

ORAL HEALTH ATTITUDES, KNOWLEDGE, AND BEHAVIOR AMONGST HIGH AND LOW SOCIOECONOMIC SCHOOL GOING CHILDREN IN LAHORE, PAKISTAN

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ABSTRACT

This study was carried out to evaluate the knowledge, attitude and behavior of low and high socioeconomic school going children and the type of food available and consumed at school premises, as well as the dental health care facilities available at schools. It was a multi-centric study which analysed school going children (n=281) from grade 1 to grade 10 who attended private schools of both high and low income groups in Lahore, Pakistan. A questionnaire adapted from Peterson and Stenberg et al designed to assess children's behavior, knowledge and perception of their oral health and dental treatment along with the availability of healthy food in the school was used. Results showed that 54% of HSES students bought food from cafeteria as compared to only 11% of LSES School. 41% LSES children's parents did not observe their child while brushing. 54% of LSES and 41% of HSES visited the dentist only in pain. 39% of HSES but only 12% of LSES went for regular checkups. Reason for not visiting the dentist among HSES students was fear of drilling (40.3%) and 9.3% in LSES. It was concluded that there was a dire need of health education programs especially for low socio economic school children.

This study provides baseline information about children's knowledge, their attitudes and behavior towards eating habits, maintaining oral hygiene, seeking dental treatment of low socio economic and high socio economic school children in Lahore.

Key words: oral health, attitude, knowledge, behavior, school children, low socio economic group

INTRODUCTION

Dental caries is a major dental disease affecting the lives of a large proportion of the inhabitants of this world.¹ It is the predominant cause of tooth loss in children and young adults.² In Pakistan, caries is on the rise. The DMFT (decayed missing and filled teeth) of Pakistan score of 12 year olds has increased from 1.2 in 1988 to 1.6 at present. 97% of all carious lesions reported in the 12-15 year old age category are left untreated.³

The primary health care strategy was implemented in 1978 and oral health care was not integrated in to it. This has left oral health care far behind than other health care services. Some of the effects have been the absence of self-care practices and general lack of oral health awareness for the people of Pakistan.³

Studies have showed that appropriate oral health education can help to cultivate healthy oral health practice.⁴ In the western societies, children are taught

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the maintenance of oral hygiene in the schools.⁵ The classroom teacher is the key to creating learning opportunities within and beyond the classroom, and to building children's future capacities to grow, be productive and accept lifelong responsibility for their health and social behavior.⁶ Therefore schools should be considered as a health promoting setting.⁷ A great deal emphasis is on healthy schools where apart from education on health and related issues, the school cafeteria should only provide healthy nutritious food to the growing minds of the children.⁷

The national health survey 1990-94 of Pakistan shows that of all the carious lesions only 16% seek dental care.³ This indicates the low awareness level as well as low affordability. People from low socioeconomic class do not go to the dentist for conservative treatment.⁸

There is a paucity of data on oral health attitudes behavior and knowledge in Pakistan. The change to healthy attitude and practice can be brought about by giving adequate information, motivation and practice to the subjects.⁹ In order to create such health education, the assessment of knowledge, attitude and practice is essential.¹⁰

This study provides baseline information about children's knowledge, their attitudes and behavior towards eating habits, maintaining oral hygiene, seeking dental treatment of low socio economic and high socio economic school children in Lahore.

METHODOLOGY

This is a self-reported multi-centric cross sectional study carried out in different private schools in Lahore, Pakistan. The study sample was randomly selected. Out of 37 private schools three schools in the Lahore district in Punjab province were selected. The schools were categorized as high and low socio economic school groups (HSES and LSES respectively). Schools belonging to HSES School were charging more than Pakistan rupees 5000 per month as school fee. On the other hand schools belonging to a LSES school were charging less than Rs. 1000 a month. The students were selected from grade 1 to grade 10. Grade 10 marks the end of basic schooling (matric) in Pakistan. Students who were in kindergarten or playgroup were not included in the study as they were too young to fully understand the proforma and completely fill it. The children were given assistance where they didn't understand the language.

All subjects were asked to complete a comprehensive questionnaire adopted from Peterson et al.¹¹ and Stenberg et al.¹² The questionnaire was designed to evaluate the knowledge, attitudes, and behavior of young school children regarding their oral health and dental treatment and the type of food available at the campus cafeteria. Subjects were also asked about bleeding gums and what causes it. The questionnaire also assessed the parent's involvement in maintenance of child's brushing habits and maintenance of oral hygiene. The questionnaire gathers information about the visit to the dentist, treatment sought, reasons for not visiting periodically and the level of child's fear level for not going to see the dentist.

The study was conducted between February – March 2010. Two hundred and eighty one students successfully completed the questionnaire. Thirty nine questionnaires were found incomplete because of missing responses to one or more questions and hence were not included in the data analysis to avoid potential bias. The response rate was 88%. The participants independently filled up the questionnaire without any names and identification numbers. The questionnaire was explained to the teachers of the respective grades and they gave them to the children who returned to the teachers. This process minimized the potential bias in completing the questionnaire by the examiner. The completed questionnaires were then entered in SPSS version 16 for statistical analysis. The responses were coded as numeric in order to facilitate the data entry and analysis. The results have been presented in the form of figures.

RESULTS

About 54% of HSES students brought money as compared to only 11% of LSES School (Table 1).

It was seen that HSES School showed that 48% brushed in the morning before coming to school.

74% of the HSES students used a tooth brush and tooth paste. LSES school showed only 49% used tooth brush and tooth paste.

Parents also played an important role in daily oral care. HSES school showed 47% children were supervised while brushing. About 41% of the LSES school reported that their parents never watched them brush nor gave any advice but only 17% HSES parents did the same.

Table 1: Food available at Cafeteria

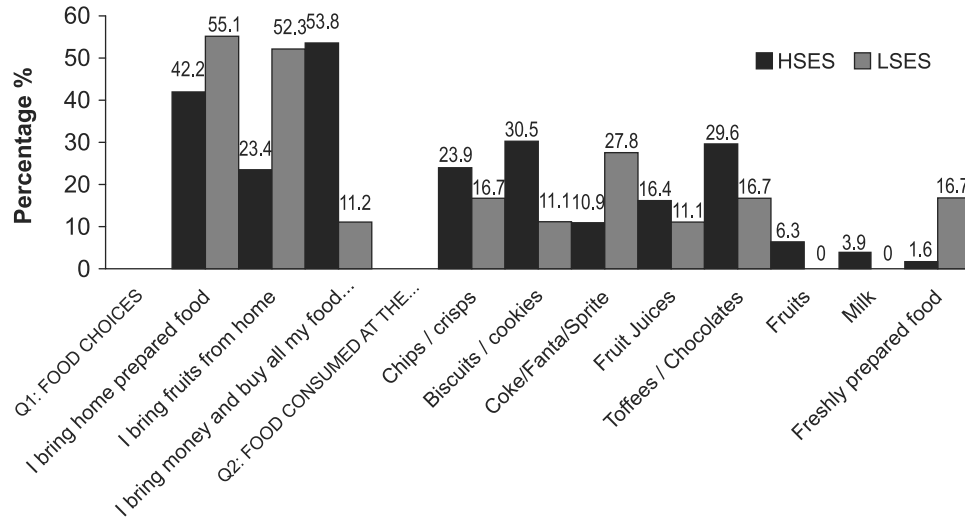
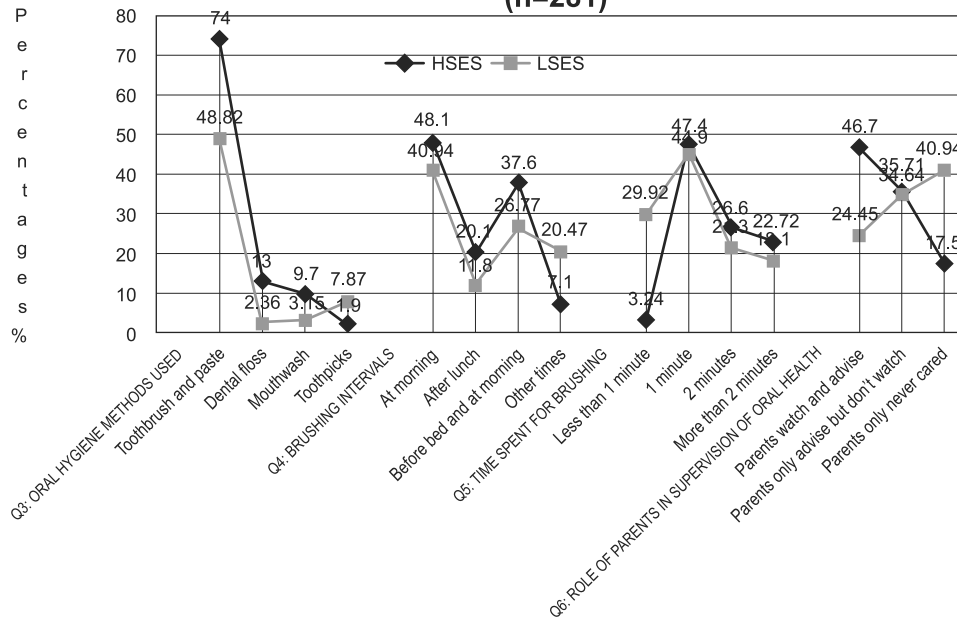


Table 2: Oral hygiene habits among the study population

(n=281)



About 18% of the LSES school students brushed more than two minutes whereas in HSES schools 23% brushed for more than 2 minutes (Table 2).

Almost 62% of the students of LSES students had no knowledge of gum disease. Only a few students (16%) in HSES school knew what health gingiva is. The question on prevention of gingival disease, 22% of the LSES and 34% HSES students correctly replied. (Table 3)

Majority of the students in all the school acknowledge that carious teeth affect appearance. 65% in HSES and 56% in LSES. Majority of the students admitted

sweets (64.9% in HSES) and soft drinks (68.8% in HSES) affect teeth and may lead to decay. Approximately 73% of HSES school had the knowledge what treatment was required.

About 57% of the students from HSES School knew brushing as a mechanism to prevent caries. Nearly 61% students from both HSES and LSES schools regarded fluoride as a tooth strengthening element (Table 4).

Majority of the students reported that they visited the dentist only in pain. 46% of the LSES students of occasionally or never visited the dentist. More than

Table 3: Awareness of periodontal and gingival health among the study population (n=281)

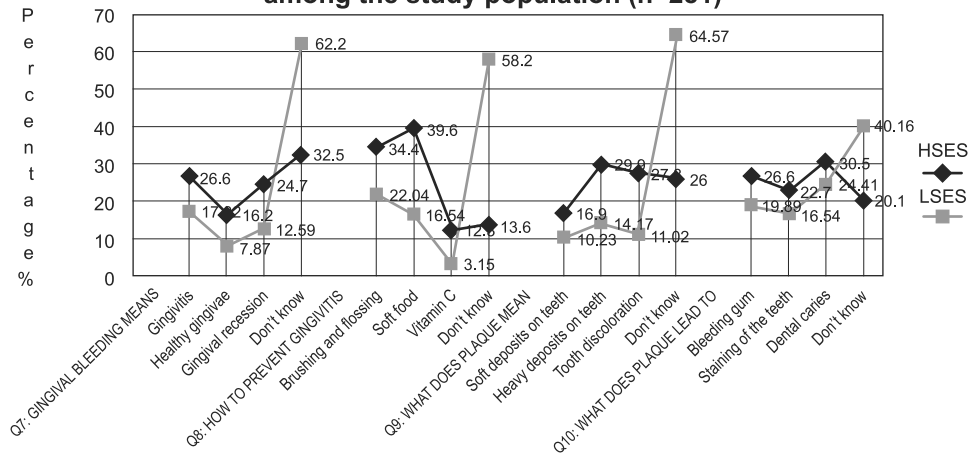


Table 4: Positive response on knowledge and awareness of dental general health among the study population (n=281)

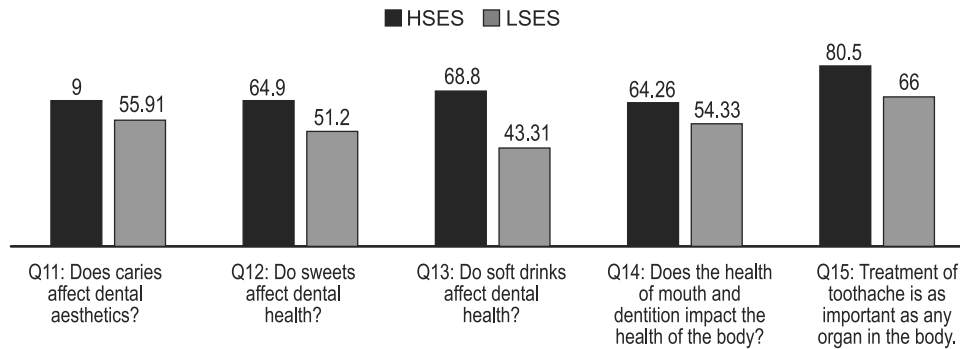
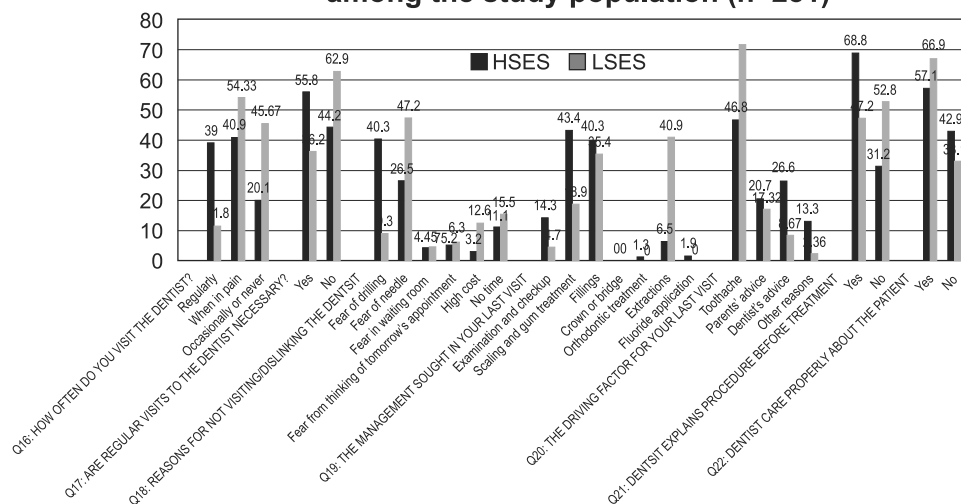


Table 5: Attitudes towards professional dental care among the study population (n=281)



half of the students agreed that regular checkups are necessary. However parent's advice was not generally the cause of seeing a dentist.

The most common reason for not visiting the dentist was fear of needles in LSES. Almost 47% of LSES but only 26.5% of HSES students reported this.

However the most common reason of not visiting in HSES students was fear of drilling 40.3%. 15.5% in LSES and 11% of HSES children reported that there is no time either on the parents hand to take them to the dentist or the dentist appointment is not available when it is required. High cost was also a contributing factor in not visiting the dentist for LSES only (Table 5).

DISCUSSION

The results of the current study confirmed that there was an overall dearth in the knowledge, behavior and attitude regarding oral hygiene, maintenance of proper function and health care. These findings were similar to the studies conducted in Malaysia and Jordan.^{10,13}

The present study also highlights a huge difference among the socioeconomic classes of Pakistan with regards to healthy eating habits, oral hygiene knowledge and practices. Majority of the LSES visited the dentist only in pain as the treatment cost of restoring the function of the tooth is expensive and out of the LSES reach. Therefore most parents of students preferred extraction as it is the least expensive treatment option.

There was a significant difference of the knowledge score between genders. This may be because in low socioeconomic schools very few girls are sent to schools. Joshi et al reported that the knowledge of boys were higher as compared to girls.¹⁴ Majority of the students were boys but their knowledge and practicing habits were far below the levels of students of Malaysia and Jordan.^{10,13}

This study also revealed, majority of children belonging to a HSES bought food from the cafeteria. The food available at the cafeteria was rich in sugar content. Students bought fizzy drinks and packed fruit juices which contains phosphoric, citric, carbonic acid and artificial sweeteners. These foods dip the pH on the Stephen's curve in the oral cavity leading to high cariogenicity. A study by Susan S. Baker et al showed that prolonged exposure of the teeth to the sugars in juice is a major contributing factor to dental caries.¹⁵

Majority of students from both groups acknowledged that healthy eating habits helps in maintaining good oral health. A study by Omiri et. al on Jordanian school children also highlighted the link between oral health and health of the rest of the body.¹³

Studies suggest very limited oral health knowledge trickled down from the parents or through the dentist in a dental appointment to the children.^{10,13} Barker and Horton in their study on pre-school children in California showed that parents played a major role in influencing their children's oral health and access to care.¹⁶

Almost 40% of the HSES students went for regular checkups with the dentist. But on the other hand in LSES only 12% visited the dentist regularly. The high treatment cost is the main culprit in this difference. The present study's average is 25.4% which is very close to the national average of Pakistan (26%). Even though a higher number of the HSES students visited the dentist regularly, it is still far less than the Canadian schools where 50% of the school students used dental services once in every six months.¹⁷ Biesbrock et al highlights the importance of regular checkups in preventing periodontal disease and tooth decay.¹⁸ Lack of dental insurance, high cost of treatment, long waiting period between appointments, phobia of the dentist and as well as the treatment were the contributing factors of low percentage of regular checkups. Nonetheless when asked about the importance of regular checkups about 56% of the HSES students agreed with the importance of regular checkups but in reality only 40% practiced it. The picture is darker on the LSES side. Here 36% agreed with importance of regular checkup but only 12% visited the dentist. Both Malaysian and Jordanian studies also found high percentage of student aware of the importance of a regular checkup but only few in reality practiced it.^{10,13}

The predominant cause of not visiting the dentist in LSES was fear and especially the fear of needles. The most common treatment sought by this group was extraction, being the cheapest treatment option available. This unwanted exposure to needles and pain from childhood caused the children to avoid the dentist even for a regular checkup. On the other hand majority of the HSES were afraid of drilling. Joshi et al also found in their study that 66% of students were reluctant of going to the dentist because of fear.¹⁴ This anxiety can be reduced if the dentist explains the procedure before proceeding with it.^{13,14,19}

Toothbrush and toothpaste were most commonly used to retain good oral hygiene, as reported elsewhere.²⁰⁻²³ LSES students didn't use dental floss instead they used sewing thread as they could not afford dental floss. This class of people also used almost four times as much tooth picks as HSES students. This

shows low awareness of the harmful effects of tooth-picks on interdental gingiva.

69% of the HSES and 57% of LSES students correctly replied consumption of fizzy drinks does affect the dental health. In Malaysian¹⁰ study the same question had a much higher response, almost 73% and in Jordanian¹³ study about 77%.

The present study shows that the students from both socio economic groups lack the knowledge and the awareness about improving their oral health and to seek timely dental treatment. The LSES need more attention and more basic knowledge as they cannot afford a costly treatment to restore function of their teeth.

RECOMMENDATIONS

The results of this study have highlighted some baseline gaps in knowledge, attitude and practice of school children. There is a dire need to improve the knowledge by conducting seminars, workshops and mass media to educate the teachers, parents and in a very basic level to the children. Oral health education programmes should be included in the curriculum in schools in Pakistan.

The schools should have health policies. This should include healthy eating behavior that bans processed foods and fizzy drinks from the school premises. Introduction of milk, healthy and freshly prepared foods must be made available in the school cafeterias. Government should ban school cafeterias from selling food and drinks that contain high sugar levels. There should be more pediatric dentists.

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