

## KNOWLEDGE AND PRACTICE OF ORAL HEALTH AMONG HIGHER SECONDARY SCHOOL STUDENTS

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### ABSTRACT

*Background and Objectives:* Oral health is an integral part of general health and well being of an individual and quality of life. The prevalence of dental diseases is on the increase probably due to change in life style and his / her lack of dental education. The objectives of the study were to determine knowledge and practice of oral health among higher secondary school students and to evaluate if there is any gender difference in these two parameters.

*Methodology:* A cross sectional study was done on 370 higher secondary students of Wah Cantt. The students were selected by using purposive sampling technique from two higher secondary schools of Wah Cantt and the study was completed in 6 months, (September 13 – February 14), duration. A pre-tested structured questionnaire was used for collection of data and the questionnaires were filled by the students themselves. Knowledge and practice of oral health was assessed by scoring 12 questions of knowledge and 17 questions of practice. Each question was scored as one point. Frequencies and percentages of categorical variables were calculated using SPSS version 19 and Microsoft excel. Chi-square test was applied to compare the knowledge and practice of oral health among male and female students and p-value less than 0.05 would be considered significant.

*Results:* Out of total students 18 (5%) had good, 170 (46%) had average and 182 (49%) had poor knowledge about oral health. Furthermore 34 (9%) had good, 149 (40%) had average and 187 (51%) had poor practice of oral health. Chi-square test showed insignificant difference between knowledge ( $p = 0.518$ ) and practice ( $p = 0.607$ ) of oral health among male and female students.

*Conclusions:* The knowledge and oral health practice of higher secondary school students seems to be unsatisfactory and calls for an immediate expansion of health education programs to include dental health education also.

*Key words:* Oral health, students, knowledge, practice.

### INTRODUCTION

Oral health is an integral part of general health. A healthy dentition plays very important role in the general well – being of an individual, preventing from social and economic cost and it has great impact on the quality of life.<sup>1</sup> The prevalence of dental diseases, especially dental caries is continuously increasing and the probable reasons are changes in the lifestyle, use of starchy and refined foods, less use of fluoridated tooth paste and deficient oral hygiene practices.<sup>2,3</sup> World Health Organization reports that worldwide, 60-90% of school children have dental caries and they mostly belong to Asia and Latin America.<sup>2</sup>

Oral hygiene is very important for prevention of dental problems like dental cavities, gingivitis, and bad breath. Good oral hygiene is imperative for other people as well. Nutritional state of children is much dependent on oral health as a study conducted in Philippine showed significant association between dental

caries and low Body Mass Index.<sup>4</sup>

A cross – sectional study conducted in Karachi, Pakistan showed that the prevalence of dental caries was 51% which was quite a large figure and an alarming situation for us.<sup>5</sup> This high prevalence emphasizes the need to consider it an important issue and implement various measures like health education, early diagnosis and prompt treatment to control it.<sup>6</sup> Among them Dental health education program can be a very effective and efficient choice. Schools are the preeminent location for an effective health education campaign because we can have a large majority of children of different age groups and this is the age which if customized correctly has sustainable effects in future.<sup>7</sup>

The study conducted in Karachi to assess the oral hygiene knowledge, attitude and practices among school children and evaluate their DMFT (Decayed / Missing / Filled, Teeth), showed that the children had satisfactory knowledge of oral health's effect on the well –

being and the problems related with poor dental hygiene.<sup>8</sup>

For appropriate oral hygiene practice it is necessary to have adequate knowledge regarding oral health.<sup>9</sup> We conducted the study on students because they are more receptive and can contribute in the transmission of information to other people. Furthermore we can also modify their behavior to prevent them from various illnesses because of inadequate oral hygiene. The objectives of the study were to determine knowledge and practice of oral health among higher secondary school students and also assess gender difference in knowledge and practice of oral health.

**SUBJECT AND METHODS**

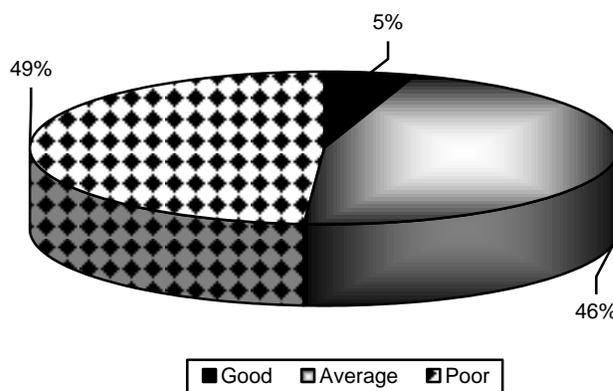
A cross sectional study was done on 370 higher secondary students of Wah Cantt. The sample size was calculated using World Health Organization formula with confidence level of 95%, anticipated population proportion of 31% and precision of 5%. The students were selected by using purposive sampling technique from two higher secondary schools of Wah Cantt and the study was completed in 6 months, (September 13 – February 14), duration. The schools were selected as they were the only schools in Wah where students from grade 9 to 12 were accessible at the same place. The data was collected from the available students by using a close ended structured questionnaire and was filled by the students themselves. The research objectives and methods were explained to the participants and verbal consent was obtained from them. The questionnaire was based on 12 questions of knowledge and 17 questions of practice. These questions included frequency, timings, duration and method of brushing; use of mouth wash, fluoridated toothpaste and dental floss; type and changing time of toothbrush and regular visit to a dentist. Knowledge of oral health was assessed by scoring and each question scored as one point. Score of 11 or more was regarded as good, 8 – 10 as an average and less than 8 as poor while for scoring of practice, score of 14 – 17 was regarded as good, 10 – 13 as an average and less than 10 as poor. The data was analyzed by using SPSS version 19 and Microsoft excel. Frequencies and percentages were calculated of age, gender, knowledge and practice scores. Chi-square test was applied to compare the knowledge and practice of oral health among male and female students at p value of 0.05. The results would be consider significant if p-value came out to be less than 0.05.

**RESULTS**

A total of 370 students were taken in a sample and out of them 84 (22.7%) were males and 286 (77.2%) were females. The students aged 14 – 15 years were 70 (18.9%) while 300 (81.1%) students were 16 – 17 years old. Figure 1, showed knowledge of secondary school children about oral health, they were graded as good,

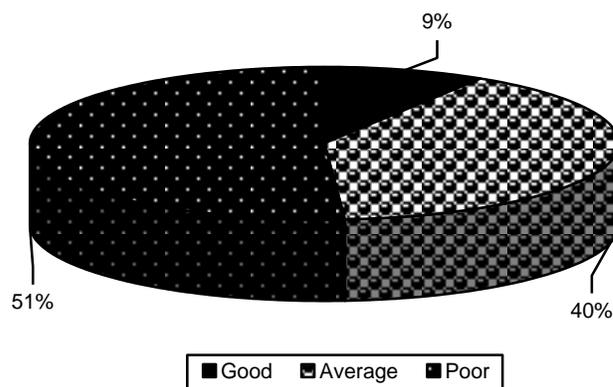
average and poor on the basis of scores. Out of total students 18 (5%) had good, 170(46%) had average and 182 (49%) had poor knowledge about oral health.

Figure 2, showed practice of oral health among



**Fig. 1:** Knowledge of Secondary School Children about Oral Health.

secondary school children, they were also graded as good, average and poor on the basis of scores. Out of total students 34 (9%) had good, 149 (40%) had average and 187 (51%) had poor practice of oral hygiene.



**Fig. 2:** Practice of Oral Health among Secondary School Children.

Chi-square test was applied on knowledge of students about oral health and gender which showed insignificant difference (p value = 0.518 at 2 df), Table 1.

Similarly Chi-square test was applied on practice of students about oral health and gender which also showed insignificant difference (p value = 0.607 at 2 df), Table 2.

**DISCUSSION**

Oral health is an important public health issue and children play vital role in health promotion and dissemination of information among the family and the community. Therefore if their knowledge is up to date and behavior is positive only then they set an example

for others to follow. The study was carried out among 370 higher secondary students with the aim of assessing their knowledge and practice about oral health. Nearly half number of the students i.e. 49% had poor knowledge about oral health. This status was dissimilar to the studies conducted by Vakani, et al and Carneiro, et al, which showed that the students had adequate knowledge.<sup>8,9</sup> If we want to change behaviour of students then the foremost step is to provide information and education and for this health education sessions should be carried out in different schools on regular basis. In addition to this sections on oral health should be a part of school's curriculum.

Regarding practice, 51% of students had bad practice. Here practice means tooth brushing twice a day with recommended method, use of mouth wash, dental floss and fluoridated tooth paste and regular visit to dentist. The results were similar to the studies conducted by Carneiro, et al, (tooth brushing twelve hourly 2.4%, dental check up 39.9%),<sup>9</sup> Casanova-rosado, et al (twice daily tooth brushing at least once a day 49.8%),<sup>10</sup> Neamatollahi, et al, (dental health behavior was inadequate),<sup>11</sup> Ayo – Yusuf, et al, (only 27.2% ever visited dentist)<sup>12</sup> and Okemwa, et al, (48% students brushed twice daily).<sup>13</sup> In contrast to this a research conducted by Adeyemi, et al, at Ibadan showed 71.5% of students clean their mouth twice daily.<sup>14</sup> The probable reasons for low percentage of oral health practice are lack of education, lack of self – care and fear from side effects after any tooth examination so, it is the responsibility of health care workers to educate the community regarding their oral health and ensure sterilization of instruments.

In addition to this we also evaluated difference in knowledge and practice among male and female students which was found to be insignificant. The results were contradictory to the study conducted by Gholami, et al,<sup>15</sup> which showed female predominance in periodontal knowledge, brushing twice a day and use of fluoridated tooth paste while Carneiro, et al, showed male predominance in oral health practice.<sup>9</sup> It is recommended that regular brushing of teeth, use of dental floss and mouth wash should be promoted in the younger age group as this is the most receptive age and if behavior is changed at this age then it becomes more sustainable. Furthermore emphasis on regular dental checkup should also be given. Non-random selection of students was one of the limitations of the study and probably the results would be different regarding gender difference in knowledge and practice of oral health if the sample was taken by probability sampling technique.

It is **concluded** that the knowledge and practice

**Table 1:** Cross tabulation showed Knowledge of students about oral health and gender of students.

Gender of Students	Knowledge of Students			Total
	Good	Average	Poor	
Male	6 (7.14%)	38 (45.23%)	40 (47.61%)	84
Female	12 (4.19%)	132 (46.15%)	142 (49.65%)	286

(p = 0.518, df = 2)

**Table 2:** Cross tabulation of Practice of students about oral health and gender of students.

Gender of students	Practice of Students			Total
	Good	Average	Poor	
Male	6 (7.14%)	33 (39.28%)	45 (53.57%)	84
Female	28 (9.79%)	116 (40.55%)	142 (49.65%)	286

(p 0.607, df = 2)

of oral health among higher secondary school students were unsatisfactory and no gender difference was found regarding knowledge and practice which calls for an immediate expansion of health education programs and other methods to bring about positive changes in their behavior.

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