

Knowledge and attitude of male schoolteachers towards primary dental care

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ABSTRACT

Introduction: Children are the most important natural resources. School is a location which helps to promote the health of staff, families, and community members along with the students. Teachers are the most resourceful manpower available to deliver any healthcare at school setup. **Aims and Objectives:** To assess the knowledge and attitude towards primary dental care among male schoolteachers at Al-Kharj Saudi Arabia. **Methodology:** A descriptive cross-sectional questionnaire survey was carried out involving male teachers working in primary schools at Al-Kharj KSA. A total of 350 teachers were included in this study. The data were collected using a self-administered questionnaire survey consisting of 17 questions related to knowledge and attitude towards dental care and oral hygiene practices. **Results:** The overall knowledge was fair among the schoolteachers (65.4%). Al-Kharj male schoolteachers were having a positive attitude. Teaching experience and knowledge showed a statistically significant relation ($P < 0.05$). **Conclusion:** Although primary schoolteachers had a fair knowledge and good attitudes towards dental care, there is a need to conduct training programs about oral health education in schools and check how teachers educate their children to maintain dental care.

Keywords: Dental care, knowledge and attitude, male teachers, primary school

Introduction

The importance of imparting knowledge on oral hygiene to children (infants or preschool or schoolchildren) had been recognized as early as 1878.^[1] Oral health is an essential part of general health. One of the WHO goals is “Health for All by the Year 2025,” of which oral health is an integral component. Oral health can be defined as the optimal health of the oral and related tissues which enables an individual to eat, speak, and socialize without active disease, discomfort, or embarrassment, thus, contributing to the general well-being.^[2]

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Received: 03-12-2019

Revised: 30-01-2020

Accepted: 05-02-2020

Published: 26-03-2020

Studies have shown a high prevalence of oral diseases in the Kingdom of Saudi Arabia.^[3-5] Many surveys reported poor oral health status in the children.^[6-9] A school is not merely a place for formal education but an institute which shapes children's behavior, attitude, and perceptions toward life. Healthy lifestyles inculcated during school age are carried over to adulthood. Children spend a considerable amount of time in school, especially during the age when their habits are being formed.^[10] Schools provide an effective platform for promoting oral health because they reach over 1 billion children worldwide.^[11]

Children are predominantly susceptible to dental caries and gingival diseases due to changing dietary habits with increased consumption of refined carbohydrates and less focus on oral hygiene maintenance. Although adequate daily removal of

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How to cite this article: Gowdar IM, Aldamigh SA, Wabran MS, Althwaini AS, Alothman TA, Alnafisah AM. Knowledge and attitude of male schoolteachers towards primary dental care. J Family Med Prim Care 2020;9:1594-8.

Access this article online

Quick Response Code:



Website:
www.jfmipc.com

DOI:
10.4103/jfmipc.jfmipc_1100_19

dental plaque prevents periodontal diseases and dental caries, an effective method to prevent these problems would be through health education in schools.

The teacher is the sole person and a role model for the children. Teachers should encourage young people to develop strong moral identities. He/She can influence a child's behavior and mould their attitude towards positive health and oral health as they interact with children daily, and have close contacts with children's families.

School teachers can play an effective role in health promotion as they interact with children daily, and have close contacts with children's families. However, inadequate oral health knowledge, lack of training, and support for teachers in this regard create a great barrier for effective implementation of school health education programs.^[12,13]

Health education programs to improve knowledge of the schoolteachers can be undertaken by primary care medical professionals which include primary care physicians, dentists, nurse practitioners, behavioral care providers, pharmacists, and so on. Moreover, oral health care needs to be addressed by a multiprofessional approach and should be integrated into comprehensive health-promoting strategies and practices.^[14] Clinicians across the entire medical profession can play a major role in improving access to oral care by providing preventive care such as oral hygiene instructions, nutrition counseling, smoking cessation assistance, and even fluoride applications.^[15]

To instill a good positive approach to oral habits, the teachers themselves need to have good knowledge, attitudes, and practices toward oral hygiene. Khan *et al.*^[16] in their study on schoolteachers at Riyadh, KSA reported only 34% of teachers had good knowledge of oral health knowledge about. In contrast Ahmed *et al.*^[17] in their study on female teachers at Madinah, KSA reported that 80% had good oral health knowledge. This shows the variation in knowledge among schoolteachers within KSA. No reports are available regarding knowledge and attitude of male teachers at Al-Kharj KSA hence, the present study was conducted to understand the knowledge and attitude of male teachers towards primary dental care in Al-Kharj KSA.

Methodology

A descriptive cross-sectional questionnaire survey was carried out by including male teachers working in primary schools at Al-Kharj KSA.

Ethical approval was obtained for the study from the institutional review board. Consent was obtained from all the participants. Those who were not willing to participate were excluded from the study.

Questionnaire development

A self-administered questionnaire consisting of questions related to knowledge and attitude towards primary dental

care was used to collect data. The questionnaire consisted of 17 questions (knowledge-based = 10, attitude-based = 7) [Table 1]. The knowledge-based questionnaire consisted of questions such as several teeth in primary dentition, cause of dental caries, malocclusion, healthy gingiva, and so on. Moreover, their attitude and willingness were assessed in imparting oral health education to their children's in primary care of oral diseases by administering the questionnaire.

All the questions were primarily constructed in English and later translated into the Arabic language. Both the copies were checked by the language expert for clarity.

Prior to the data collection, the questions were pretested among a group of 30 schoolteachers to ensure the level of validity and degree of repeatability. Sample size estimated was based on pilot study results using the formula

$$n = \frac{Z^2 PQ}{d^2}$$

n = the calculated sample size,

P = Prevalence of good knowledge of oral health among teachers = 65%

Q = 1-*P* = 35, *d* = Precision = 5%. The required sample size was 349 rounded to 350.

Statistical analysis

Descriptive statistics were computed, categorical data were expressed as percentages, data were analyzed at 95% confident interval using a Chi-square test.

Results

Figure 1 shows the distribution of study participants. Out of 350 study subjects, 70 (26%) were below 30 years, 188 (54%) were between 30–40 years, and 92 were above 40 years.

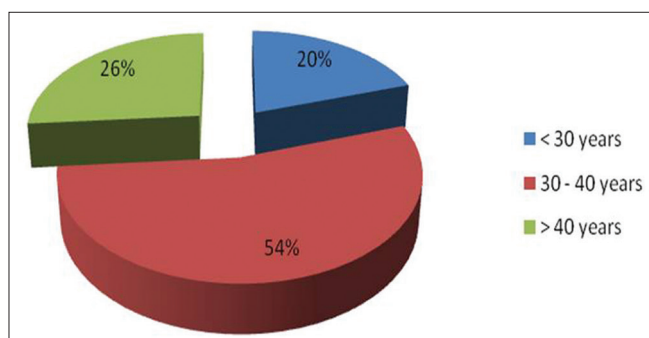
Oral health knowledge

Out of 350 schoolteachers, 64.28% had correct knowledge on the number of teeth present in the oral cavity. Nearly 76.57% of the schoolteachers correctly answered the cause of dental caries as bacteria. About 61.44% of the teachers were of the view that dental caries can be preventable. Around 55.72% of the teachers told fluoride helps in the prevention of dental caries. Only 29.73% of teachers answered correctly for when to start toothbrushing [Table 1].

In addition, 64.57% of study population told bleeding gums are an indication of gingival diseases and 58.57% of teachers correctly told healthy gingival appears as pink and firm. Regarding the effect of deleterious habits, 56% of the teachers answered correctly. Majority of the schoolteachers (86.28%) were aware of the pediatric dentistry department. Moreover, 89.6% of the

Table 1: Response of study subjects to knowledge-based questions

Questions	Response	Number	Percentage
Number of teeth in primary Dentition	15	72	20.57
	20	225	64.28
	28	35	10.00
	32	18	05.15
The cause of tooth decay is bacteria	Yes	268	76.57
	No	75	21.42
	Don't know	7	02.00
Can caries be preventable?	Yes	215	61.44
	No	106	30.28
	Don't know	29	08.28
Fluoride helps in the prevention of dental caries	Yes	195	55.72
	No	88	25.14
	Don't know	67	19.14
For preventing oral disease when you must start tooth brushing	After the eruption of the first milk tooth	104	29.73
	After the eruption of all milk teeth	206	58.85
	Only after the eruption of permanent teeth	15	04.28
	Don't know	25	07.14
Bleeding gums are an indication of gingival disease	Yes	226	64.57
	No	108	30.86
	Don't know	16	04.57
Healthy gums appear	Red and shiny	125	35.71
	Pink and firm	205	58.57
	Don't know	20	05.72
	Do oral habits like thumb sucking; finger sucking; pencil biting affects the dentition of the children?	Yes	196
Are you aware of the existence of pediatric dentistry as a specialty	No	88	25.14
	Don't know	66	18.86
	Yes	302	86.28
Frequency of dental visit	No	18	5.15
	Don't know	30	08.57
	Once in 6 months	312	89.16
	Once in a year	35	10.00
	Only if in pain	03	00.85

**Figure 1:** Distribution of study subjects according to age group

schoolteachers correctly told the frequency of dental visit as 6 months interval [Table 1].

Oral health attitude

Attitude-based questions only 59.44% of schoolteachers agreed to the question dental diseases can be preventable. Whereas 90% of the teachers were having a positive attitude that treating dental diseases is important. About 80% of the teachers agreed that they have an effective role in oral health promotion. Nearly 92.85%

of teachers are of the opinion that oral health topics must be included in the school curriculum and 97.15% of the teachers showed interest to educate the students about the importance of oral health. Around 85.72% of the teachers agreed to receive oral health training and 87.15% of the teachers are having an opinion that school dental health programs is required [Table 2].

When knowledge scores were assessed according to the experience of the teachers the results were found to be statistically significant ($P < 0.001$) [Table 3].

Discussion

Primary schools have great potential for influencing the health behavior of the child.^[17,18] During this period, the child goes through active developmental stages. The role of teachers during these developmental stages of the child is very important. Hence, schoolteachers can play a major role in dental health education programs and the prevention of dental diseases at school levels.

In the present study, 76.57% of school teachers answered that dental caries is bacterial this result is very high compared to

Table 2: Attitude based questions and responses of the male teachers (percentage)

Questions	Agree	Disagree	Not sure
Dental diseases are preventable	208 (59.44)	102 (29.14)	40 (11.42)
Treating dental diseases is important	315 (90)	20 (5.71)	15 (4.28)
Teachers can play an effective role in oral health promotion	280 (80)	50 (14.28)	20 (5.72)
Education of oral health must be included in the school curriculum	325 (92.85)	10 (2.86)	15 (4.29)
Your interest to educate the students about the importance of oral health	340 (97.15)	05 (1.42)	05 (1.42)
Your interest to receive oral health training	300 (85.72)	32 (9.14)	18 (5.14)
School dental health programs are required in schools	305 (87.15)	40 (11.43)	05 (1.42)

Table 3: Comparison of knowledge-based questions according to the experience of the teachers

Questions	Experience			Chi-square	P
	<30 years	40 years	> 40 years		
Number of teeth in primary Dentition	42 (60.0%)	119 (63.3%)	64 (69.6%)	21.32	0.002 S
The cause of tooth decay is bacteria	58 (82.9%)	142 (75.5%)	68 (73.9%)	4.74	0.315 NS
Can caries be preventable?	55 (78.6%)	107 (56.9%)	53 (57.6%)	21.41	< 0.001 S
Fluoride helps in the prevention of dental caries	41 (58.6%)	101 (53.7%)	53 (57.6%)	0.71	0.950 NS
For preventing oral disease when you have to start tooth brushing	31 (44.3%)	51 (27.1%)	22 (23.9%)	36.22	< 0.001 S
Bleeding gums are an indication of gingival disease	55 (78.6%)	118 (62.8%)	53 (57.6%)	14.40	0.006 S
Healthy gums appear	38 (54.3%)	110 (58.5%)	57 (62%)	22.87	< 0.001 S
Do oral habits like thumb sucking; finger sucking; pencil biting affects the dentition of the children?	41 (58.6%)	102 (54.3%)	53 (57.6%)	0.65	0.957 NS
Are you aware of existence of pediatric dentistry as a specialty	67 (95.7%)	158 (84%)	77 (83.7%)	21.16	< 0.001 S
Frequency of dental visit	70 (100%)	165 (87.8%)	77 (83.7%)	11.78	0.019 S
Overall knowledge mean	71.16%	62.39%	62.72%		

20% of Indian teachers and 58% of Brazilian parents published by previous studies.^[19,20] In our study, 64.57% of teachers were aware of signs of gingival disease as bleeding gums; which is similar to reported results from a study conducted on Indian teachers.^[21] An increase in the percentage of teachers knowledge could be due to the constant public health awareness created through advertisement in the media and oral health awareness programs.

In this study 55.72% school teachers reported fluoride helps in the prevention of dental caries this finding is slightly higher than the study conducted at Sudan^[22] which reported 31.5% of study participants acknowledged about the role of fluoride in preventing dental caries, similarly 61.44% of our participants are of the view that dental diseases can be preventable compared 50% of their study^[22] participants. In recent times more emphasis has been given to oral health promotion.

Around 56% of the teachers agreed that malocclusion can be caused by deleterious habits similar to the findings of Sekhar *et al.*^[21] where 57% of participants had a similar view. Whereas most of the teachers were not aware of the timing of tooth brushing (70.27%). Existence of pediatric dentistry specialty is known to 86.28% of subjects.

This study showed a significant relation to the educational level of teachers in relation to knowledge of oral health, which is in agreement with the study by Tangade *et al.*^[20] where younger teachers demonstrated greater knowledge, which is

justified by the fact that younger generations have gained a greater sense of responsibility toward the prevention of oral diseases.

The overall knowledge about the care of dental diseases observed in the present study was 65.42%.

Regarding attitudes, male schoolteachers of Al-Kharj have a positive attitude and view towards preventing dental diseases which is in accordance to studies conducted among Saudi teachers, Indian teachers, and Nigerian teachers.^[23-25]

In our study, 80% of teachers said that they can play an effective role in oral health promotion and 85.72% showed interest to receive oral health training if it is given in the future. This attitude of the teachers will be helpful and instrumental in arranging regular visits by the dentist to the school as a part of dental health education programs organized by dental colleges and other societies.

The advantages of using school personnel as oral health promoters for children are manifold. Teachers have the potential for reaching all the children and establish continuity in the instructions. Further, they can integrate oral health promotion with other activities and the entire process would be inexpensive.^[26,27] Nevertheless, the concept of using school teachers for frequent oral health education has been found to be more feasible and effective than infrequent dental health education by professionals.^[28]

Conclusion

Al-Kharj Male teachers have a fair knowledge about dental care also they have a positive attitude and interest towards school dental health education programs. There is a need to conduct training programs about oral health education in schools. Dental education should be systematized and applied within the scope of health policies.

Acknowledgment

To all the study participants and schoolteachers.

Financial support and sponsorship

Self-sponsored.

Conflicts of interest

There are no conflicts of interest.

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