ORIGINAL RESEARCH

Knowledge, Attitude, and Practices of Schoolteachers toward Their Oral Health in Nalgonda District, Telangana, India: A Cross-sectional Study

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Abstract

Background: Schoolteachers can motivate a large number of children and that offers an interactive way for children to learn good oral health habits. Hence, this study was undertaken with the objective of assessing the schoolteacher's oral health knowledge, attitude, and practices which can benefit the schoolchildren by improving the oral health of the child and a resultant disease-free mouth.

Materials and methodology: This was a cross-sectional survey conducted among Schoolteachers of Nalgonda district, Telangana. A structured questionnaire was formulated and sample of 226 Schoolteachers from both rural and urban areas were assessed. Data related to knowledge on oral health, attitude, and practice regarding their personal oral health was obtained. The obtained data was tabulated and statistically analyzed.

Results: About 59.3% teachers have knowledge that inappropriate and inadequate brushing may lead to gum diseases, but only 8% have conversance regarding the prevention of gum diseases. Whereas 11.9% insight regarding etiology and prevention of dental caries. Nearly 49.2% said that they have visited dentist in the last 6–12 months, 52.7% reported that they will visit the dentist only when they had pain. Around 60.6% of teachers never advised the parents of children to seek dental care.

Conclusion: Knowledge, attitude, and practices regarding oral hygiene measures among Schoolteachers were inadequate. Therefore health educational programs regarding the importance of oral health and the oral hygiene measures among Schoolteachers should be conducted.

Keywords: Children, Oral hygiene, Schoolteachers.

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Introduction

Oral health is an array of overall health, which contributes to each individual's well-being and quality of life by positively affecting physical, social, and mental health, appearance and interpersonal relations.[1,2] Enlightening schoolchildren about oral health care should be a customary practice as they spend considerable time in schools [Preschool, Primary school, and high school]; children with low socio economic status will also have a wide horizon. This can be achieved by utilizing teachers as they are feasible and can efficiently deliver the needful oral hygiene measures to children. Teachers play a vital role in shaping the behavior and overall comprehensive development of schoolchildren. *As the quote said by Henry Adams- "A teacher affects eternity and can never tell where the influence stops".* Schoolteachers are more authoritative on children than parents in the Indian context. The instructions imparted by the teachers are generally followed more religiously by the pupils.[3] According to the WHO Information Series on School Health 2003, a pivotal role is played by teachers and school staff to promote oral health activities in children on a daily basis. Thus, Schoolteachers can be used to inculcate habits that combat diseases of a preventable nature, hence serving in primary health care as alternate personnel. In a study conducted among government primary Schoolteachers in a rural part of India concluded that oral health knowledge was lacking among the teachers.[3] Since Schoolteachers provide preventive information and health promotion, it is important that their own oral health knowledge is good and their oral health behavior and attitude conform to professional recommendations. Hence this study was conducted to assess the knowledge, attitude, and practices of Schoolteachers towards oral hygiene in Nalgonda district.

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Materials and Methodology

This cross-sectional study was approved by ethical committee of a recognized institution with ethical approval committee number KIDS/IEC/PEDO/2019/9. Simple random sampling strategy was used to select the schools from in and around Nalgonda district. The schools selected for the study are from the rural and urban areas and were both government and private aided. Before commencing the

study, prior permission was procured from the school authorities. All the Schoolteachers who were present on that particular day with a minimum teaching experience of 3 years were included in the survey. The Schoolteachers not willing to participate were excluded from the survey. The total sample size included 226 Schoolteachers each from rural and urban area schools.

Thirteen close ended questions were obtained from different published articles.[1-5] A pilot study was conducted on sample of 25 teachers for its feasibility and validity (Cronbach's alpha = 0.8). The questionnaire consisted of four components. The first component asked the participants to provide their professional demographic data, the second dealt with the knowledge regarding oral health, the third dealt with the attitude, and the last component was on the practices followed to maintain good oral health. The questionnaire was formulated in English and in their local language (Table 2). The questionnaire was distributed in person to the Schoolteachers. The purpose of the study was explained, and the teachers were guided to fill the questionnaire by themselves without any coercion. The data was tabulated and then statistically analyzed.

Results

Sociodemographic Characteristics

Out of 226 Schoolteachers surveyed 47% were males and 53% were females; pertaining to qualifications 25.2% were undergraduates, 50% were postgraduates and 24.8% with specialization & with teaching experience, 31.4% had 3–5 years of experience, 28.3% had 6–8 years, 4.90% had 11–15 years and 35.4% had above 15 years of experience. (Table 1)

Knowledge of Teachers Regarding Oral Diseases

Concerning with what could be the cause of tooth decay—7.1% claimed it is due to microbes, 3.5% felt it is due to sugars, 73% opted it is due to inappropriate brushing, and only 16.4% reported that it is because of ″all the factors″ listed above. Regarding the knowledge with what could prevent the tooth decay- 63.3 % opted it with ″regular brushing″, 10.6% holdup with avoiding sugar and sweets, 14.2% with regular dental check-up, and only 11.9% opted ″all the above factors″.

Considering question like what is plaque, 9.7% stated that it is ″stains on tooth surface″, 9.7% as″ groups of food and microbes on tooth surface″, 21.7% as ″yellowish mass on tooth surface″ and 58.8% of them chosen that they ″don't know″. With what could be the cause of gum disease, 26.5% declared it could be with ″chocolates″, 11.1% with ″microbes″, 59.3% due to ″inappropriate and inadequate cleaning″ and 3.10% chosen ″fruit juices″. Relating to what could be the prevention of gum disease, 80.5% chosen ″regular brushing″, 8% preferred both ″brushing and flossing″, 3.5% specified mouth wash, and only 8% picked up″ all the above″ option.

Oral Hygiene Measures Practiced

With respect to oral hygiene measures, 4.9% brushes once daily, 82.7% twice daily, 12.4% brushes after each meal. While the brushing time seems to be, 0.9% brushes less than one minute, 35.4% brushes for 1 to 2 minutes, 35% brushes for 2 to 3 minutes and 28.8% brushes for more than 3 minutes and relating to tooth cleaning material- 90.7% with tooth powder or paste, 1.3% with brick, 7.1% with neem stick, and 0.9% with charcoal. About type of toothbrush used for cleaning, 78.8% uses soft brush, 19.9% uses medium brush, and 1.3% uses hard brush. Regarding frequency of change of toothbrush, 33.2% changes monthly, 52.2% once in 3 months, 13.7% for every 6 months, and 0.9% changes yearly or more.

Attitude toward Oral Health Care

Contemplating dental visits, 49.1% visited 6–12 months back, 20.4% visited 1–2 years back, 11.9% visited 2–4 years back, and 18.6% befall greater than 4 years. Summing up frequency of dental visits, 59.7% visited when they had pain, 6.2% never visited dentist, 12.8% visits every 6 months, 21.2% chosen ″greater than 1 year″. About 32.3% teachers advised parents to seek dental treatments to their children, 60.6% haven't bothered and 7.1% don't even know to advice (Table 2).

Discussion

To instill a good positive approach to oral hygiene to children, the teachers themselves need to have good knowledge, attitude, and practices toward oral hygiene. This study presented a comprehensive view of the oral health knowledge, attitude, and practices of Schoolteachers representative of the Nalgonda district, Telangana, India. In our study, only 11.9% teachers have knowledge regarding etiology of caries and prevention of dental caries, these results were similar to study conducted by Paul Lang[4] in China, however in contrast to our study Vidhya Shekar et al and Nyandindi et al.,[6] have claimed that teachers have enough knowledge regarding the etiology of caries. Around 59.3% teachers have knowledge that inappropriate and in adequate brushing may lead to gum diseases, but only 8% have knowledge regarding the prevention of gum diseases. These results were similar to the study conducted by Vidhya Sekhar et al.[5]

In the present study, concerning with oral hygiene measures, it is observed that most of the teachers will use soft brush and brushes twice daily with tooth paste or powder and only half of the sample will change the brush for every 3 months. These results are similar to studies conducted by Ling zhu et al.,[7] Vanka et al.,[8] and Vidhya Sekhar et al.[5]

Evaluating the attitude towards oral health care, 49.2% said that they visited dentist in the last 6–12 months, 52.7% reported that they should visit the dentist only when they had pain. About 60.6% of

Table 1: Sociodemographic characteristics of teachers

	Frequency	*Percentage*
Gender		
Male	106	46.90
Female	120	53.10
Total	226	100.00
Education Level of Teacher		
Undergraduation	57	25.20
Postgraduation	113	50.00
Any specialization	56	24.80
Total	226	100.00
What is the Age of Experience?		
3–5 yrs	71	31.40
6–10 yrs	64	28.30
11–15 yrs	11	4.90
Greater than 15 yrs	80	35.40
Total	226	100.00

Table 2: Knowledge, attitude, practice of teachers regarding oral hygiene

Question	*Frequency*	*Percentage*
1. What could be the cause of tooth decay?		
Microbes	16	7.10
Sugar	8	3.50
Inappropriate brushing	165	73.00
All the above	37	16.40
Total	226	100.00
2. What could be the prevention of tooth decay?		
Regular brushing	143	63.30
Avoiding sugar and sweets	24	10.60
Regular dental check-up	32	14.20
All the above	27	11.90
Total	226	100.00
3. What is plaque?		
Stains on the tooth surface	22	9.70
Groups of microbes and food on the tooth surface	22	9.70
Yellowish mass on the tooth surface	49	21.70
Don't know	133	58.80
Total	226	100.00
4. What could be the cause of gum disease?		
Chocolates	60	26.50
Microbes	25	11.10
Inappropriate and inadequate cleaning	134	59.30
Fruit juices	7	3.10
Total	226	100.00
5. What could be the prevention of gum disease?		
Regular brushing	182	80.50
Brushing and flossing	18	8.00
Mouthwash	8	3.50
All the above	18	8.00
Total	226	100.00
6. What is frequency of brushing?		
Once daily	11	4.90
Twice daily	187	82.70
Brushing after every meal	26	11.50
No brushing	2	0.90
Total	226	100.00
7. What is the brushing time?		
Less than 1 minute	2	0.90
1–2 minutes	80	35.40
2–3 min	79	35.00
Greater than 3 min	65	28.80
Total	226	100.00
8. Materials to clean the teeth		
Tooth powder or paste	205	90.70
Brick	3	1.30
Neem stick	16	7.10
Charcoal	2	0.90
Total	226	100.00

(*continued*)

Table 2: (*continued*)

Question	*Frequency*	*Percentage*
9. Type of brush used for cleaning		
Soft	178	78.80
Medium	45	19.90
Hard	3	1.30
Total	226	100.00
10. Frequency of change of toothbrush		
Monthly	75	33.20
3 months	118	52.20
6 months	31	13.70
Yearly or more	2	0.90
Total	226	100.00
11. Last visit to dentist		
6–12 months	111	49.10
1–2 years	46	20.40
2–4 yrs	27	11.90
Greater than 4 years	42	18.60
Total	226	100.00
12. Frequency to visit dentist		
When I have pain	135	59.70
Never	14	6.20
Every 6 months	29	12.80
Greater than 1 year	48	21.20
Total	226	100.00
13. Have you advised parents to seek dental treatment to their children?		
Yes	73	32.30
No	137	60.60
Don't Know	16	7.10
Total	226	100.00

teachers never advised the parents of children to seek dental care. The awareness regarding dental problems among teachers is very poor. People are in an assumption that dental treatments are high cost and this could be one of the reasons for not visiting dentist on regular basis but if it is treated at initial phase it would be easy and inexpensive. Teachers should be educated that they should insist the parents of children to visit dentist for every 6 months in preventing the oral diseases, but not when the treatment is required. 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.

As knowledge of teachers regarding oral hygiene measures was poor,[9] teachers training programme is a welcome proposal under National Oral Health care Programme and a guidebook has been prepared in English and local languages.[6] Regular oral health promotional activities in the form of health education, dental screenings, demonstration of brushing techniques, and preventive treatment can be undertaken at the school level. The coordinated school oral health program which is promising will only be successful if it is accepted and well practiced by teachers and schools. For this to occur, the education and health sectors will need to restructure their policies to include oral health more comprehensively at schools.[10]

Conclusion

This study concludes that the knowledge, attitudes, and practice regarding oral hygiene measures among Schoolteachers were inadequate. Therefore health educational programs regarding the importance of oral health and the oral hygiene measures among Schoolteachers should be introduced into the school curriculum which can improve the practice of oral hygiene and pave the way for cultivating these measures to children.

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 Schoolteachers.

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