

ASSESSMENT OF ORAL HEALTH AMONG CHILDREN (10-15 YEARS) IN GOVERNMENT SCHOOLS OF KHESHGI PAYAN

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ABSTRACT

Objective: To assess the oral health status of 10-15-year-old children enrolled in government schools.

Materials and Methods: This cross-sectional study was conducted over a period of 11 months from March 2020 till Feb 2021 among children aged 10-15 years going to government schools in Keshgi Payan District Nowshera KPK. Multi stage sampling technique was incorporated. Children of age 10 -15 years were included and those above or below this age group were excluded from study. Pre-Validated WHO oral health assessment tool was used for this study. Data was analyzed using SPSS Version 24.

Results: Data from 200 students 100 each from girls' and boys' schools was collected. Majority of students 21% (n=42) were of 12 years of age. The mean age was 12.58 ±1.64. A total of 59% children had sound dentition. Caries was present in (n=44) male and (n=29) female children. There was a significant association between the gender and the dentition of the children (p 0.005). Gingivitis and periodontitis were prevalent in 20% of the study participants.

Conclusion: This study concludes significant association between gender and dentition of the children. Over all the oral hygiene of the children was found to be satisfactory.

Keywords: Oral Health, Dental Caries, Gingivitis, Periodontitis, School Going Children

INTRODUCTION

Dental problems are the common public health issue affecting people from all walks of life throughout their life span, presenting commonly with simple caries, pain, discomfort to causing permanent damage. Dental caries and its outcomes together establish an undeniable and individual issue for

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pretty much everyone regardless of age and sex. Mankind has been tormented by the persistence of this exceptional illness since primeval times¹. Even though caries has influenced people since primeval occasions, the menace of this illness has enormously expanded in present day globally. This illness can be appropriately be named as a scourge of present-day human advancement and no country or mainland has gotten away from the evil impacts of this ailment.

“Polarization” of caries is happening globally, where the prevalence of dental caries is declining in industrial nations, but is on rise in developing nations, and there is increase in wave of dental caries in nations who are becoming economically stable².

This decrease in caries occurrence and improvement in oral health in industrial nations has been related with a more sensible and rationale way to deal with sugar utilization, improved oral cleanliness rehearses, fluorides in toothpaste, effective fluoride application, use of fluoride mouth wash and water fluoridation. In addition, in some nations school-based preventive measures and oral wellbeing instruction programs have been set up, though, the alongside increase in number in developing countries, is fundamentally on the grounds that the oral medical services frameworks in these nations generally center around remedial consideration though network-based avoidance and oral wellbeing advancement have not been deliberately actualized³.

Dental caries is a multi-factorial problem⁴. The commonness and rate of dental caries in a populace is affected by various factors like age, sex, dietary pattern and oral cleanliness inclination⁵. Diet has been related, either in positive or negative correlation, with the predominance of dental caries for quite a long time, studies into caries etiology, diet has likely got more consideration than other contributing factors. A Vipeholm study (1954)⁶, perhaps the most popular exploration venture into diet and caries inferred that the recurrence and nature of sugar intake had marked effect on caries.

Lot of researches has been done on the status of oral health in the Pakistani populace. In spite of lot of endeavors taken to either treat or prevent oral diseases, still issues like dental caries, gingival bleedings and periodontitis is expanding rapidly especially in last few decades. These changing patterns in the predominance of dental and gingival diseases need consistent comprehension and examination.

Social factors are also are strongly associated with good oral health along with eating habits like use of fizzy drinks, junk food and uncheck use of sweets in children and most importantly for children of younger age group the parental supervision plays a significant role in improving oral hygiene⁷. Studies have reported that in Pakistan in comparison to hay fever and asthma, dental caries is 7 and 5 times respectively more prevalent in children^{8,9}

In this context, this study holds a substantial value being the first of its kind conducted in the Khashgi Payan in KPK. The objective of this particular study was to assess age and gender associated dental caries,

gingival and periodontal status, in children aged 10-15 years in government schools of Khashgi Payan.

MATERIALS AND METHODS

This cross-sectional study was conducted among children aged 10-15 years going to government schools in Khashgi Payan District Nowshera KPK over a period of 11 months from March 2020 till Feb 2021. The sample size of this study was 369 which was calculated by using openepi.com with 95% CI, absolute precision of 5%, and anticipated prevalence of caries as 40%, however owing to the emergence of Covid pandemic in Pakistan, the sample size was reduced to 200 considering the lockdown and closure of educational institutions across country.

Children of age 10-15 years were included in this study subjected to willingness to participate in the study however children absent or not feeling well on day of data collection were excluded from this study. Ethical approval for the study was taken from Sarhad Institute of Health Sciences.

Pre-Validated WHO oral health assessment tool was used for this study; however, the tool was still piloted in government school which was excluded from the final study. Data was collected through a structured questionnaire with close-ended questions. Informed consent was taken, and confidentiality of the participants was ensured.

Dental examination was done by using torch and mouth mirror, gloves and masks. Examination was conducted in day light with the help of torch as well. Children were examined on an upright chair in natural day light; overcrowding was avoided at time of examination to prevent error in examination and recording of the findings.

All the collected was analyzed using SPSS Version-24 and descriptive and inferential statistics were generated. Chi-square test was applied and value less than .05 was taken as significant.

RESULTS

This cross-sectional study was conducted among children aged 10-15 years going to government schools in Khashgi Payan District Nowshera KPK. Data from 200 students 100 each from girls' and boys' schools was collected. Majority of students 21% (n=42) were of 12 years of age. The mean age was 12.58 ± 1.64 .

A total of 118 (59%) children had sound dentition and no caries were detected in teeth, however, 73(36.5%) had caries (Figure 2)

Table 2 projects the data pertaining to the age of the children and their dentition status in terms of having sound teeth, carious teeth, filled with caries, no carries in filled teeth, missing and unerupted teeth.

A total of 35.5% female (n=71) and 23.5% male

(n=47) had sound teeth. However, caries was present in (n=44) male and (n=29) female children. There was a significant association between the gender and the dentition of the children (p 0.005).

Among the age of 10-13 years, the gingival bleeding was present in 18 children and over all 20 children had periodontal issues. Rest of the children had healthy gingiva and no periodontal lesion or issue.

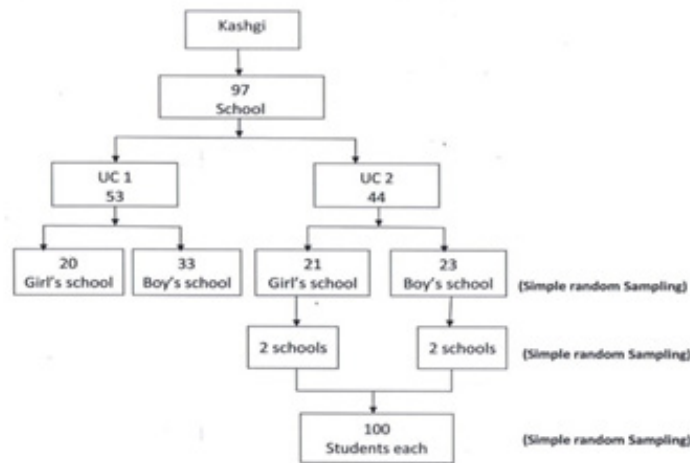


Fig 1: Multistage sampling

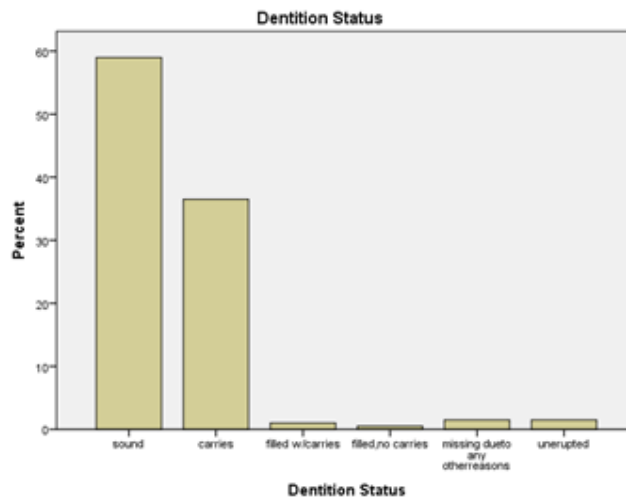


Fig 2: Dentition Status of Children

DISCUSSION

This cross-sectional study was conducted among school going children of age group 10- 15 years. Similar studies were conducted in other parts having

children of age groups ranging from 3 to 12 years¹⁰⁻¹². The sample for this particular study was selected randomly which is in line with another similar study¹³.

In our study male children had a high frequen-

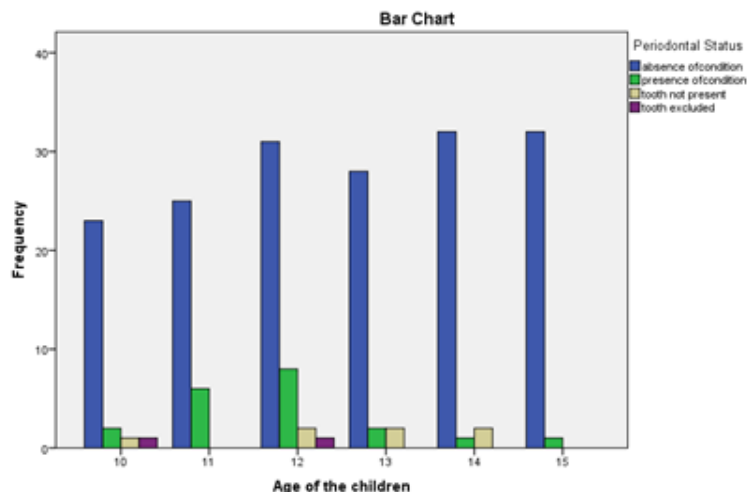


Fig 3: Age of Children & Periodontal Status

Table 1: Attitude of patients regarding self-medication

Gender of the children	Age of the children						Total
	10	11	12	13	14	15	
Male	11 (5.5%)	21 (10.5%)	17 (8.5%)	13 (6.5%)	21(10.5%)	17 (8.5%),	100
Female	16 (8%)	10 (5%)	25 (12.5%)	19 (9.5%)	14 (7%)	16 (8%)	100
Total	27	31	42	32	35	33	200

Table 2: Age & Dentition Status of Teeth

Age of the children	Dentition Status						Total
	sound	caries	filled w/ caries	no caries in filled teeth	missing	Un-erupted	
10	13	14	0	0	0	0	27
11	15	15	0	0	1	0	31
12	27	13	0	0	0	2	42
13	18	12	0	0	1	1	32
14	20	11	2	1	1	0	35
15	25	8	0	0	0	0	33
Total	118	73	2	1	3	3	200

Table 3: Gender of Children and Dentition Status

Gender of the children	Dentition Status						Total	P value
	sound	caries	filled w/ caries	filled, no caries	missing due to any other reasons	unerupted		
Male	47	44	2	1	3	3	100	0.005
Female	71	29	0	0	0	0	100	
Total	118	73	2	1	3	3	200	

Table 4: Periodontal Status of Children

Age of the children	Periodontal Status				Total	P value
	absence of gingivitis / periodontitis	presence of gingivitis/ periodontitis	tooth not present	tooth excluded		
10	23	2	1	1	27	0.2
11	25	6	0	0	31	
12	31	8	2	1	42	
13	28	2	2	0	32	
14	32	1	2	0	35	
15	32	1	0	0	33	
Total	171	20	7	2	200	

cy of caries as compared to females' children and there was significant association between gender and caries. One possible reason of this could be that girls are extra aware, more concerned and vigilant about their diet and oral health hygiene practices. The higher prevalence of dental caries in male children was also reported by another study conducted in India^{14,15}. Possibly the male children are less self-motivated regarding their dental health and are dependent on their parents for the upholding of their dental hygiene. Our findings are contrary to those in another study where high prevalence of caries was in female as compared to the male children¹⁶. A total of 73 (36.5%) children out of 200 had dental caries. In few other studies, the prevalence of caries among children was as high as 85%¹⁷. According to results of another study, the prevalence of caries among age group 12 and 15 years was 64.98% and 71.35% respectively¹⁸. In developed nation there is low frequency of caries in children¹⁹. The probable reason could be implementation of fluoridation policy, effectiveness of healthcare system where regular dental checkup and advise about dental hygiene is stressed right from early ages.

In this study, 85.5% (n=171) children had healthy gingiva free from any gingivitis or periodontal disease and only 10% (n=20) had periodontal issue and others had missing tooth. These finding was contradictory to those reported in another study where prevalence of gingivitis was 73%²⁰. Our finding is also opposite to that reported in another study conducted in Jamshoro where the prevalence of gingivitis in children of age group 8 to 15 years was 86.85%²¹.

CONCLUSIONS

This study is important as it's an initial step to probe into the dental status of school going children of KHESHGI PAYAN. It reveals significant association between gender of school going children and dentition status. Regular dental check ups and dental awareness programs in this area can help children improve their dental hygiene.

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