

COMPARISON OF ORAL HEALTH RELATED KNOWLEDGE, ATTITUDE AND PRACTICE AMONG SCHOOL CHILDREN, FROM 6 TO 12 YEARS, OF RURAL AREAS WITH NON-SCHOOL CHILDREN OF DISTRICT MALAKAND, KHYBER PUKHTUNKHWA

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ABSTRACT

Objective: The objective of this study was to assess the comparison of Knowledge, Attitude and Practice about oral health among school and non-school children, from age 6-12 years, in District Malakand.

Material and Methods: A representative sample of 400 children, 200 school and 200 non-school children, was drawn from 4 villages. Self administrated questionnaire was used as a tool for data collection.

Results: The results of this study show that school children had better Knowledge, Attitude and Practice about oral health than non-school children, although overall level of Knowledge, Attitude and Practice was low in both school and non-school children group. Teachers were the main source of information in school children, while in non school group others like friends and community were key informants. Systematic community-oriented oral health promotion agendas are required to enhance oral health Knowledge, Attitude and Practice of the children.

Conclusions: School children have better knowledge, attitude and practice about oral health than non-school children. The study revealed that parents played a key role to create awareness on oral health among children.

Key words: Oral healthy, School children, Non School Children, Knowledge, Attitude and Practice

INTRODUCTION

Oral health is considered as integral to overall health and comfort. A healthy mouth enables an individual to converse, eat and socialize without facing any active illness, distress or humiliation^{1,2}. Oral health disorders qualify as one of the foremost public health dilemma due to their higher occurrence and considerable social impact³. Chronic oral disease generally causes loss of tooth, and in some situations has physical, emotional and financial influences: physical appearance and nutrition are mostly affected badly, and daily life routine work and community relations are often distressed. These disturbances may initiate reduced welfare and wellbeing of life². To lessen these damaging impacts of chronic oral illness, there is thus an obvious need to minimize negative oral health

behaviour. Such a reduction can be obtained through suitable health education programmes^{4,6}.

Schools provide an essential setting for promoting health, as they extend over 1 billion children globally and, by means of them, the school employees, relatives and the society as a whole⁵. Health related ideas can be reinforced through the most dominant phase of children's lives, facilitating them to develop lasting sustainable attitudes and practices⁶.

The critical viewpoint to health education takes into account the fact that financial, social and cultural aspects are the essential determinants of disease. The responsibility for unhealthy conduct lies with society, not with the subject. Thus educational programmes aimed at the person, aiming to change an unhealthy behaviour, will be a total collapse if they do not bear in mind the multiple characteristics of the subject's life, both socioeconomic and environmental, that affect their behaviour and are responsible for various health issues^{7,8}.

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Oral health behaviours are established early in life. The schoolteachers, especially primary schoolteachers, can bear a significant responsibility in coaching healthy habits in their students^{4,9}. There have been reports on the knowledge and attitudes of the adult children towards prevention, but there is scarce data regarding knowledges attitude and practice (KAP) comparison about oral health among school and non-school going children in Pakistan. Oral illnesses, especially caries and periodontal disease, burden people of Pakistan terribly. The approach of the Government of Pakistan is currently focussed on upgrading the basic living and hygiene situations favourable to a healthy environment. As the overall health of the nation progresses, it is imperative that prospects for improving the oral health of Pakistani nation should not be forgotten⁵. The burden of oral problems is huge and may be intensely severe in susceptible residents like the poor rural area. These are aggravated by poverty, deprived living conditions, unawareness about health education, and deficiency of government support and plans to educate and provide adequate oral health care workers in public settings⁵.

Therefore this study aimed to assess KAP of school going children from 6 to 12 years, along with comparison with non-school going children of same age group.

METHODS AND MATERIALS

A cross sectional observational questionnaire based study was carried out in District Malakand. Mostly comprises of rural population. Sampling technique was multi-stage stratified Random Sampling. Four villages were selected by random sampling, i.e. Dargai, Heroshah, Zormandi and Badraga. A total of 8 schools were selected in these four villages. Household survey was carried out by convenience sampling in these villages. After formal permission from each principle of school and parents of non-school children, days were chosen for interviews of children. First a pilot testing was performed at a school to overcome deficiencies in actual study. In this trial a total number of 30 students were interviewed and examined according to the actual survey. Inclusion criteria were children from 6-12 years and children willing to participate. Exclusion criteria were children not willing to participate and absent. Data collection tool was questionnaire. A total of 200 school children and 200 non school children were interviewed. Confidentiality

was assured to the children, parents, teachers and principals. At the end of survey in every setting, a lecture was delivered to children about oral health. About 10 % of children examined were re-examined by another survey member to check inter-examiner reliability. It was found to be excellent i.e. 0.75 Kappa Value. Operational definitions were clearly set. Researcher then entered data under the guidance and supervision of the consultant. Data quality checks were conducted during data entry. Consolidation of findings from the analysis and development of this report then followed. Data was analysed by SPSS version 16.00.

Questionnaire includes questions about four sections i.e demographics, Knowledge, attitude and practice. Children were asked about knowledge of oral health: whether they knew what caries and gingivitis are; whether they knew that major factors that can cause dental problems; and whether they knew about the effect of oral hygiene on health. Questions were also included about attitudes to oral health, such as whether they considered it important to look after their teeth and how they can avoid tooth decay and gingivitis. Other questions related to oral healthcare practices, such as how often they brushed their teeth like regularly or not, and if regularly how many times a day. The questionnaire also asked about the last time they had brushed their teeth (today, yesterday, the day before yesterday, or more than two days ago), who had taught them to brush their teeth (nobody, parents, dentist, school), and when was the last time they had visited a dentist (less than an year ago, more than a year ago, or never), and the reason for this visit (check-up, pain, filling, or other work).

Two socioeconomic variables were included in the analysis: father's education, and social class. Social class was defined as low (parents income less than 5,000 Rs); middle (parents income between 6,000-15,000 Rs) and high (parents income more than 16,000 Rs). Questions were asked regarding the sources of information about oral health.

RESULTS

A total of 400 children, 140 school and 70 non-school boys and 60 school and 130 non- school girls, were interviewed. Maximum age group belonged from 10-12 years. More than half of sample group belonged

to middle socio-economic class among school children while in non-school sample more than half were from low socio-economic class. Detail are given in Table-1. Non-school group reported father's education mostly as illiterate while school children mostly reported as till Matric. The detail is given in Table-1.

Questions regarding knowledge about things used for oral hygiene showed that hardly anyone, i.e. 2% and 0%, knew about use of dental floss in school and non-school children respectively. While 86% were aware about tooth brush in school children. This value was reported as 63% in non-school children. 78% of school- children while 92% in non-school children reported that they did not know about effect of oral hygiene on overall health. When questions were asked about different factors as causal for dental problems, so 30% school children and 8% non-school children were aware of chocolates, 27% of school and 11% of non school children were aware of sugars, 23% of school and 3% of non school children were aware of non-brushing, 4% of school and 2% of non school children were aware about tobacco as being causative agent. 19% of school and 7% of non school children knew about caries, while 3% school and none of non school children knew about gingivitis.

Attitude was judged by few questions. Questions regarding how to avoid tooth decay by various approaches revealed that 2% of school and 1% of non school children reported as prevention by good hygiene, 15% of school and 6% of non school children replied as prevention by eating less sugar, 1% of school and none of non school children replied as fluoride to be approach for prevention, 0.1% of school children and 0% of non school children replied as going to dentist for prevention. Regarding prevention

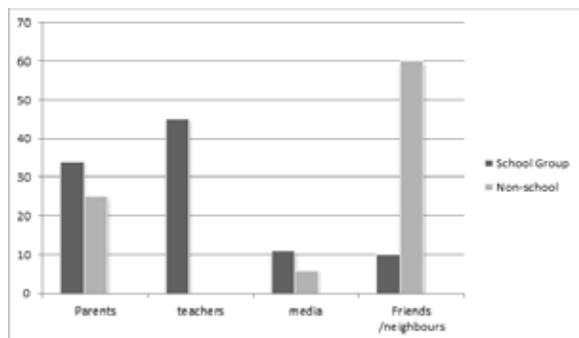


Figure 1: Source of Information about Oral Hygiene

of gingivitis, 1% of school children reported good hygiene as method and 1.2% reported less eating of sugar as preventive method in same group. Question about importance to take care of teeth was categorized as normally, quite a lot, not much and not at all. 36% of school children reported normally, 13% school and 9% non school children as quite a lot, 21% school children and 67% non school children as not much while 30% school and 14% non school children as not at all.

Questions about practice were judged by tooth brushing habits. 15% of school and 3% of non school children reported as they brushed their teeth today, 8% of school and 2% of non school children brushed yesterday while 41% of school and 51% of non school children brushed more than 2 days ago. 15% of school while 2% of non school children were found doing brush regularly. 3% of school while 1% of non school children never brushed their teeth. 18.2% of school children reported that tooth brushing was taught by school teacher, 77% of school and 10% of non school children reported parents who taught them about brushing. 13% of school and 2% of non school children were found to have visited dentist within last one year. Detail is given in Table-2.

Table-1. Socio-demographic characteristics of sample group

Characteristics	Number(school / non-school children)
Gender.	
Boys	140/70
Girls	60/130
Age Groups.	
6-7 Years	29 / 45
8-9 Years	34 / 20
10-11 Years	70 / 55
11-12 Years	67 / 80
Social Class.	
Low	66 / 129
Middle	115 / 60
High	19 / 11
Father's Education.	
Illiterate	20 / 134
Primary-Middle	40 / 31
Matriculate	102/ 30
Post-Matric	38 / 5

Table No. 2. Subject responses to the questions used as measures of the variables “knowledge”, “attitude” and “practice”

Knowledge					
		Tooth Brush	Dandassa	Miswak	Dental Floss.
	Do you know about things used for oral hygiene?	86/ 63	100/99	98/100	2/0
		Yes	No		
	Do you know effect of oral hygiene on your health?	22/8	78/92		
		Chocolates	Sugar	Not Brushing	Consuming tobacco products
	Major Factors that can cause dental problems.	30/8	27/11	23/3	4/2
		Yes	No		
	Do you know caries?	19/ 7	81/ 93		
	Do you know Gingivitis?	3/0	93/100		
Attitude					
		by good hygiene	by eating less sweets	by using fluoride	by going to the dentist regularly
	I can avoid tooth decay...	2/1	15/6	1/0	0.1/0
	I can avoid gingivitis...	1/0	1.2/0	0/0	0/0
		Normally	Quite a lot	Not much	Not at all
	It is important to take care of my teeth.	36/10	13/9	21/67	30/14
Practice					
		today	yesterday	day before yesterday	more than 2 days ago
	The last time I brushed my teeth was...	15/3	8/2	36/44	41/51
		Regularly (Twice a day)	Once a day	Irregularly.	Never.
	I do tooth brushing	15/2	35/10	47/87	3/1
		School Teacher	Parents at home	Dentist	Nobody
	Who taught you tooth Brushing?	18.2/0	77/10	1.8/0	3/90
		Yes	No		
	I visited dentist within last 1 year	13/2	87/98		
		Pain	Cleaning	Other reason	
	Reason of visit to dentist	7/2	4/0	2/0	

For each response, the value is the percentage of subjects who gave that response. In every response first value is of school children while second value being of non-school children.

Children were asked about source of information regarding oral health. In school children group, teachers were reported as greater percentage who provided them with such information while in non school children other groups like friends and neighbours were found as highest category of informants (Fig-1).

DISCUSSION

This study presented a comprehensive overview of the oral health knowledge, attitude and practice of school and non school children aged six to thirteen and to the best of our knowledge represents the first study of its kind that explored such comparison among school and non school children in rural area of Pakistan.

In the present study Children’s knowledge about dental floss was perceived to be poor both in school

and non school group. This finding is similar to study conducted by Al-Omiri et al¹⁰. where the use of dental floss (2%) was very less. Another study showed that over 60 % of children confirmed having never used a dental floss¹¹. However this study was carried out both in rural and urban areas. So it cannot be exactly compared with our study. The reason for less awareness could be that the target group mainly belonged to lower socio-economic class where the habit of using wooden twigs and dandassa rather than floss is more common due to some factors like poor affordability and less understanding due to un-importance given by the marketers to the advertisement of oral health instruments like tooth brushes, dental floss, mouthwash and tongue cleaners.

The participants showed less awareness of the link between oral health and systemic well-being, although the ratio was comparatively better in school children group. This is in contrast to study where high percentage showed such awareness¹¹. It is important to mention that emphasis on the link between oral health and well-being of the rest of the body might help support oral health care and oral self-care habits among children.

Though school children demonstrated more awareness than non school children about chocolates and sugars as causative agents for oral health problems, but only 23 % and 3% were aware about lack of tooth brushing as causal agent in school and non school group respectively. This is in contrast to study which found 58% children were aware that sweets and chocolates cause dental caries although most of them were not aware of the other major factors that cause dental problems¹². Almost none of the children had idea regarding that chewing tobacco can cause dental problems. Awareness on tobacco and its consequences need to be stressed to children.

Only 19% of the school children were aware of caries while 93 % of non school children were unaware about caries. The children were more aware about caries than gingivitis. This finding is similar to the study done by Al-Omiri et al¹⁰. Overall the level of oral health knowledge among the surveyed children was low similar to study done by Al-Omiri et al.

In a study 74 - 87% replied correctly to the queries about caries, how it can be prevented, the impact of fluoride on mouth, and the significance of looking after your teeth¹³. In contrast, the level of awareness

of gingivitis and how it can be avoided was poor in our study in both groups. Only 2 % of school children responded that tooth decay can be avoided by good oral hygiene, while 6% non school group replied as eating less sugar an approach for prevention. In a study 79% of children did not recognize the role of tooth brushing in treating gingivitis. 93% knew dental caries affect tooth appearance while 100% knew that sweet food can lead to dental caries and 87% knew brushing prevent caries¹⁴.

A huge number of children perceived that maintaining their oral health is not important that could be based on lack of emphasis given by the parents and teachers to children's dental care routine. Lack of promotion of proper techniques and practices by community and media.

In the present study, 15% of school and 3% of non school children reported tooth brushing on the day of survey. While 15% of school children reported brushing regularly. So children from school group reported better brushing habits than non school children. The percentage of children using tooth brush was lesser when compared to the study done by WHO in a rural population in Uttaranchal state where 83% of the children used brushes¹⁵. This can be because the children of this present study come from a very low socioeconomic background and affordability plays an important role. Some children resorted to the use of other mediums like Dandassa, miswak, wooden twigs etc to clean their teeth. This holds true with the study done by Mahesh Kumar et al¹⁶ in Chennai, where in their study population also children resorted to other mediums to brush their teeth. Further, in another study it was found that only 7% of the children brush twice-daily¹⁷. In study by Harikiran et al²² it was 38.5% and in another WHO study it was 49%¹⁵. Several other epidemiological surveys have also shown the importance of social -economic background for determining children's tooth brushing behaviour^{18,19}. But both school and non school children children's practice on proper and regular brushing needs to be improved.

Surprisingly 77% of school children learned about brushing from parents while 18% from school teachers. This means school teachers can play more important role in creating awareness about oral hygiene.

The participants demonstrated less positive attitudes toward their dentists. Children who were experiencing any kind of dental problem in the last

one year visited dentist only when symptoms of pain was there and this showed that pain is the main driving factor to visit the dentist. Study by Al-Omiri et al¹⁰ has also proved in their study that pain is the main factor for children to visit the dentist. In our study, the participants were mainly from lower socioeconomic strata, so because of the high cost of dental treatment, individuals may have limited the accessibility of dental care. Overall school children showed better knowledge, attitude and practice about oral health than non-school children. These results indicate improvement of health education efforts both for school and non school children. Richard and Barmes²⁰ had earlier shown that socio-economic and educational levels of populations are directly related to the oral cleanliness many other studies have attributed the high prevalence of oral disease and the low level of oral health awareness in Africa to ignorance, poverty and lack of education^{21,22}.

CONCLUSION & RECOMMENDATION

The result of the present study showed that school children have better knowledge, attitude and practice about oral health than non-school children. The study revealed that parents played a key role to create awareness on oral health among children. This was found both in school and non-school children. As parents and schoolteachers are important informants in dental health therefore, their involvement should be considered in designing oral health education for children. The school may serve as an effective platform for promotion of oral health in relation to children as well as families.

LIMITATIONS

The study might have certain limitations

1. Information were collected by questionnaire and subjects might have mentioned positive practices and underestimated negative practices.
2. Recall bias were possible regarding past dental visits and dietary habits.

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