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ORAL HEALTH AWARENESS AMONG PRIMARY SCHOOL TEACHERS IN VADODARA, GUJARAT

Dental Science

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ABSTRACT

Aim: To assess the oral health knowledge, attitude and practices of primary school teachers of Vadodara city.
Material and methods: A cross sectional questionnaire study was conducted in Gujarati and English medium school selected from four zones in Vadodara. A total of 224 teachers participated in the study. Statistical analysis was done using chi-square test and $p < 0.05$ was selected in describing the level of significance.
Results: Teachers' knowledge regarding oral health is satisfactory while attitude and practice were poor. Both Gujarati and English medium school teachers' had almost similar knowledge regarding tooth decay, irregular teeth, bleeding gums, loosening of teeth. The study shows statistically significant relation between Gujarati and English medium school teachers' regarding their oral health attitude. Many school teachers' had positive attitude towards willingness in teaching students regarding oral health and to participate in oral health education programmes.
Conclusion: The school teachers' were moderately informed regarding various issues pertaining to oral health.

KEYWORDS

KAP, Knowledge, Attitude, Practices, School teachers, Oral health

Introduction

Oral health is an integral part of general health. The impacts of oral conditions which are concerned with an individual's experience and behavior with respect to disease or illness can be measured. Hence, oral health is bound to play a major role in imparting the quality of life and quality of life measurement in health care and specially oral health care has gained widespread recognition. Oral health is defined as a standard of health of the oral and related tissues which enable an individual to eat, speak or socialize without active disease, discomfort or embarrassment and which contribute to general well-being.[1]

As children constitute 60% of the total population, oral health of children is a significant public health issue. Childhood oral diseases, if untreated, can lead to irreversible damage, pain, disfigurement, serious general health problems, loss of school time, low self-esteem and poor quality of life. Poor oral health in childhood often continues into adulthood and is associated with stunted growth and compromised nutrition. In contrast, good oral health helps promote nutritional intake in children, enhancing their learning potential and school performance and enabling them to lead a more productive life.[2]

School teachers are traditionally being considered as potentially important primary agents of socialization, with the capability of influencing the future knowledge, attitude and behavior of school children.[3] Teachers are the most effective instructors for school based oral health education and can incorporate simple, accurate elements of oral health education into routine teaching activities.[4] School teachers have an internationally recognized potential central role in school-based dental education. Considerable importance has therefore been attributed to their dental knowledge. Teachers have the unique potential of preparing a future generation of correctly informed health care consumers and decision makers.[3]

According to Nyswander "the child cannot be helped to assume responsibility for his health through campaigns carried out by specialists. Sound attitudes can only be developed through one source of instruction- the teacher." Teacher is the keystone of the arch of dental health education.[5]

Currently no baseline data was available pertaining to the school teacher's oral health knowledge, attitude and practice in Gujarat state. Hence the present study was conducted to assess the oral health knowledge, attitude and practices of primary school teachers of Vadodara city, Gujarat.

METHODOLOGY

The present cross sectional questionnaire study was conducted to assess the oral health knowledge, attitude and practices of primary school teachers of Vadodara city.

Source of Data

The school teachers were selected from a total of 203 Private schools of Vadodara city. Majority of the Govt. schools in Vadodara provide only Gujarati medium education while private schools provide both English and Gujarati medium. Hence, only private schools were selected to make better comparison between English and Gujarati medium school teachers.

Design of the survey

Sample size was determined by using the formula

$$n = \frac{Z_{\alpha/2}^2 \sigma^2}{L^2}$$

where σ^2 = population variance, $Z_{\alpha/2}$ = upper ($\alpha/2^{th}$) quantile of standard normal distribution, L = maximum error in estimating the value of population mean that one is willing to accept, Considering the margin of error (L) 5%.

$$n = \frac{4 \times 0.2}{0.05}$$

Hence the total number of schools included in the present study was 16.

In Vadodara first to seven standards are included in primary schools.[6] The schools were selected by *stratified sampling* method using proportional allocation. Hence from each zone four schools were selected i.e. two English medium and two Gujarati medium.

The total sample size is (16 schools x 14 school teachers) = 224. Hence the total number of study subjects included in the present study was 224.

From selected schools, the fourteen school teachers were selected by random sampling using lottery method.

Ethical clearance

The ethical approval was obtained by Ethical committee, Sumandeep Vidyapeeth, Vadodara.

Pilot study

A pilot study was conducted on 10% of the total sample size i.e. 22

school teachers, eleven from Gujarati medium and eleven from English medium in order to check the feasibility of the study and to validate the questionnaire.

Prior to study, both versions i.e. English & Gujarati were pre-tested and validated for construct, content & criterion validity and also assessed for reliability and ease of use. The English version questionnaire was translated into Gujarati and retranslated into English.

Informed consent

The purpose and procedure of the study was informed to each participant and also Participant information sheet was provided to each participant, which explains all aspects of the study. After explaining the purpose of the study, the informed consent was obtained from each participant who was willing to participate in the study.

Questionnaire:

Each questionnaire contained two parts: the first part dealt with basic demographic details of the participants, the second part dealt with the questions regarding knowledge, attitude and practice of oral health. The questionnaire consisted of 29 questions pertaining to oral health knowledge, attitude and practices. Questionnaire was administered by investigator himself to each participant on scheduled days and collected back on next day.

Scheduling

The survey was scheduled to spread over a period of 3 months. A detailed monthly and weekly schedule was prepared well in advance by informing and obtaining permission from respective school authorities. For each school, the questionnaire was administered on first day of visit and on the next day it was collected back by investigator himself.

Statistical Analysis

Collected data was coded, compiled, tabulated and then analyzed by applying descriptive & inferential statistical analysis. Analysis was carried out using SPSS package version 12. Pearson's Chi Square test was used to check the difference in knowledge, attitude and practice among Gujarati and English medium school teachers. Level of significance was kept at 5% (P= 0.05).

RESULTS:

A total of 224 primary school teachers from 16 schools comprised the study population. Out of 224, 112(50%) were English medium school teachers from 8 English medium schools and 112(50%) were Gujarati medium school teachers from 8 Gujarati medium schools. Out of 224 school teachers, females were n=188(83.93%) and males n=36 (16.07%). Overall out of 224 school teachers, 7(3.12%) had poor, 158 (70.53%) had fair and 59(26.33%) had good knowledge regarding oral health. The difference observed was found to be statistically significant (P = .036). Similarly statistically significant difference was observed between the groups with respect to their attitude and practice regarding oral health (Table 1)

School teachers are compared acc. to their knowledge Vs attitude regarding oral health, it has been found that teachers who had poor oral health knowledge, 5(71.4%) had poor oral health attitude and 2(28.5%) had good oral health attitude. Teachers who had fair oral health knowledge, 71(44.93%) had poor oral health attitude and 87(55.06%) had good oral health attitude. Also teachers who had good oral health knowledge, 25(42.37%) had poor oral health attitude and 34(57.62%) had good oral health attitude. The difference observed was not found to be statistically significant (P = .343). (Table 2)

School teachers also compared acc. to their knowledge Vs practice regarding oral health. Out of all teachers who had fair oral health knowledge, 53(33.54%) had poor oral health practice, 102(64.55%) had fair oral health practice and 3(1.89%) had good oral health practice. Teachers who had good oral health knowledge, 22(37.28%) had poor oral health practice, 36(61.01%) had fair oral health practice. No statistically significant difference was observed (P = .378). (Table 2 & Figure 1)

Table 1 - Distribution of subjects according to their knowledge, Attitude & Practice regarding oral health

	Knowledge			Attitude			Practice		
	Eng	Guj	Total	Eng	Guj	Total	Eng	Guj	Total
Poor	3(2.67)	4(3.57)	7(3.12)	69(61.60)	32(28.57)	101(45.08)	42(37.5)	33(29.46)	75(33.48)
Fair	71(63.39)	87(77.67)	158(70.53)	0(0)	0(0)	0(0)	69(61.60)	76(67.85)	145(64.73)
Good	38(33.92)	21(18.75)	59(26.33)	43(38.39)	80(71.42)	123(54.91)	1(.89)	3(2.67)	4(1.78)
Total	112(100)	112(100)	224(100)	112(100)	112(100)	224(100)	112(100)	112(100)	224(100)
	$\chi2$ =6.661 df = 2 P =0.036 (S)			$\chi2$=24.685 df =1 P =0.000 (S)			$\chi2$ =2.418 df = 2 P =0.299 (NS)		

Table 2 - Distribution of subjects according to their Knowledge versus attitude & Knowledge versus practice regarding oral health

		Level of Attitude			Level of Practice			
		Poor	Good	TOTAL	Poor	Fair	Good	TOTAL
Level of knowledge	Poor	5(71.4)	2(28.5)	7(100)	0(0)	7(100)	0(0)	7(100)
	Fair	71(44.94)	87(55.06)	158(100)	53(33.54)	102(64.55)	3(1.89)	158(100)
	Good	25(42.37)	34(57.62)	59(100)	22(37.28)	36(61.01)	1(1.69)	59(100)
Total		101(45.08)	123(54.91)	224(100)	75(33.48)	145(64.7)	4(1.78)	224(100)
		$\chi2$= 2.139 df = 2 P = 0.343 (NS)			$\chi2$ =4.210 df = 4 P =.378 (NS)			

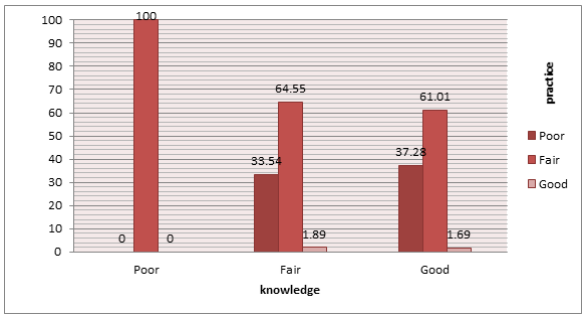

Figure 1 : Percentagewise distribution of subjects according to their knowledge versus practice regarding oral health

DISCUSSION

School teachers have traditionally been considered as potentially important primary agents of socialization with the capability of influencing the future knowledge attitude and behavior of children. The present study was carried out on 224 primary school teachers of Vadodara city to assess their oral health knowledge, attitude and practice.

Most of the teachers who answered the questionnaire were females. Among both English and Gujarati medium teachers, 55.35% believed that teeth are important for chewing, smiling, speaking and to look good while 38.83% believed that, teeth are important for only chewing. It may be due to lack of knowledge regarding oral health among teachers. Regarding common oral problems, 36.16% believed that tooth decay is a common oral problem while 37% believed that, tooth decay, bleeding gums, swelling and pain, loosening of teeth; all of these are common oral problems.

In the present study, majority from both the groups stated maintenance oral hygiene as a reason for perceived personal oral hygiene. But in studies of Woolfolk MW et al[4], Glasurd PH et al[9] and Lang P et al[10], majority of respondents ranked prevention of tooth decay first.

Almost similar oral hygiene practices (type of toothbrush, duration, frequency and technique of tooth-brushing, duration of changing

toothbrush) were seen between both Gujarati and English medium school teachers; Similar finding was reported by Pai V et al.[7] In the present study, it was found that almost all study subjects brushed their teeth regularly while Al-Shammery et al[11] study showed that 10% study subjects didn't brush their teeth regularly.

Majority of school teachers brushed their teeth twice daily. Same finding was reported in studies of Pai V et al.[7], Dileep CL et al.[8] Majority of study subjects changed their tooth-brush within 3 months which was similar to the finding of Dileep CL et al.[8]

Result showed that both English and Gujarati medium school teachers were equally aware of fluoridated toothpaste and dental floss. Majority of teachers had knowledge regarding reasons, treatment and sequelae of tooth decay. Most of the teachers felt that improper tooth-brushing, sweet and sticky foods and poor oral hygiene is responsible for dental caries. A similar finding was reported by Al-mask et al.[12]

The result showed that 71.81% school teachers have visited dentist previously. This may be because of the availability of affordable dental care in Vadodara City. In the present study only 11.16% school teachers visited a dentist every six months and 46% visited only when there was a need. This finding was in contrast with the studies of Lang P et al.[10], Pai V et al.[7]

Most (35.26%) subjects got their dental information from media, 33.48% from dentist and the rest from other sources. A similar finding was reported by Petersen PE el al.[13], Bowman PA et al[14]. but this finding was in contradiction to the studies of Sgan-Cohen et al.[3], Glasrud PH et al.[9] and Lang P et al.[10] which showed dentist as the main source. Many school teachers had positive attitude towards willingness in teaching students regarding oral health and to participate in oral health education programmes. Same finding was reported by Sgan-Cohen et al.[3], Petersen PE et al.[13], Mwangosi IE et al.[15] and Al-Tamini S et al.[16]

However, a few but important deficiencies in the field of knowledge, attitude and practice about oral hygiene have been identified for which recommendations are suggested.

1. To create awareness amongst teachers regarding oral hygiene.
2. Dental surgeon should conduct regular dental health programs in schools.
3. School teachers can be involved in the development and implementation of school dental health programmes.
4. Dental surgeon can conduct workshop and training programmes for school teachers.
5. Efforts should be encouraged to educate school teachers about preventive dentistry and their role in oral health promotion of school children.
6. Information regarding desirable oral hygiene aids and practices should be disseminated through various media like school magazines, bulletin boards and during annual school functions and festivals.
7. Topics in oral hygiene aids and practice should be included in school curriculum so that knowledge regarding oral hygiene is well incorporated among teachers as well as children. It should also include the harmful effects of tobacco & related products.

CONCLUSION:

As a general impression, the school teachers were moderately informed regarding various issues pertaining to oral health. In spite of being moderately informed, a few knowledge gaps were identified.

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