

BASIC PERIODONTAL STATUS AND ORAL HYGIENE PRACTICES AMONG SCHOOL CHILDREN OF HITEC, TAXILA CANTT

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ABSTRACT

Lack of awareness and knowledge of oral hygiene maintenance are major causes of gingival and periodontal diseases. Maintaining oral hygiene and creating awareness is a major concern in rural areas of Punjab, Pakistan has low educational and health standards.

The aim of the study was to assess oral hygiene knowledge and periodontal status in rural areas of Pakistan among students (9 to 11 years having mixed dentition)

of HITEC Junior School, Taxila Cantt. A questionnaire was designed by authors and distributed among 200 students (143 males and 57 females). The questionnaire included age, gender, aids of oral hygiene maintenance and frequency of brushing. Student's oral health status was examined over a period of 10 days using torch as an artificial light source and findings were recorded against bleeding gums, plaque, calculus and pit & fissure caries.

Out of 200 students, 190(95%) claimed to brush daily, 117(58.5%) revealed that they brushed once a day, and 55(27.5%) were brushing twice daily. 2(1%) used maswak, 3(1.5%) used their finger for cleaning teeth. Only 5(2.5%) were found not brushing at all and 167(83%) students were using tooth paste on daily basis for brushing, 67(33.5%) knew about the use of mouthwash and out of 200 only 7(3.5%) knew about flossing. In respect to Basic Periodontal Examination (BPE) plaque and calculus was found in 37(18.5%) students. Pit and fissure caries were found in 68(34%) and 132(66%) students had no caries.

School going children are more vulnerable to dental diseases, awareness and knowledge in children through school based oral health care educational programs should be increased to decrease the frequency of dental problems.

Key Words: Oral hygiene practices, Basic Periodontal examination, School children.

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INTRODUCTION

Poor knowledge about oral health are a major causes of increasing prevalence of periodontal and gingival diseases, consequences of which can be harmful and negatively affects facial appearance, eating, the pattern of everyday life and social relations.

Periodontal diseases, gingival health and dental caries have a bilateral relationship with systemic diseases, as they may lead to cardiovascular diseases, stroke and respiratory infections.¹ Oral diseases eventually lead to pain, tooth loss, bone loss and gingivo-periodontal diseases.² This considerably affects esthetic and functional capabilities of a person, reducing quality of life, intake of nutrition and resulting in lack of growth and development.

Dental caries, commonly present worldwide and in school children, can lead to endo-perio lesions, gingivo-periodontal diseases and tooth loss.³ Studies have shown that knowledge of the risk factors that cause oral diseases and their prevention practices can promote better oral health.

The rural population of Pakistan has low literacy rate and belongs to low socio-economic status, with low availability of general and dental health facilities.⁷ They lack awareness about oral health and only visit dentist at the end stage of disease. Pakistan also lacks in conducting awareness programs among general population regarding general and oral health. Educating our young population regarding importance of maintaining oral health at an early age helps to develop the habits that can last lifelong so that the risk of dental diseases can be reduced and prevented at individual and community level.⁶

We conducted this study to assess oral hygiene status and clinically evaluated the periodontal health and pit & fissure caries among the school students of HITEC, Taxila Cantt.

METHODOLOGY

This study was conducted after the approval of ethical committee in two parts. First, a cross sectional study was conducted from 1st to 10th April, 2018 at HITEC Junior School, Taxila Cantt. It was selected as HITEC School is the main educational institute of Taxila having good number of students belonging to different socio-economic background. A structured questionnaire designed by the authors to assess the knowledge and awareness about oral health maintenance. The questionnaire was distributed to students of class 4 (mixed dentition) aged 9 to 11 years at HITEC Junior School, Taxila Cantt (n= 200), 143 were male and 57 were female students, selected by convenience sampling method. We wanted to study mixed dentition stage so we selected class 4 that had age range between 9 to 11 that is closest to age 12 recommended to WHO age selection criteria. The school administration was requested in the form of letter a week before and was asked to get a written consent from the parents of students.

The questionnaire included age, gender, aid of oral hygiene maintenance and frequency of brushing. Inclusion criteria were the students who were present on the day of examination and were between ages of 9 to 11 years. Students whose parents have not given written consent were excluded. The questionnaire was immediately collected after completion. This age group was selected because of its mixed dentition period and children of this age starts oral hygiene practice on their own without parent's supervision as mothers

play significant role in oral hygiene of their children. Also this age group is old enough to understand and fill out the questionnaire on their own.

In second part of study, student's oral health status was examined by the team of dentists over a period of 10 days in school using torch as an artificial light source and findings were recorded in the questionnaire against plaque, calculus and gum bleeding using Simplified Basic Periodontal Examination and Fissure caries was recorded using visual method. As we have selected age group between 9 to 11 there are few modifications in basic periodontal Index codes and in this age group only 0,1,2 codes are used.⁹ We did not measure pockets as erupting teeth usually show false pockets in this age group.¹⁴ We used CPI probe with 0.5 mm tip to examine only 6 teeth which are all permanent first molars and upper and lower central incisors. Code 0 healthy, Code 1 bleeding on gentle probing, Code 2 calculus present and/or plaque retention factors, Code 3 4-5mm pocket, Code 4 6mm or more pocket and Code * \square furcation (Table 4). The results were analyzed by SPSS version 20.

RESULTS

Total of 200 students filled the questionnaire. The answers to various questions were assessed. A total of 190(95%) out of 200 dental students confirmed that they brush daily, 2(1%) used maswak, 3(1.5%) used their finger for cleaning teeth and 5(2.5%) students disclosed that they did not brush on a daily basis (Table 1). Out of those who claimed to brush daily, 117(58.5%) revealed that they brushed once a day, 55(27.5%) brushed twice daily, 8(4%) brushed thrice a day (Table 3), 167(83%) students use toothpaste on daily basis for brushing. Mouthwash was used by 67(33.5%) and dental floss by 7(3.5%) (Table 2). 109(54%) students brushed teeth in morning, 14(7%) in evening and 77(39%) at night (Table 4).

According to Simplified Basic Periodontal Examination, 143(71.5%) students had healthy periodontal status. Plaque and calculus was found in 37(18.5%) students. Pit and fissure caries were found in 68(34%) students and 132(66%) students had no caries (Table 5).

TABLE 1: MEANS OF MAINTAINING HYGIENE

Means of cleaning	n	%
Brush	190	95
Miswak	2	1
Finger	3	1.5
Did not brush	5	2.5
Total	200	100

TABLE 2: MEANS OF CLEANING OF TEETH (N=200)

Means of cleaning	Yes	%	No	%	Total
Toothpaste	167	83	33	17	200
Mouthwash	67	33.5	133	66.5	200
Dental floss	7	3.5	193	96.5	200

TABLE 3: FREQUENCY OF BRUSHING

Frequency	n	%
Once	117	58.5
Twice	55	27.5
Thrice	8	4
Occasionally	20	10
Total	200	100

TABLE 4: TIMINGS OF BRUSHING TEETH

Timings	n	%
Morning	109	54
Evening	14	7
Night	77	39
Total	200	100

TABLE 5: BASIC PERIODONTAL EXAMINATION AND PRESENCE OF PIT & FISSURE CARIES

Cpitr Index	No. Of Students			
	Yes		No	
	n	%	n	%
0-Helathy	143	71.5	57	28.5
1-Bleeding on Gentle Probing	11	5.5	189	94.5
2-Calculus Or Plaque Retention Factor	37	18.5	163	81.5
Presence of pit and fissure caries	68	34	132	66

DISCUSSION

In order to maintain good oral hygiene it is important to have sufficient knowledge and awareness about means by which oral diseases can be prevented.⁹ Daya et al.⁹ and Vishwanathaiah et al.¹⁵ emphasized that introducing dental health care education in school curriculum will help to improve oral hygiene status among general population as children and parents lack sufficient knowledge about oral health hygiene and oral diseases.^{9,15} In our study 95% students were aware of maintaining their oral hygiene by tooth brushing. In this study 58% students were brushing once daily which is more than 27.8 % students found by Al-Darwish et al.⁶ and 69.5% students found by Vishwanathaiah et al.¹⁵

Our study had 27.5% students that were brushing twice daily which less than 40% is shown by A Blaggana et al.⁵ Another study by MK Al-Omiri et al. showed 69% of students brushed twice daily. In our study only 3.5% students were aware about the use of floss. It might be due to lack of knowledge about its usage and advantages. This is low in comparison to the studies by Al Darwish⁶ who had 44.6% students and 17% by Blaggana et al.⁵ who knew about flossing.

Our study showed 71.5% students who had healthy periodontium which is significantly more than 12%

found by A Kazemnejad et al. and 14% reported by F Shailee et al. 34% students had pit and fissure caries which is less than 43.4% found by Togoo et al. and 63% by J Sharda et al. 18.5% of students in our study had calculus and 5.5% had bleeding gums. These findings are considerably less than Kumar et al. who found 50% students with calculus and 51.3% with bleeding gums. In another study by J Sharda et al.²⁰ calculus deposits were seen in 37% students and in F Shailee et al.¹⁸ study confirmed 75.4% students had bleeding gums.

Ahmad et al.³ mentioned that brushing two times a day, flossing daily, use of mouthwashes and toothpastes are some of the recommended means that helps in achieving good oral hygiene.³

This study shows that oral hygiene practice was good among school going children of HITEC.

CONCLUSION AND RECOMMENDATION

This study shows that student’s knowledge and awareness was relatively good towards oral health care. There is need to educate students about frequency of brushing and different aids like toothpaste, mouthwash and dental floss used for oral health maintenance.

It is recommended that oral health promotion programs are needed to improve knowledge of school

children. Oral health information should be included in school curriculum at national level to increase awareness and knowledge about prevention and control of oral diseases.

The limitations in this study were limited sample size and were selected from only one school of the Taxila so results can be biased.

REFERENCES

- Kapoor D, Gill S, Singh A, Kaur I, Kapoor P. Oral hygiene awareness and practice amongst patients visiting the department of periodontology at a dental college and hospital in North India. *Ind J Dent.* 2014; 5(2): 64–68
- Durrani F, Rahman F, Sathianathan MK, Kesarwani S, Galohda A, Borang PO. Oral hygiene practices and knowledge among residents of the trans-varuna region (India): A hospital-based study. *J Indian Assoc Pub Health Dent.* 2018;16(2):154-59.
- Ahmad I, Qadri MM, Niazi M, Saleem T, Khalid U. A survey of oral hygiene practices amongst dental students. *Pak Orthodont J.* 2017; 9(1):50-55.
- Paul B, Basu M, Dutta S, Chattopadhyay S, Sinha D, Misra R. Awareness and practices of oral hygiene and its relation to socio demographic factors among patients attending the general outpatient department in a tertiary care hospital of Kolkata, Ind. *J Family Med Prim care.* 2014; 3(2):107-11.
- Blaggana A, Grover V, Anjali AK, Blaggana V, Tanwar R, Kaur H, Haneet RK. Oral health knowledge, attitudes and practice behavior among secondary school children in Chandigarh. *J Clin Diagn Res.* 2016; 10(10):1-01-06
- Al-Darwish MS. Oral health knowledge, behaviour and practices among school children in Qatar. *Dent Res J.* 2016; 13(4):342-53.
- Harchandani N. Oral health challenges in Pakistan and approaches to these problems. *Pak Oral Dent J.* 2012; 32(3):497-01.
- Ali MS, Hussain T, Ara G, Zehra N. Oral Health Awareness and Practices of School Going Children Aged 11 to 16 Years in a Squatter Settlement of Karachi. *J Dow Univ Health Sci.* 2015 1; 9(2):71-75.
- Daya D, Teja U, Paturu DB, Reddy BV, Nagarakanti S, Chava VK. Evaluation of oral-hygiene awareness and practice among dental students. *J NTR Univ Health Sci.* 2017; 6(1):24-28
- Herrera MS, Medina-Solis CE, Minaya-Sánchez M, Pontigo-Loyola AP, Villalobos-Rodelo JJ, Islas-Granillo H, Maupomé G. Dental plaque, preventive care, and tooth brushing associated with dental caries in primary teeth in schoolchildren ages 6-9 years of Leon, Nicaragua. *Medical science monitor: Int Med J Experi Clin Res.* 2013; 19:1019-1026.
- Shaghaghian S, Zeraatkar M. Factors affecting oral hygiene and tooth brushing in preschool children, Shiraz/Iran. *J Dent Biomater.* 2017; 4(2):394-402.
- Denloye OO. Periodontal status and treatment needs of 12-15 year old institutionalized mentally handicapped school children in Ibadan, Nigeria. *Trop Dent J.* 1999;22(86):38-40.
- Clerehugh V, Tugnait A. Periodontal diseases in children and adolescents: 1. Aeti Diagn. *Dent update.* 2001; 28(5):222-232.
- Alonge K, Narendran S. Periodontal health status of school children in St Vincent and the Grenadines. *Trop Dent J.* 1999;22(88):18-22.
- Vishwanathaiah S. Knowledge, attitudes, and oral health practices of school children in Davangere. *Int J Clin Pediatr Dent.* 2016; 9(2):172-76.
- Al-Omiri MK, Al-Wahadni AM, Saeed KN. Oral health attitudes, knowledge, and behavior among school children in North Jordan. *J Dent Educ.* 2006; 70(2):179-87.
- Kazemnejad A, Zayeri F, Rokn AR, Kharazifard MJ. Prevalence and risk indicators of periodontal disease among high-school students in Tehran. *East Mediterr Health J.* 2008; 14(1), 119-125.
- Shailee F, Girish MS, Kapil RS, Nidhi P. Oral health status and treatment needs among 12-and 15-year-old government and private school children in Shimla city, Himachal Pradesh, India. *J Int Soc Prevent & Communit Dent.* 2013 ;3(1):44-50.
- Togoo R, Yaseen S, Zakirulla M. Prevalence of first permanent molar caries among 7-10 years old school going boys in Abha city, Saudi Arabia. *J Int Oral Heal.* 2011; 5(3):29–34.
- Sharda J, Mathur LK, Sharda AJ. Oral health behavior and its relationship with dental caries status and periodontal status among 12-13 year old school children in Udaipur, India. *Oral Health Dent Manag.* 2013; 12(4):237-42.
- Kumar PM, Joseph T, Varma RB, Jayanthi M. Oral health status of 5 years and 12 years school going children in Chennai city-An epidemiological study. *J Indian Soc Pedod Prev Dent.* 2005 ; 23(1):17-22.

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