discussion

This study presented a comprehensive view of oral health knowledge, attitudes and practices of representative school teachers from Jammu Province of J& K. To the best of our knowledge, this is a pioneering study of its kind among school teachers in Jammu district. Various studies involving school teachers in other parts of India indicate that there is a need to improve their knowledge about the oral health of school teachers.

Majority 80.3% of the teachers agreed that both bacteria and sugary food are responsible for the caries to develop while 8.6% and 4.5% of respondents marked only sugar and cold drink being responsible for tooth decay, respectively.

This shows respondents awareness about etiological factors of tooth decay. This is similar to study done by Sekhar et al. [1] Contradictory result was reported by Maganur et al. [2] in Davangere where 23.3% of teachers ascertained eating sweets are responsible for causing tooth decay. When asked about their knowledge regarding daily frequency of tooth brushing in children,

63.4% said twice daily and 18.7% of respondents said that after each meal a child should brush his teeth and 17.1% said once daily. Around 46.1% of respondents do not know correct tooth brushing method for children and only 20% were aware of the amount of toothpaste, a child should apply on toothbrush.

This clearly indicates lack of knowledge with respect to correct tooth brushing method for child and amount of toothpaste to be used.

Role of fluoride in preventing dental caries has been recognized and well documented. In our study, only 30.1% of school teachers are aware of dental caries preventive effect of fluoride and majority of them (69.8%) do not know fluorides role in caries prevention.

Result of the current study shows inadequate knowledge of school teachers regarding dental caries preventive effect of fluorides. This was similar to a study done by Mota et al. [3] However, in contrast to this, studies conducted in Pondicherry, [1] Davangere, [2] and South Africa [4] showed adequate knowledge of school teachers with respect to caries preventive effect of fluoride.

Only 31.5% of respondents were aware of floss. This indicates that improvement in knowledge toward the use of dental floss is needed, as dental floss helps in removing plaque and other debris interdentially. A similar result was observed in a study conducted by Mota et al. [3] where the percentage of teachers using nit was very low.

A contradictory result reported in a study conducted in Davangere [2] where 46% of teachers were aware of flossing. Fluoride compounds have been used in the prevention of incipient caries lesions since the beginning of the 20th century.[5] Optimal water fluoridation has been recognized as the single most cost-effective public health measure for preventing tooth decay. Therefore, it was considered necessary to find out the knowledge and attitudes of teachers towards the issue of fluorides. In our study, only 30.1% of teachers knew about fluoridated toothpastes. most of them (69.8%) do not know the role of fluorides in the prevention of tooth decay.

The result of the current study shows insufficient knowledge of school teachers about the preventive effect of fluorides on tooth decay. Our result was similar to the study conducted by Mota et al. [3] However, in contrast, studies conducted in Pondicherry [1] Davangere [2] demonstrated sufficient knowledge of school teachers regarding the preventive effect of fluoride on dental caries. In the current study, a gap was noted between school teachers' knowledge and practice regarding the frequency of tooth brushing, as 63.4% reported that brushing should be done twice a day, but in fact 30.8% did brushing twice a day. It is best to use a toothbrush with soft bristles to brush your teeth. However, in our study, 79.4% used brushes with medium bristles, while 14.6% used a brush with soft bristles. 64.3% of the respondents correctly answered the cleaning time which

was 2-3 minutes with regard to the brush replacement time. In our study, only 6.8% of respondents changed their toothbrush when its bristles frayed.

Changing a toothbrush is not only reflected in the number of months an individual uses it, but also by the fraying of the bristles. Frayed bristles reduce the cleaning efficiency of the toothbrush. 52.7% changed their toothbrushes every month and 27.8% changed their toothbrushes every 3 months.

The majority of respondents (59.3%) had never visited a dentist. Only 11.8% had visited a dentist in the last 6 months and 50.6% said that one should visit a dentist because of a toothache.

Very poor knowledge of dental problems relates to the percentage of the population visiting the dentist. The reasons may be dental diseases that are not considered life-threatening, lack of time due to their busy schedule, and high treatment costs. 86.3% of the respondent agreed that oral health education is beneficial for the children, 87.6% of the teachers agreed that they should be trained in Oral health education and 84.9% agreed that Dental camps in school should be organised in the school on regular basis. 95.8% said that teachers can play an active role in oral health promotion. All these show the positive attitude of the teachers towards oral health education and promotion.

Conclusion

Although most teachers demonstrate satisfactory knowledge in some aspects of preventive oral health, they still lack knowledge in some key areas of oral health. There is a disparity in oral health knowledge and practices among the study population, as several of them responded that they have good oral health practices, but we cannot wrap the real picture because we did not check the oral parameters. In regard to attitude majority

of the teachers shows positive attitude towards oral health promotion in schools.

Recommendations

In the Indian scenario, it has been recommended in the national oral health policy that the primary prevention package should be implemented through school health schemes in different urban and rural areas.^[6] In addition, chapters on oral health should be included in school textbooks at the third, fifth, and eighth grades. Regular oral health promotional activities in the form of health education, regular dental check-ups, demonstrations of brushing and rinsing techniques, and preventive and interceptive treatment can be undertaken at the school level. Teachers cannot contribute to nurturing well-informed students if they themselves remain uninformed. With respect to future oral health education programs, accurate information on preventive measures of common oral diseases is needed, since they have the potential to reach all children. The results of this study showed medium knowledge of prevention of common oral diseases among school teachers. This can further be improved by providing accurate knowledge about oral health and preventive measures, particularly to younger school teachers and those with just a basic educational degree. This is particularly important, since the major purpose of health education, as per the WHO, is that people learn to control their own community's health environment.^[7] Efforts to educate teachers about the current preventive dentistry and the potential for oral health promotion among school instructors should be encouraged. Videotapes, games, and instructional brochures are examples of educational tools and aids that should be developed, implemented, and assessed. Teachers should be supported and encouraged to attend educational workshops on a regular basis.

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