

PERCEPTIONS OF PUBLIC AND PRIVATE SCHOOL STUDENTS OF LAHORE CANTT ABOUT DENTAL HEALTH

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ABSTRACT

There is a lack of knowledge of healthy oral habits that are vital in preventing caries and periodontal diseases. These problems are prevalent worldwide, despite advances in oral health awareness programs. The objective of this study was to record perception of school going students from public and private sector regarding their oral hygiene practices and knowledge about oral health conditions.

A questionnaire-based survey was conducted on students from two public and two private sector schools of Lahore Cantt, randomly selected. Among the 255 participants, aged 6 to 15 years, 50.59% were from public schools and 49.41% from private schools. Statistically significant difference was noted (p -value = 0.00) as 61.2% of the public schools students brushed twice daily compared to 34.9% of private school students. Tooth brush and toothpaste were the preferred oral hygiene regime, from both the public (92.2%) and private (86.5%) schools with no statistical difference. 68.2% of the students had no awareness about dental plaque among these significantly higher percentage of participants were from public schools (p -value = 0.01). Majority of the students had no knowledge about protection from bleeding gums, 70.5% belonging to public schools compared to 57.9% from private schools (p value = 0.011). Regular dental check-up every six months was lacking in both public and private school students, 4.6% and 12.7% respectively (p -value = 0.000).

The basic knowledge about recommended oral hygiene practices and understanding of common terms was lacking in both public and private school students. Overall public school students had comparatively better knowledge and practices compared to private school students of Cantt Lahore.

Key Words: Dental health, oral hygiene, perception, public school, private school students

INTRODUCTION

Oral health is now widely accepted to be as important as general health.¹ Oral hygiene is described as the practice of brushing and flossing to keep the oral cavity clean and healthy, and to prevent tooth decay and gum disease.² A healthy mouth enables an individual to eat, speak, and socialize without experiencing any active disease, discomfort, or embarrassment.³ Despite marked advances in oral health, problem of oral health

diseases remains prevalent worldwide.⁴ This could be mainly due to lack of both knowledge and acceptance of healthy oral habits that are vital in preventing oral diseases like dental caries and periodontal disease which are mainly considered as behavioral diseases.⁵

There are a number of factors namely diet, smoking, alcohol, hygiene, stress, and exercise which are linked to a wide range of important diseases, forming the fundamental basis of common risk factor approach.⁶ Tooth brushing and flossing decrease the accumulation of dental plaque.⁷ Based on simplicity, effectiveness, and low cost of these methods they are recommended as self-preventive measures against oral diseases. However, some factors such as frequency, duration, and technique of tooth brushing and flossing also play important role in effectiveness of these measures.⁸

The rationale of this study was that in order to maintain healthy oral hygiene, it is crucial to have basic knowledge and positive attitude towards oral health care. This knowledge, originates from information, when accepted and believed is translated into action which consecutively becomes a habit if introduced from early

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childhood.⁹ In order to develop healthy habits in young children; parents, school teachers, and siblings generally play an imperative role in this regard.^{10,11} Private school students generally have a better socioeconomic status¹² hence it was proposed that their knowledge, attitudes and behaviors would be better than public school going students.

The objective of this study was to report the perception of public and private school going students about oral health related measures such as tooth brushing, flossing, use of mouth wash and regular visits to dentist.

METHODOLOGY

A questionnaire survey was conducted on young students belonging to two public and two private schools located in Lahore Cantt selected randomly during Oral Health week in 2017. Ethical approval was obtained from CMH Lahore Medical College ethical review committee. Informed written consent was taken from the respective heads of the schools before conducting this study. Both male and female students from 1st till 9th grade, present at school on the day of data collection, were included in the study through convenience sampling. Student who were not present in respective classes at the time of data collection were excluded.

The questionnaire was derived and modified from Cortes.¹³ The questionnaire was in English language and included items to evaluate the demographic details (like age, sex, type of schooling, and years of study) and the perception of young students regarding their oral health knowledge, practices, and experiences of first dental visit. Participants received detailed explanation of how to mark their responses. One of the investigators was always available during the completion of the questionnaire, and the participants were encouraged to approach him/her if any clarification was required. SPSS 20.0 was used to analyze the data. Descriptive statistics by means of frequency distribution were obtained. Chi-square test was used for comparisons between the parameters such as male and female participants; public and private schools and years of study. Results were depicted in frequency tables. In all the cases, p -value ≤ 0.05 was considered significant.

RESULTS

Out of 287 participants in the survey, 255 returned the filled questionnaire (88.85%). The participant comprised of 73.3% boys and 26.7% girls studying from grade 1 till 9 (ages 6 to 15 years). Among the participants, 50.59% were from public schools and 49.41% were from private schools. The response of the question about the number of times they brushed their teeth, a statistically significant difference was found between public and private school students. 61.2% of the participants from public schools brushed their teeth twice

daily compared to 34.9% of private school participants (p -value < 0.000) (Table 1).

Brush and toothpaste were also the preferred method in the participants, from both the public (92.2%) and private (86.5%) schools with no statistical difference (Table 2).

In response to questions regarding their knowledge of terms commonly used in oral health related campaigns on media such as dental plaque, 68.2% of the participants had no awareness about dental plaque and among these significantly higher percentage of participants were from public schools (p -value ≤ 0.01) (Table 3).

Majority of the students had no knowledge about how bleeding gums are caused, 70.5% belonging to public schools compared to 57.9% from private schools (p value = 0.011) (Table 4).

40.8% of the participants never visited a dentist and majority of such participants were from public schools (p -value = 0.000) (Table 5). Only 8.6% of the participants regularly visited their dentists, every 6 months with 4.6% and 12.7% of these were from public and private schools respectively (p -value = 0.000) (Table 5). Another significant percentage of participants (20%) went to the dentists only when they had dental pain (12.4% and 27.8% belonging to public and private schools respectively, p -value = 0.000) (Table 5).

Majority of the participants from private schools were slightly or never afraid on their first dental visit compared to those belonging to public school (p -value = 0.017). Younger participants from grade 1 and 2 were less afraid on their first dental visit compared to older participants (p -value = 0.000) (Table 6).

DISCUSSION

One of the most common goals of dental and health professionals is to promote oral health awareness among general population. In our study, we compared oral health related awareness, and perceptions of students from private and public-sector schools. In our study, a significant number of participants (89.4%), irrespective of gender, class or school type, were familiar with toothbrush and paste as a brushing tool. Few participants were familiar with other oral hygiene maintenance aids like mouthwash (3.5%), dental floss (5.1%), toothpick (0.1%), and other aids such as miswak (1.2%). Brush and toothpaste were preferred methods of maintenance in spite of using other regimes for enhancing the quality of oral health. Similar behavior was observed in school children aged 9 to 12 years studying in southern Saudi Arabia¹⁴ where significant number of participants used toothbrush with paste to clean their teeth and maintain their oral health. However, few participants used mi-

TABLE 1: DIFFERENCE IN FREQUENCY OF TOOTH BRUSHING AMONG PUBLIC AND PRIVATE SCHOOL STUDENTS

Frequency of tooth brushing	Public n (%)	Private n (%)	Total n (%)
No brushing	0 (0%)	3 (2.4%)	3 (1.2%)
Once per day	10 (7.8%)	22 (17.5%)	32 (12.5%)
Twice per day	79 (61.2%)	44 (34.9%)	123 (48.2%)
Thrice per day	38 (29.5%)	46 (36.5%)	84 (32.9%)
More than thrice	2 (1.6%)	11 (8.7%)	13 (5.1%)
	129 (100%)	126 (100%)	255 (100%)

p-value = 0.000

Using Chi square test, we found difference in frequency of tooth brushing among students of public and private schools, p-value < 0.05

TABLE 2: STUDENTS PREFERRED METHOD OF CLEANING THE TEETH

Tooth cleaning methods	Public n (%)	Private n (%)	Total n (%)
Tooth brush and paste	119 (92.2%)	109 (86.5%)	228 (89.4%)
Dental floss	5 (3.9%)	8 (6.3%)	13 (5.1%)
Mouth wash	2 (1.6%)	7 (5.6%)	9 (3.5%)
Tooth pick	1 (0.8%)	1 (0.8%)	2 (0.8%)
Other	2 (1.6%)	1 (0.8%)	3 (1.2%)
	129 (100%)	126 (100%)	255 (100%)

p-value = 0.379

Using Chi square test, we did not find association between tooth cleaning method in public and private school students, p-value > 0.05

TABLE 3: KNOWLEDGE OF DENTAL PLAQUE AMONG PUBLIC AND PRIVATE SCHOOL STUDENTS

Meaning of dental plaque	Public n (%)	Private n (%)	Total n (%)
Soft debris on teeth	23 (17.8%)	17 (13.5%)	40 (15.7%)
Staining of teeth	8 (6.2%)	11 (8.7%)	19 (7.5%)
Hard debris on teeth	4 (3.1%)	18 (14.3%)	22 (8.6%)
Do not know	94 (72.9%)	80 (63.5%)	174 (68.2%)
	129 (100%)	126 (100%)	255 (100%)

p-value = 0.01

Using Chi square test, we found difference about the knowledge of dental plaque among students of public and private schools, p-value < 0.05

TABLE 4: PERCEPTION OF PUBLIC AND PRIVATE SCHOOL GOING STUDENTS ABOUT METHODS TO TAKE FOR PROTECTION FROM BLEEDING GUMS

How to protect from bleeding gums	Public n (%)	Private n (%)	Total n (%)
Regular tooth brushing and flossing	29 (22.5%)	26 (20.6%)	55 (21.6%)
Taking soft food	5 (3.9%)	13 (10.3%)	18 (7.1%)
Taking vitamin C	4 (3.1%)	14 (11.1%)	18 (7.1%)
I don't know	91 (70.5%)	73 (57.9%)	164 (64.3%)
	129 (100%)	126 (100%)	255 (100%)

p-value = 0.011

Using Chi square test, we found difference in perception about protection from bleeding gums among students of public and private schools, p-value < 0.05

TABLE 5: FREQUENCY OF DENTAL VISITS AMONG PUBLIC AND PRIVATE SCHOOL STUDENTS

Frequency of dental visits	Public n (%)	Private n (%)	Total n (%)
Never	64 (49.6%)	40 (31.7%)	104 (40.8%)
Hardly ever	29 (22.5%)	17 (13.5%)	46 (18%)
Once a year	14 (10.9%)	18 (14.3%)	32 (12.5%)
Every 6 months	6 (4.6%)	16 (12.7%)	22 (8.6%)
When in dental pain	16 (12.4%)	35 (27.8%)	51 (20%)
	129 (100%)	126 (100%)	255 (100%)

p-value = 0.000

Using Chi square test, we found difference in frequency of dental visits among students of public and private schools, p-value < 0.05

TABLE 6: FIRST DENTAL EXPERIENCE AMONG STUDENTS OF DIFFERENT GRADES

Experi- ence of first visit to dentist	Grade									Total
	1	2	3	4	5	6	7	8	9	
Not appli- cable	32 (68.1%)	12 (26.7%)	8 (61.5%)	10 (31.2%)	3 (23.1%)	16 (27.6%)	5 (31.2%)	6 (46.2%)	12 (66.7%)	104 (40.8%)
I was scared and reluc- tant	3 (6.4%)	4 (8.9%)	3 (23.1%)	3 (9.4%)	1 (7.7%)	16 (27.6%)	2 (12.5%)	2 (15.4%)	3 (16.7%)	37 (14.5%)
Slightly afraid	5 (10.6%)	7 (15.6%)	2 (15.4%)	5 (15.6%)	7 (53.8%)	15 (25.9%)	3 (18.8%)	2 (15.4%)	1 (5.6%)	47 (18.4%)
Very slightly afraid	3 (6.4%)	5 (11.1%)	0 (0%)	3 (9.4%)	0 (0%)	3 (5.2%)	4 (25%)	2 (15.4%)	0 (0%)	20 (7.8%)
Never afraid	4 (8.5%)	17 (37.8%)	0 (0%)	11 (34.4%)	2 (15.4%)	8 (13.8%)	2 (12.5%)	1 (7.7%)	2 (11.1%)	47 (18.4%)
	47	45	13	32	13	58	16	13	18	255

p-value = 0.000

Using Chi square test, we found difference in experience of students of different grades about first dental visit, p-value < 0.05

swak for cleaning their teeth as compared to other aids like dental floss and tooth pick. In this study, students preferred using brush and paste whereas miswak and other aids were not very commonly used. These private and public school students reflected prevalence of urbanization and civic sense expected from dwellers of a major city like Lahore where media plays a pioneer role in changing attitudes and impart knowledge about oral health. Every year, similar Oral Health visits are conducted in these schools of Cantt so it must have caused awareness about using tooth brush and paste.¹⁵ Tooth brushing and dental floss were more frequently used by private school students in Jeddah, Saudi Arabia aged 12-18 compared to government school students, however the recommended use was still less (2.2 % in

govt compared to 6.5% in private).¹⁶ Similar results were seen in this study, private school students were aware of using dental floss (6.3%) compared to public school students (3.9%). Important cleaning aids such as dental floss has not been selected by the majority which calls for a better awareness campaigns to highlight the importance of dental floss in maintaining oral health which is in agreement with other studies.¹⁶⁻¹⁸

89.4% of students had the basic idea of cleaning their teeth with brush and paste; but the recommended regime of brushing after every meal or minimum twice daily was still lacking (48.2%). Similar results were reported in another study where brushing twice daily was reported by only 38.5% of participants (35.8% public

and 59.4% private). In another study, it was observed that brushing twice daily is a common practice among students of four nations India, Yemen, Saudi Arabia, and United Arab Emirates.¹⁹ The reason could be that these developing countries are better economically, have a better and more accessible health care system, and considerable budget is allocated for awareness programs.²⁰ Better economical status is related to knowledge about dental care utilization and developments of positive oral health-related behavior.⁷ 61.2% of public school students brushed twice daily compared to 34.9% of students from private schools. This difference in prevalence could be because students from these public schools located in Cantt area were better taught and were well-informed about oral hygiene maintenance compared to private school going students located in the same area of Lahore, this aspect needs to be further explored.

Plaque is a soft tenacious biofilm of microorganisms²¹ and significant number of students had no knowledge about the meaning of dental plaque. Higher percentages of students from public schools (72.9%) were ignorant of this term in comparison to private schools (63.5%) and only 17.8% of public school students were aware of the correct meaning of dental plaque compared to 13.5% of private school students. This behavior was also observed in another study that significant number of postgraduate students did not have any idea what plaque meant and what factors are involved in its formation.²² In this study 64.3% of the participants did not know about protection from bleeding gums, 70.5% belonging to public schools compared to 57.9% of private school participants. The findings of this study regarding lack of knowledge about common terminologies, used in oral health campaigns, such as dental plaque and bleeding gums suggest that certain types of knowledge may be less highlighted and even ignored in the current oral health education programs. A more comprehensive design of health education programs from the government and the school is needed to promote the oral health awareness.

In this study, significant number of participants (40.8%) never visited a dentist, majority belonging to public schools (49.6%) than private (31.7%). Practice of visiting a dentist every 6 months was only prevalent in 12.7% of private school students compared to 4.6% of public school students. In a similar study in Jordan, private school students visited the dentist more regularly (31.4%) compared to public school students (15%).²³ Regular dental check-up is still lower than recommended in our study population. This could be because the oral health campaigns being run on media and schools in Lahore are not promoting regular dental check-ups and masses need to be educated about importance of these visits for early diagnosis of oral

health related problems.

Moreover, students of grade 1 and 2 were less afraid of a dental visit in comparison to students of grade 6. This explains that fear of a dental visit develops with age, if they are not exposed to it in early childhood.²⁴ It was also reported in similar studies that fear of dental pain is one of the main reasons of not visiting a dentist.^{16,25}

Therefore, it is the role of oral health promoters and disease-prevention specialists to improve oral health perceptions, knowledge, and practices of school-going children. This can be achieved by incorporating dental hygienists and dentists in community oral health centers to cater to the needs of the community. Educational activities at schools and community levels should also be planned and implemented to promote and sustain good oral health practices by the population.

CONCLUSION

The basic understanding of oral health care and diseases was lacking in both public and private school students than what was expected from an urban population with relatively high literacy rate and easy accessibility to oral health care. Based on our findings, if perceptions of the school going students are improved through awareness programmes through dental check-ups and surveys, they may prove to be effective role models for their respected communities. It is also very important that parents, teachers, and health care professionals take an active role in educating students about oral health care.

Limitations

Limitations of the study include students may have responded to questions based on their own understanding and assumptions, and element of recall biasness cannot be ruled out. Participants were school going children of grade 1 till 9 and might have forgotten related particulars which could have affected the results. There is also an element of sampling bias in this study.

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