

**ORIGINAL ARTICLE****ORAL HEALTH KNOWLEDGE AND ATTITUDES OF PRIMARY SCHOOL TEACHERS IN AL-KHARJ – SAUDI ARABIA**Nasser Tayi Al-Mutairi<sup>1</sup>, Hatem Shabbab Almukhalafi<sup>2</sup>, Hussam Muneer Alqahtani<sup>3</sup><sup>1</sup>Resident Dentist, Armed Forces Hospital, Najran, KSA, <sup>2</sup>Resident Dentist, Ministry of Health, Alqassim, KSA, <sup>3</sup>Resident Dentist, Ministry of Health, Bisha, KSA**ABSTRACT:**

**Purpose:** This study was conducted to assess the knowledge, attitude and practice regarding oral health among the Rural Government Primary school teachers in Al-Kharj, Kingdom Saudi Arabia. **Methodology:** A cross-sectional study was conducted on 108 primary - school teachers who were randomly selected from the 5 zones of Al Kharj – Saudi Arabia: data were collected through a self administered questionnaire oral health knowledge score were calculated, for statistical analysis using SPSS version17. **Results:** Out of 108 primary school teachers Response rate was 54%. 38% school teachers had knowledge about dental plaque, 98.8% of school teachers were brushing teeth to prevent dental decayed. The percentage of school teacher who visited the dentist only when they feel pain was 71.3%. **Conclusion:** The study concluded that oral health knowledge was lacking among the primary school teachers of AL-KHARJ, although practices were satisfactory.

**Keywords:** Attitude, knowledge, oral health, school teachers.

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**I**NTRODUCTION

Proper and adequate oral health knowledge and practice form the basis of optimal dental health status. Oral disease can be considered a public health problem due to its high prevalence and significant social impact. Recent studies showed that caries prevalence is very high among school children in Saudi Arabia.<sup>[1-3]</sup> Therefore; an effective preventive program is desirable for school children. Such information will assist in establishing an effective preventive dental health strategy. It is expected that preventive oral health education will enhance these children's oral health knowledge. Education of oral health knowledge to schoolchildren is important. School teachers, especially primary school teachers, play a vital role in shaping the behavior educating their school children about proper dental health, prevention of common oral diseases and overall comprehensive development of school children. For this reason, teachers themselves need to have a good and accurate knowledge and attitude regarding oral health. School teachers are known to exert considerable influence on their students and to an extent on the community at

large. The advantages of using school personnel in oral health promotion and provide preventive information are the potential for improved continuity of instruction and lowered cost of the service. Teachers need to have accurate knowledge and proper oral health behavior regarding constructive oral health habits to train and educate their students. Previous studies conducted on school teachers' knowledge and attitudes towards educating children about oral health have shown that primary school teachers' knowledge about oral health and oral hygiene practices were often incomplete and inaccurate.<sup>[4-9]</sup> The World Health Organization's Global School Health Initiative encourages "Health Promoting Schools" to create a healthy setting for living, learning and working. This initiative is designed to improve the health of students, school personnel, families and other members of the community through schools. 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.<sup>[10-11]</sup> There are very few studies carried out in Saudi Arabia, which assessed the school teachers' dental oral health knowledge, attitudes and

practices.<sup>[12-14]</sup> These studies found out that the school children teachers has poor knowledge about proper oral health and that was need to enhance their oral health knowledge. The aim of this study is to determine the knowledge and attitude regarding oral health among governmental primary male school teachers in Saudi Arabia .

**MATERIALS AND METHODS**

In 2014 the total numbers of primary schools in Al Kharj town were 91 primary school for boys. A cross-sectional study was conducted with a total sample size of 108 primary school teachers. Each school's administration was informed before any visit was attempted, and permission was obtained. Teachers selected received a brief explanation about the study. Selected teachers were interviewed for a questionnaire, with 28 different questions covering personal data, knowledge about tooth decay, practice of oral health education, attitude towards participation in school based oral health programs, and oral hygiene care methods. A pretested proforma containing structured close ended questionnaire including 28 questions was prepared in Arabic language for ease and convenience of primary school teachers. Out of the 28 questions, 12 questions were regarding oral health knowledge, 11 questions were regarding practice of oral hygiene and 3 questions were regarding school teacher’s attitude. The questionnaire was handed over to the school teachers and sufficient time was given to them to complete the form. It was later checked by the investigators to confirm that none of the questions were left un-attempted.

Each knowledge question had 2 options-Yes/No for which score 1 and 0 was given respectively. The total score was calculated and was divided into three categories. Score 0-5 were categorized as Poor knowledge, 6-8 were categorized as Fair and 9-10 as Good knowledge category. The questionnaire was tested before embarking on the governmental primary schools. Inclusion Criterion was that all the available subjects who were willing to participate in the survey. The subjects who were not willing to participate in the survey and those who were absent on the day of visit were excluded. Questionnaires were reviewed for accuracy and completeness after each day of data collection. All of the collected data were entered in the Microsoft Word Excel Sheet 2007 version and processed using Statistical Package for Social Sciences (SPSS, version 17) for data analysis as utilized for all computational purposes.

**RESULTS**

The main age of the teachers was 47 years ranging from 20 to 60 years. Table I below summarizes the age background of primary school teachers involved in this study in 11 schools. The total numbers of respondents’ were 108.

Regarding teachers qualification (Table II), most of respondent’s highest educational level was graduate degree with 67.6% (73).

Table III reveals oral health knowledge of the primary school teachers. Regarding questions about plaque and calculus, only 38.0% of the school teachers responded correctly by saying plaque means soft debris on teeth and only 22.2% said calculus means hard debris on the tooth. Regarding the Squeal of dental plaque 18.5% school teachers responded as staining of teeth followed by 61.1% as dental caries. Nearly 94.4% responded that consumption of sweets affected to dental health and also 99.1% believed that consumption of soft drinks also affected dental health in badley way. Regarding prevention of dental decay 89.8% believed that proper brushing prevented tooth decay and also 78.7% felt that fluoride strengthened the teeth and prevented dental caries regarding prevention of periodontal problems 93.5% felt that brushing prevented periodontal disease and also felt that dental floss 69.4% prevented periodontal disease. Regarding the questioner fluoridated paste 81.5% felt that fluoridated beneficial than others, nearly 70.4% felt bacteria a primary reason for tooth decay, 88.6% of teachers they were thought bleeding on teeth was a sign of gum disease.

**Table I** Distribution of the Study Subjects According Age

Ages	Frequency	Percent
20-30	48	44.4
30-40	33	30.6
40-50	25	23.1
50-60	2	1.9
Total	108	100.0

**Table II** Distribution of the Subjects According To Level of Education

Level of Education	Frequency	Percent
Graduate	73	67.6
Teachers college	27	25.0
Scientific institution	6	5.6
Post graduate	2	1.9
Total	108	100.0

Table IV practiced of the primary school teachers. Regarding the questioner what they use for cleaning, 79.6% felt that using tooth brush and tooth paste while 45.4% using only Miswak for cleaning their teeth. Regarding when you brush your tooth 40.7% brushed teeth before going to bed and same percent in the morning. Was Only 26.9% brushed their teeth twice per day and 62.0% responded they are brushing once per day. Regarding brushing technique 69.4%responded they are brushed with medium force on teeth.

Table shows attitude of the primary school teachers. Regarding smoking, 13.0% they were smokers.

**Table III** The Responses Regarding Questions on Knowledge of Oral Health

Question	Options	Frequency	Percent
<b>Q1. What is Dental Plaque?</b>	a) Soft debris on tooth	41	38.0
	b) Staining of teeth	46	42.0
	c) Hard debris on tooth	10	9.3
	d) I do not know	11	10.2
<b>Q2. What is calculus?</b>	a) Soft debris on tooth	20	18.5
	b) Staining of teeth	54	50.0
	c) Hard debris on tooth	24	22.2
	d) I do not know	10	9.3
<b>Q3 What does Dental plaque lead to?</b>	a) Inflammation of gum	16	14.8
	b) Staining of teeth	20	18.5
	c) caries of teeth	66	61.1
	d) I do not know	6	5.6
<b>Q4 Do sweets affect Dental health?</b>	a) Yes	102	94.4
	b) No	2	1.9
	c) I do not know	4	3.7
<b>Q5 Do soft drinks affect Dental health?</b>	a) Yes	107	99.1
	b) No	1	0.9
	c) I do not know	1	0.9
<b>Q6 Brushing teeth prevent dental decay?</b>	a) Yes	97	89.8
	b) No	6	5.6
	c) I do not know	5	4.6
<b>Q7 Using fluoride strengthens the teeth?</b>	a) Yes	85	78.7
	b) No	5	4.6
	c) I do not know	18	16.7
<b>Q8 Using tooth brush helps preventing periodontal disease?</b>	a) Yes	101	93.5
	b) No	4	3.7
	c) I do not know	3	2.8
<b>Q9 Using Dental floss helps preventing periodontal disease?</b>	a) Yes	75	69.4
	b) No	18	16.4
	c) I do not know	15	13.9
<b>Q10 Fluoridated tooth paste is beneficial than other tooth pastes?</b>	a) Yes	88	81.5
	b) No	6	5.6
	c) I do not know	14	13.0
<b>Q11 Bacteria are the primary reason for tooth decay?</b>	a) Yes	76	70.4
	b) No	10	9.3
	c) I do not know	22	20.4

**Table IV** Practices of oral health of the primary school teachers

Question	Options	Frequency	Percent
<b>Q1 What do use for cleaning your Tooth?</b>	a) Brush +tooth paste	86	79.6
	b) Miswak	49	45.4
	c) Mouth wash	12	11.1
	d) Dental floss	9	8.3
	e) Tooth picks	18	16.7
<b>Q2 When do you brush your teeth?</b>	a) after waking up	44	40.7
	b) before going to bed	44	40.7
	c) after meals	20	18.5
<b>Q3 How many times do you brush your teeth?</b>	a) Once per day	67	62.0
	b) twice per day	29	26.9
	c) three time per day	12	11.1
<b>Q4 When you using a brush during cleaning your teeth will be in?</b>	a) strong	15	13.9
	b) medium	75	69.4
	c) soft	18	16.7
<b>Q5 What are you favorite way to use a brush?</b>	a) horizontal	31	28.7
	b) vertical	24	22.2
	c) circularity	34	31.5
	d) random	19	17.6
<b>Q6 who many time visit the dentist?</b>	a) I don't visit the dentist	3	2.8
	b) Every year		
	c) Every 6 months	13	12.0
	d) When in pain	15	13.9
		77	71.3
<b>Q7 Are regular visits to dentist necessary?</b>	a) Yes	94	87.0
	b) No	11	10.2
	c) I do not know	3	2.8
<b>Q8 How often do you visit dentist?</b>	a) Regularly	11	10.2
	b) When I feel pain	83	76.9
	c) Occasionally/ never	14	13.0
<b>Q9 Reason behind not visiting/dislike?</b>	a) Fear	6	5.6
	b) High cost	48	44.4
	c) No clinic near to me	5	4.6
	d) No time	15	13.9
	e) No specific reason	40	37.0
<b>Q10 For how long do you brush your teeth?</b>	a) < 1 minute	25	23.1
	b) 1 minute	37	34.3
	c) 2 minutes	33	30.6
	d) >2 minutes	13	12.0
<b>Q11 What is Source of dental information for you?</b>	a) Newspaper/Magazine	16	14.8
	b) Friends or family members	21	19.4
		22	20.4
	c) TV / radio	63	58.3
	d) dentists		

**Table V** Attitude of the primary school teachers

Question	option	frequency	percent
<b>Q1 Are you a smoker?</b>	a) Yes	14	13.0
	b) No	94	87.0
<b>Q2 Does smoking cause damage to the teeth and oral tissues?</b>	a) Yes	104	96.3
	b) No	4	3.7
<b>Q3 have you ever given advice to students about oral health or the prevention of tooth decay?</b>	a) Yes	88	81.5
	b) No	20	18.5

**DISCUSSION**

The present study has provided basic information about oral health knowledge and its sources among selected primary school in Al-Kharj the total sample size of 108 primary school teachers. The total number of respondents' was 108 teachers. The most of respondents highest educational level were graduate degree with 67.6% (73), 25.0 % (27) had completed a college degree, 5.6% (6) were

scientific institution degree, and only 1.9 % (2) were had post graduate degree. Regarding questions about plaque and calculus, only 38.0% school teachers responded correctly by saying plaque means soft debris on teeth and only 22.2% said calculus means hard debris on the tooth. The question about the way of cleaning the study shows 79.6% felt that using tooth brush and tooth paste while 45.4% using only Miswak for cleaning their teeth.

Regarding when do you brush your tooth 40.7% brush teeth before going to bed and same percent in the morning. Only 26.9% brushing their teeth twice per day and 62.0% responded they are brushing once per day. Khan et al About 95% of school teachers used either brush or miswak or both to clean their teeth. Sixty four percent teachers use Miswak. Five percent did not use any device for oral hygiene. However, Al-Shammery showed that 9.9% did not clean their teeth.<sup>[13]</sup> Majority of miswak users used miswak three or five times a day, most probably before the daily prayers.<sup>[15]</sup> Regarding smoking, 13.0% they were smokers, also nearly 96.3% felt that smoking cause damage to the teeth and oral tissues but our study also investigated the role of smoking on oral health which was not studied previously. Most of the teachers had a satisfactory understanding of importance of good dental health and information about functions of teeth. Although, it was encouraging to note that more than half of the teachers thought that routine check-up of dental visit must be made every six months or once a year, yet a large number of teachers thought that a dental visit was only necessary in case of dental pain. Khan et al, showed that 39% of the teachers did not have the knowledge about gum diseases but in our study there is 11.1% of school teachers of Al-Kharj did not have the knowledge about gum disease.<sup>[13]</sup> This attitude could be explained in terms of fear due to previous negative dental experience or continuous parental negligence and attitude. In other study they not talk about the school teacher in the advice student about oral health, in our study we mention it and found 81.5% of school teacher give the student advice about oral health or prevention of tooth decay. In Middle East countries caries experience are showing an increasing trend due to the changing pattern of eating habits.<sup>[16-18]</sup>

Oral health education programs are an important influence on the oral health of teacher. All these reasons formed the impetus for the present study which aimed to assess the oral hygiene attitudes and behavior of primary school teachers in addition to determine the influence of variables like medium of education on the oral health knowledge, attitudes and behavior. The study has also indicated a need towards a larger study to establish oral health knowledge and sources of oral health information amongst school teachers in the Kingdom of Saudi Arabia. The information should assist in designing more effective preventive dental health schemes for these teachers. The improved preventive programs could consequently result in better dental health of these teachers.

## CONCLUSION

The findings of the present study indicate that oral health knowledge was lacking among the primary school teachers of Alkharj, although practices were satisfactory. Teachers require training programs, in which a half day workshop/symposium on oral health aspects could be beneficial.. Dental hygienists in Saudi Arabia and

elsewhere can exchange lobbying efforts towards this educational experience. A dental hygienist should always be a part of the team providing school dental health programs, so that the importance of oral hygiene is highlighted.

## RECOMMENDATIONS

Based on the results of this study, the author recommends the following:

- To create awareness among teachers regarding oral hygiene so that they stimulate the development of resources to make dental care available to all children
- When conducting school dental health programs, dental professionals should also plan out a separate lecture/demonstration of oral hygiene measures to school teachers so as to increase their awareness about oral hygiene
- Guidelines for teachers in monitoring and supervising tooth brushing drills should be developed
- Incorporation of a chapter on oral hygiene in the school curriculum would be helpful, so that the children are taught about the importance of oral hygiene at an early age

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