



CODEN [USA]: IAJPB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.3252526>Available online at: <http://www.iajps.com>

Research Article

**KNOWLEDGE AND PRACTICE OF ORAL HEALTH AMONG
HIGHER SECONDARY SCHOOL STUDENTS**¹Dr Ayesha Tanveer, ¹Dr Muhammad Zain Arshad, ²Dr Aalia Javaid¹POF Hospital Wah Cantt, ²THQ Hospital Gujar Khan, Rwp

Article Received: April 2019

Accepted: May 2019

Published: June 2019

Abstract:

Oral hygiene is the practice of keeping mouth and teeth healthy by regular tooth brushing and flossing. In the past few decades there is an increase in the incidence of oral hygiene problems like caries and ulcers among young children but due to lack of attention and knowledge it is coming up as a major issue among teens.

Objectives: 1) To determine knowledge and practice of oral health among higher secondary school students. 2) To compare knowledge and practice of oral hygiene among male and female students. Design,

Duration and Setting of Study: The study was Descriptive, and duration was about 6 months

Setting: Higher secondary schools of Wah Cantt.

Sampling technique: purposive sampling

Subjects and Methods: Subjects included 370 students from 14-17 years of age including male and female both, from different schools of Wah Cantt. A questionnaire was given to them and then evaluated on the basis of answers about knowledge and practice. Purposive sampling technique was used.

Results: Out of 370 students 9.2% of students have good, 40.3% have average, and 50.5% have poor oral hygiene. Similarly, 4.9% have good, 45.9% have average and 49.2% have poor knowledge about oral hygiene. Cross tabulation showed males had better knowledge and practice than females.

Conclusion: Majority of the students have poor knowledge and practice of oral hygiene, but male students were better regarding knowledge and practice of oral health as compared to female students.

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Please cite this article in press Ayesha Tanveer et al., *Knowledge And Practice Of Oral Health Among Higher Secondary School Students.*, Indo Am. J. P. Sci, 2019; 06[06].

INTRODUCTION:

The practice of keeping the mouth, teeth and gums clean and healthy to prevent disease is by regular brushing and flossing and visits to a dentist. The oral health-related quality of life comprises physical, social and psychological aspects. So we can say that oral hygiene is the practice of keeping mouth and teeth healthy. In the past few decades we have witnessed and increased focus on the importance of oral health and practice among children. But due to lack of attention and knowledge there are a large no of oral problems present in our society. Therefore teaching our children proper health care is an investment that would pay as long lasting health. 1

Oral hygiene is very important as it helps to prevent dental problems most commonly dental cavities, gingivitis, and bad breath. Good oral hygiene is important for other people as well. When we cough or sneeze, we broadcast bacteria and germs from our mouth to the environment, so we endanger people as well. We can cover our mouth but it's better to avoid the bacteria in the first place. Health problems may affect quality of life but such a consequence is not inevitable.2

Severe untreated dental decay affects a child's growth, body weight, quantity of life as well as cognitive development and the effects extend beyond the child to the family, to the community and the health care system. This development has improved children's dental health and changed the dental caries patterns affecting them.3

About 90 percent school children world wide experience caries with the disease being more prevalent in Asian and American countries. 4

In Pakistan, the results of a study conducted in children 12 yrs attending a summer camp in green cricket academy in model town, Lahore (10th – 20th June, 2011) indicate a relationship between knowledge about oral health, attitude to oral health and oral health practice.

Out of 150 children 15.3% were poor, 44% were average, and 44.7% were registered as good in their oral health status. 2.7% poor, 5.3% average and 0.6% good were visiting their dentist regularly. And 12.7% poor, 38 % average and 40.7% good were occasionally visiting their dentist.14% poor, 13.6% average and 39.3% good were brushing regularly, and 1.3 % poor, 6% average and 2% good were brushing occasionally. Poor oral hygiene can be a source of many diseases. By maintaining the good oral hygiene, patients can prevent occurrence of

many diseases. Dental caries and periodontal problems are due to poor oral hygiene practices.5,6

We conducted the study about oral health knowledge and practice so that we can recommend different measures according to the status of knowledge among the people. We also want to make sustainable programs to ensure continuous practice among these people.

REVIEW OF LITERATURE:

In study conducted by Daroutn IA, Astron AN, Skuaug N about the knowledge and behavior related to oral health among secondary school children Khartoum province, Sudan (mean age 15.3) 44.3% boys 45.3% girls scored high on knowledge of caries. The corresponding rates regarding knowledge of gingivitis were 39.2% and 47% respectively. Tooth brushing and use of miswak \geq 2 times a day was confirmed by 67.2% boys and 75.5% girls in a town having received adequate health information and having a mother of medium education.7

In a study conducted by Rajab LD and his colleagues to assess the oral health behavior of school children and parents in Jordan (6 years of age) 80% of the parents knew about the harmful effects of sugar and 79% thought that the poor oral hygiene may cause dental caries. 42% had knowledge about the use of sweets and sugar and 36% of the parents emphasized regular dental visits for prevention of caries. However most children visited dentist for symptomatic reasons 86%, while 11% attended for regular visits. At their last dental visit 49% had tooth extraction and only 8% had preventive services (fissure sealing). Tooth brushing at least twice a day was reported by 31% of the children. Dental care habits were greatly affected by knowledge of parents and their attitude related to practice.8

In a study reported by Wierzbicka and colleagues in Poland the proportion of children (12years of age) free of dental caries was 4.2percent (1995) 4.0 (1997) 3.8 (2000).in 1999 tooth brushing at least twice a day was reported in 65% children higher frequency in urban children. Dental visits were made by 71% children 56% mothers had low knowledge and attitude particularly in rural areas. Dental care habits were highly influenced dental attendance and level of education of mother.9

Study conducted by Farah HH and Ghandour IA to investigate periodontal health status of 12 year old Sudanese school children and level of education of parents in khartoum. Regular brushing in 93.3% irregular 6.9% and no in 0.8% of children. The frequency of brushing was 81.4% once, 16.4%twice

and 1.4% more than twice a day. For all children 93.1% used tooth brush while 3.9% miswaak. Concerning the technique of brushing, 14.3% vertically, 82.7% horizontally and only 2% in a circular way. It was found only 5.2% used other oral hygiene such as dental floss and tooth pick. The results show up a high level of correlation between parent education and children practice. The mean of plaque index was 0.888 gingival index.686 and calculus index.107.10

In a research conducted by EL-QADERI and his colleagues to evaluate the oral hygiene and gingival health condition and caries prevalence in 14-15years old school children in Jerash Jordan. The results showed that males had significant lower plaques but significantly higher gingival scores than females. 24% of the children were caries free and proportion of children with 1 or more tooth decay were 10% to 18%. Slight non significant variations were observed in regard to DMFT/s or their components (P<0.05). It is concluded that significant gender variation were noted in PI and GI score but not in DMFT/S or their components.11

In a research conducted by Prasai Dixit L and his colleagues to assess the prevalence of dental caries, oral health knowledge and practice among indigenous school children of Nepal 31% of the school children suffered oral pain and decayed component constituted almost the entire DMFT index. Brushing habit was reported low by only 24% of the children brushing twice a day.12

OBJECTIVES:

The objectives of the study were to:

- Determine the knowledge and practice of oral health among higher secondary school children.

RESULTS:

Table 1 shows ages of secondary school children from whom questionnaires were filled. Sample size was of 370 students, out of which 70 students were of age 14-15 and 300 were of 16-17 years.

Figure 1, shows gender of the secondary school children. Out of total 370 students 84 were male and 286 were female.

Figure 2, shows knowledge of secondary school children about oral hygiene; they were graded as good, average and poor on the basis of scores. Out of total students 18 had good, 170 had average and 182 had poor knowledge about oral hygiene.

Figure 3, shows practice of oral hygiene among secondary school children; they were graded as good average and poor on the basis of scores. Out of total students 34 had good, 149 had average and 187 had poor practice of oral hygiene.

Table 2 shows cross tabulation of gender of students and knowledge of oral hygiene. Out of 84 males, 6 had good, 38 had average and 40 had poor knowledge. And out of 286 females, 12 had good, 132 had average and 142 had poor knowledge.

Table 3, shows cross tabulation of gender of students and practice of oral hygiene. Out of 84 males 6 had good, 33 had average and 45 had poor practice. And out of 286 females, 28 had good, 116 had average and 142 had poor practice of oral hygiene.

- To compare knowledge and practice of oral hygiene among male and female students.

OPERATIONAL DEFINITION:

- Knowledge of oral health is assessed by scoring.
- Score of 11 or more is regarded as good,
- Score of 8 to 10 as average
- Less than 8 as poor.
- Practice of oral hygiene is also assessed by scoring.
- Score of 14 to 17 is regarded as good,
- Score of 10 to 13 as average and
- Less than 10 as poor.

MATERIAL & METHODS:

Study Design: Descriptive study.

Setting: Higher Secondary Schools of Wah Cantt.

Duration: 6 Months

Sample Size: 370 (calculated by WHO sample size calculator)

Sampling Technique: Purposive Sampling

Sampling Selection:

Inclusion Criteria: Higher secondary school students.

Exclusion Criteria: Students of same age but not in higher school.

Data Collection Tool: Questionnaire

Data Collection Method: We collected the data by visiting different schools and distributing the questionnaire amongst students, and thus getting answers about different questions regarding oral health.

Data Analysis Procedure: All the data analyzed by using SPSS software version 19. Frequencies and percentages were calculated. Cross tabulation was done between knowledge and practice of oral health and gender of the students.

Table 1 : Ages of students of secondary school				
Age groups	Frequency	Percent	Valid Percent	Cumulative Percent
14-15	70	18.9	18.9	18.9
16-17	300	81.1	81.1	100.0
Total	370	100.0	100.0	

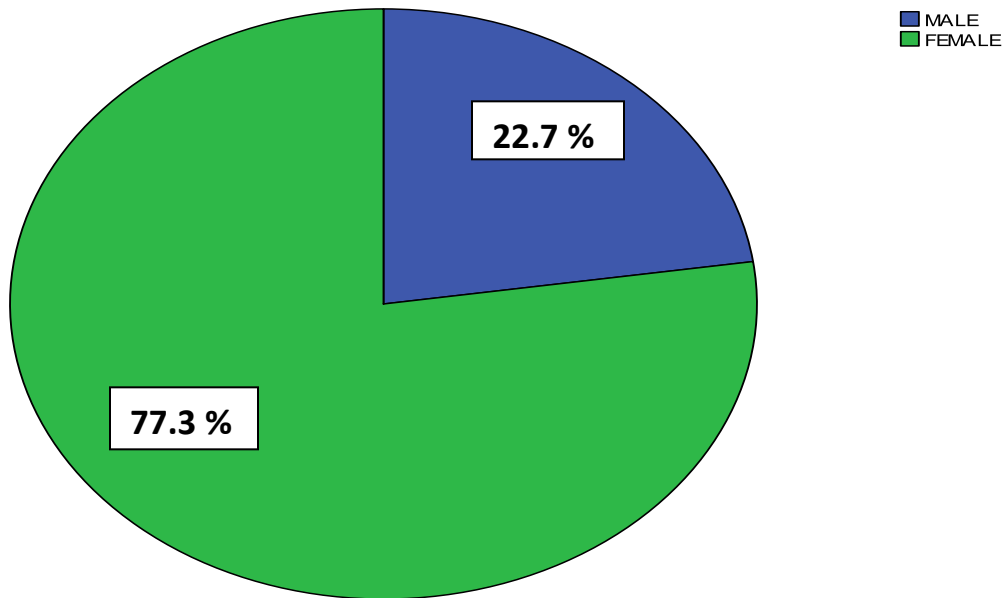


Figure 1: Gender of secondary school children

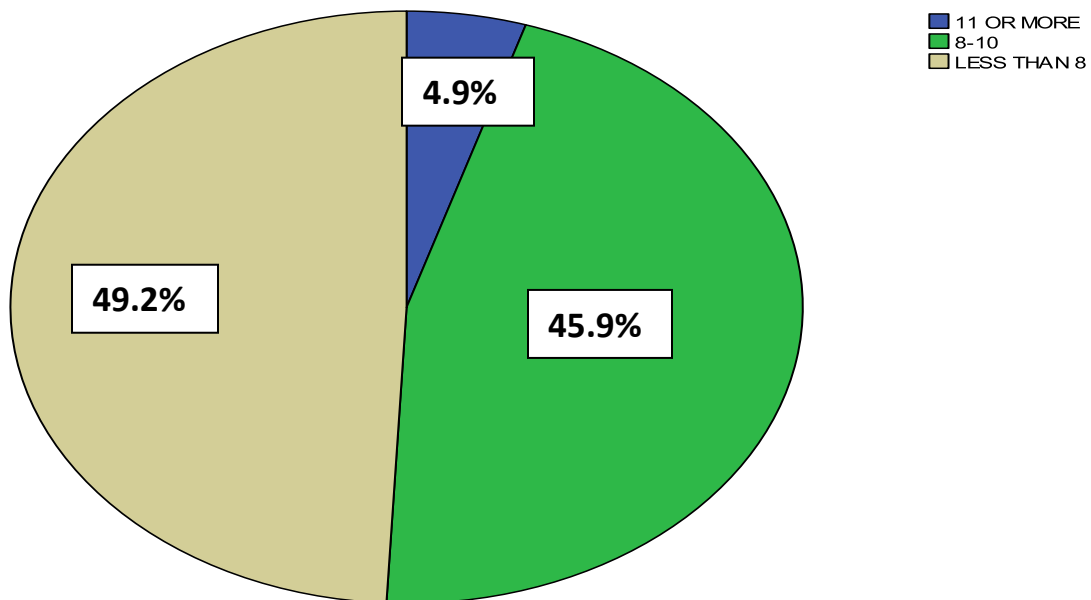


Figure 2: Knowledge of secondary school children about oral hygiene

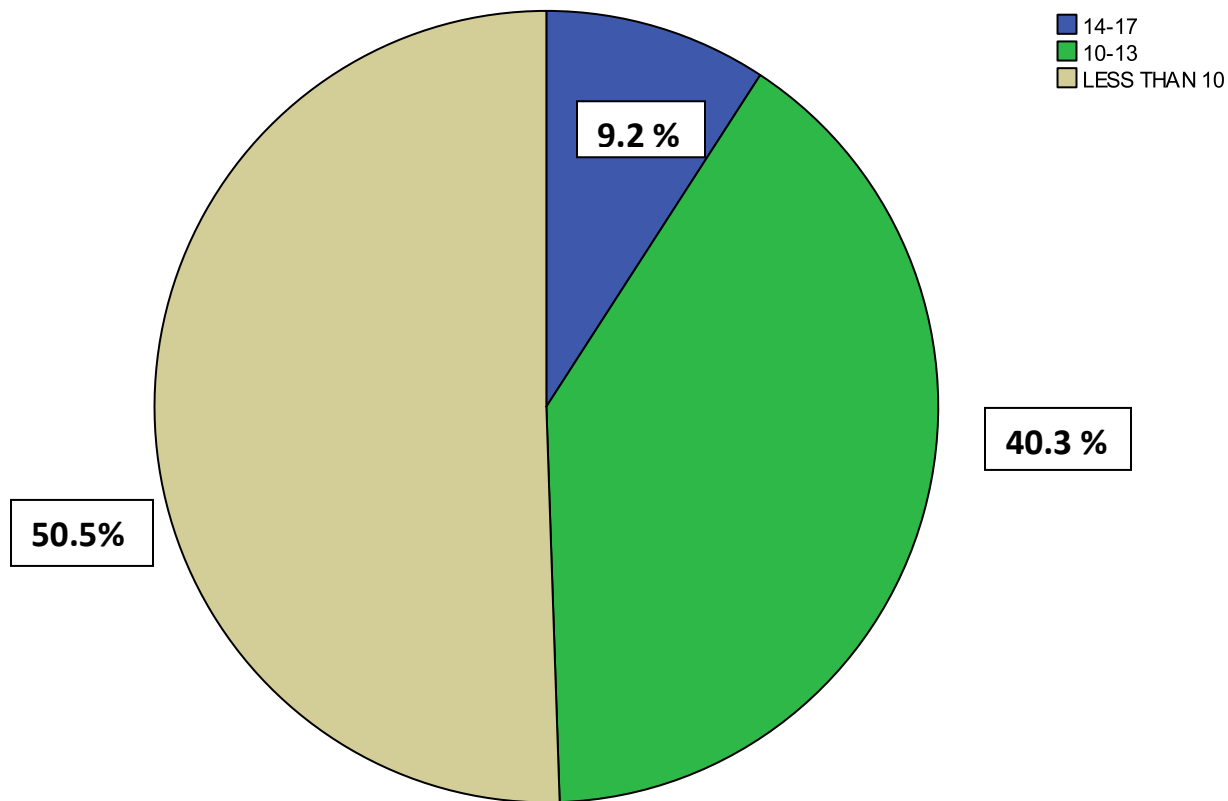


Figure 3: Practice of oral hygiene among secondary school children

		Knowledge of students			Total
		11 or more	8-10	Less than 8	
Gender	Male	6 (7%)	38 (45%)	40 (47.6%)	84
	Female	12 (4%)	132 (46%)	142 (49.6%)	286
Total		18	170	182	370

Table No.2: Gender of students and Knowledge score

Table no.3: Gender of students and Practice score

		Practice of Students			Total
		14 – 17	10-13	Less than 10	
Gender	Male	6 (7%)	33 (73%)	45 (53.5%)	84
	Female	28 (9.7%)	116 (40.5%)	142 (49.6%)	286
Total		34	149	187	370

Figure 4, shows frequency of dental caries among secondary school children. Out of total students 192 had dental caries and 178 never had dental caries.

Figure 5, shows frequency of students having bad breath. Out of total students 22 had always, 108 have rarely and 240 never had bad breath.

Figure 6, shows condition of gums of secondary school children. Out of total students 20 had bleeding, 27 had painful and remaining 323 had healthy gums.

Figure 7, shows frequency of mouth ulcer among secondary school children. Out of total students 21 had mouth ulcer, 95 rarely had mouth ulcer and 254 students never had mouth ulcer.

Figure 8, shows oral surgical interventions among secondary school children. Out of total students 73 had undergone oral surgical interventions where as other 297 never had oral surgery.

Figure 9, shows color of teeth of secondary school children. Out of total students 9 had black, 52 had yellow and remaining 309 had white teeth.

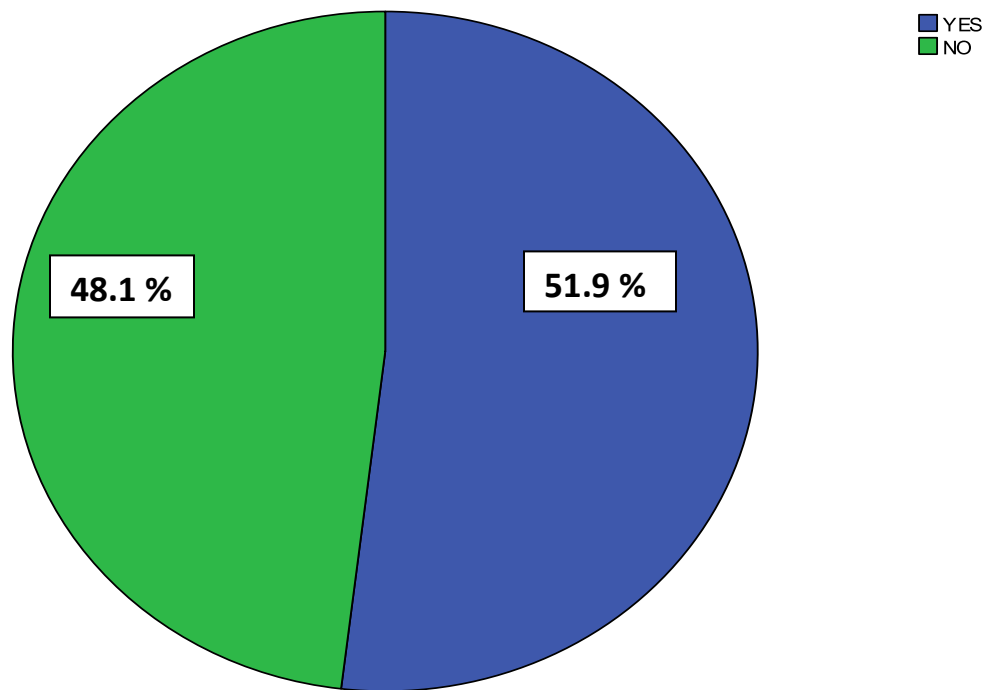


Figure 4: Frequency of dental caries among secondary school children

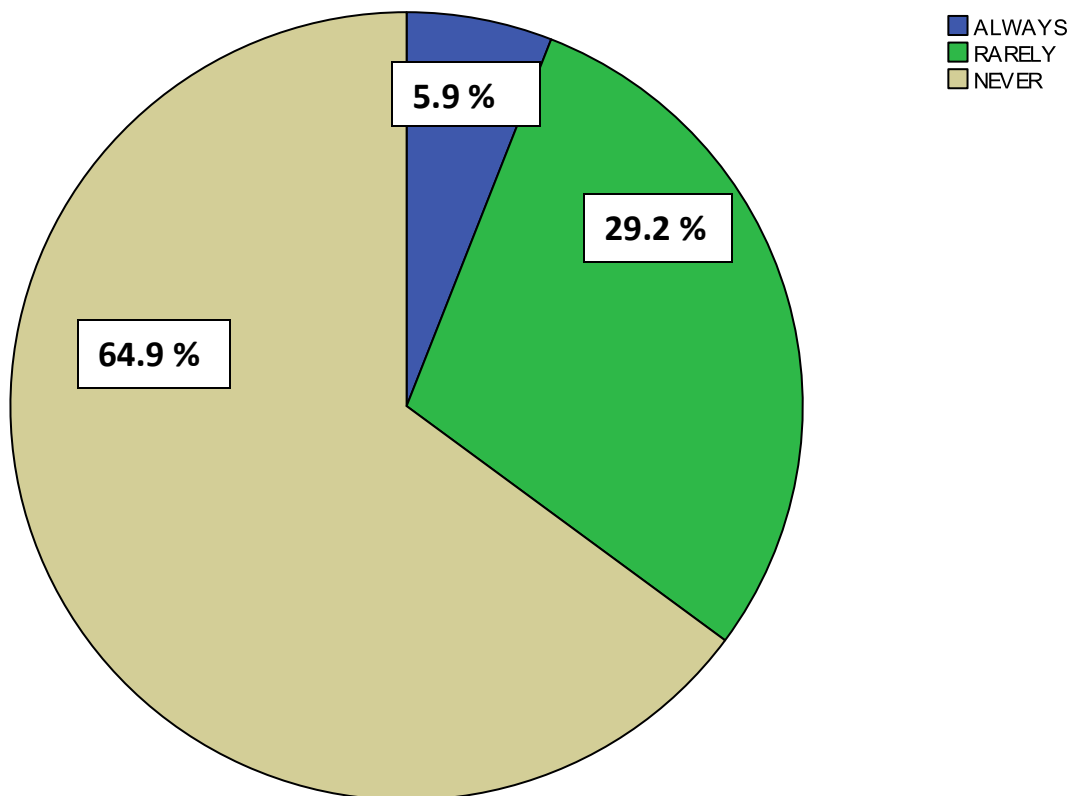


Figure 5: Frequency of bad breath among higher secondary school students

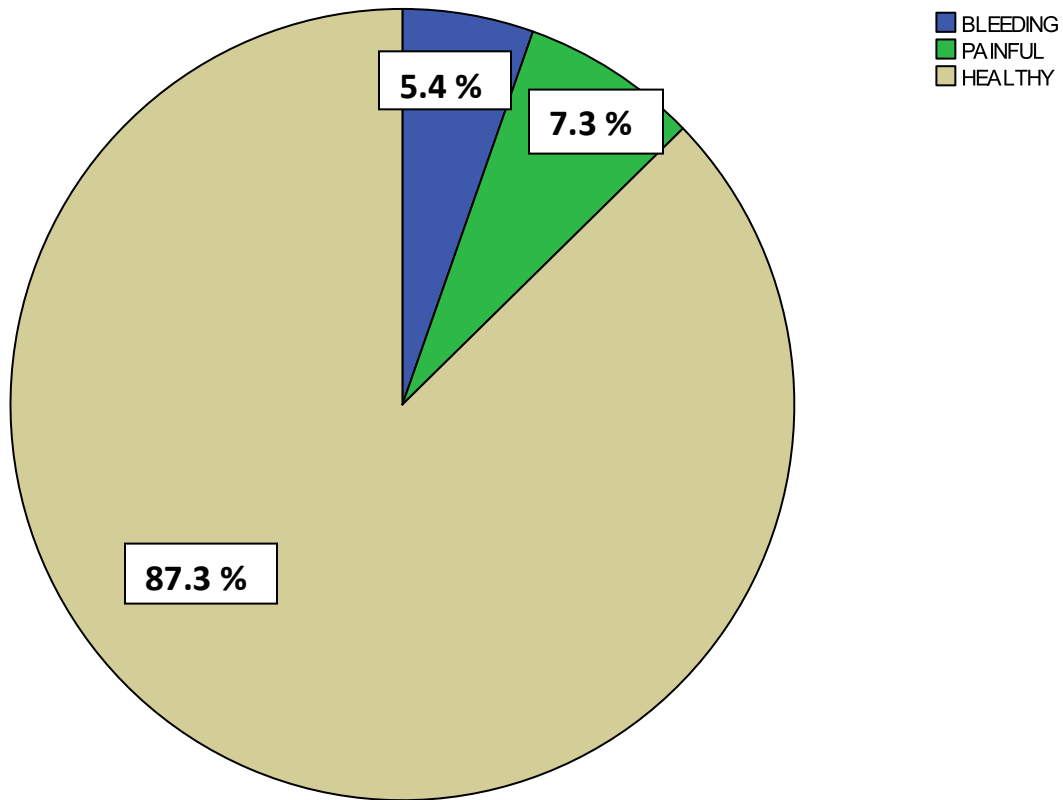


Figure 6: Condition of gums of secondary school children

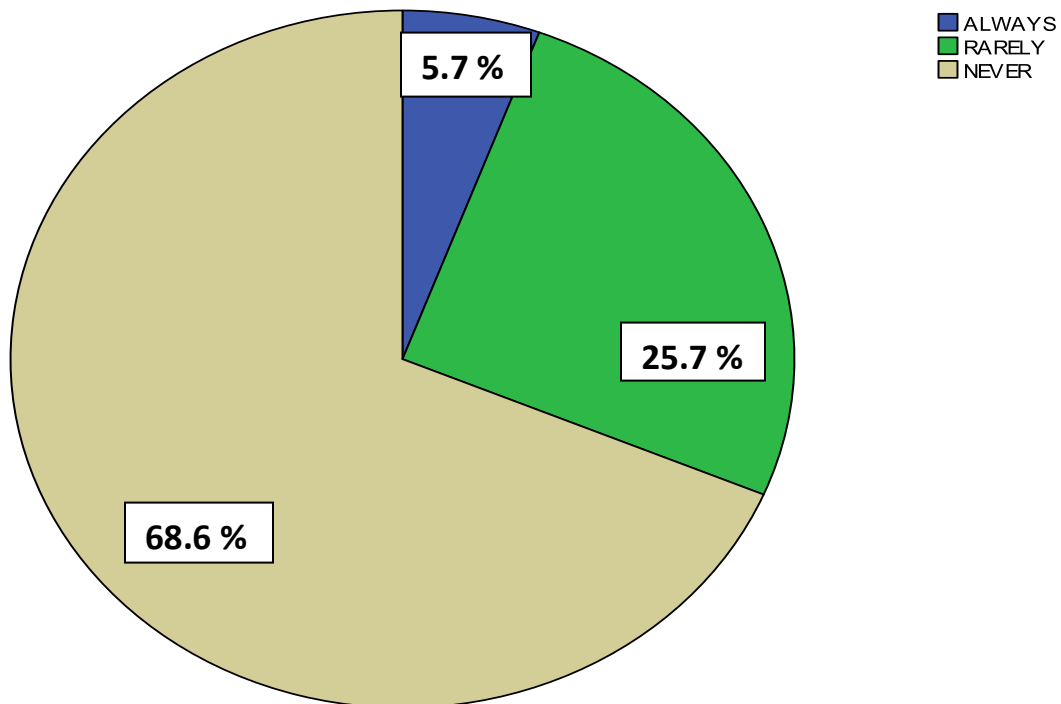


Figure 7: Frequency of mouth ulcers among secondary school children

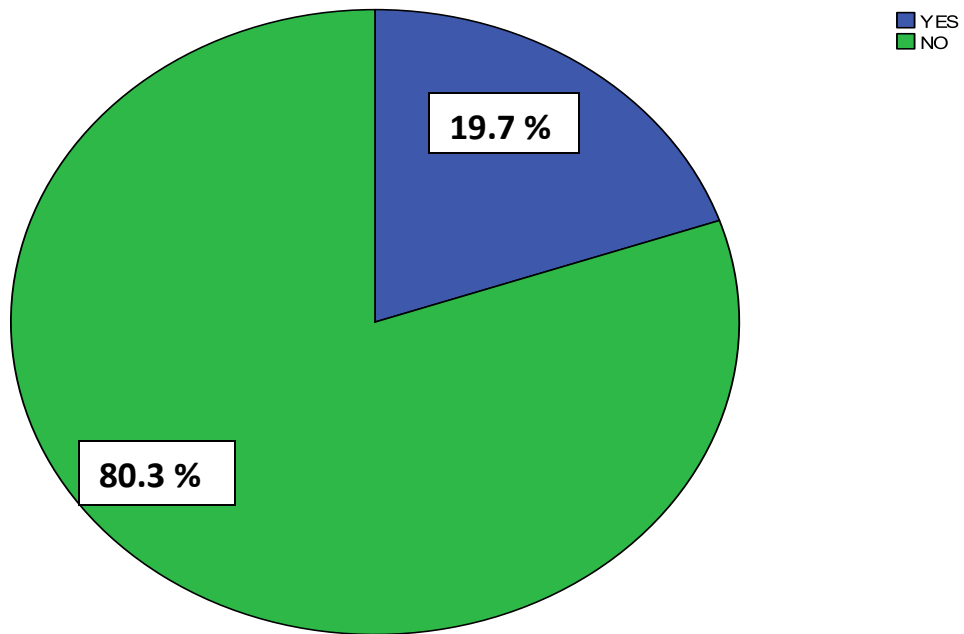


Figure 8: Oral surgical interventions among secondary school children

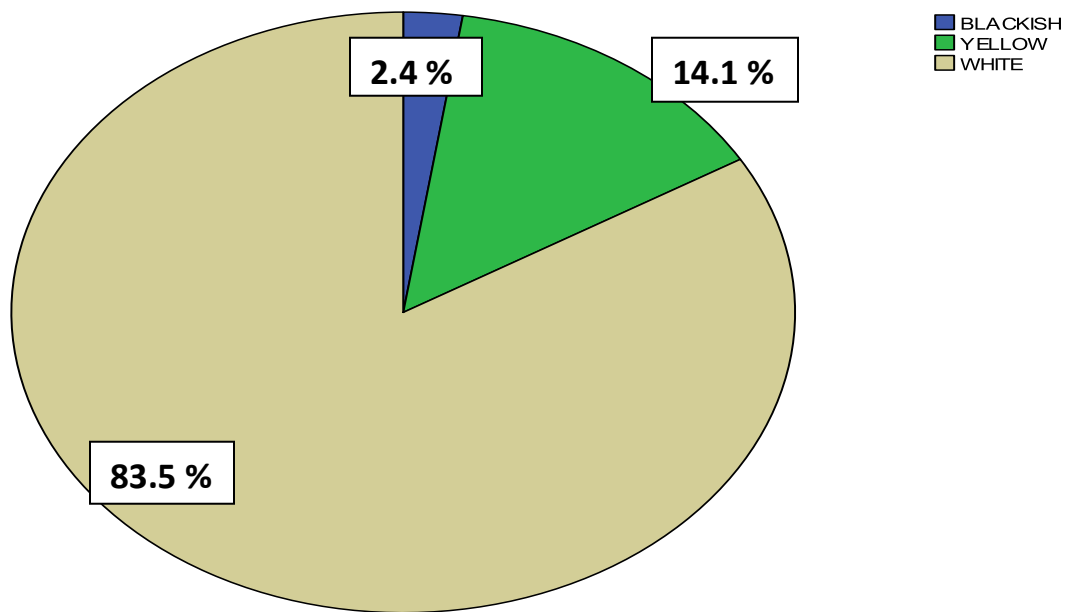


Figure 9: Color of teeth of higher secondary school children

DISCUSSION:

We conducted our research to evaluate the knowledge and practice of oral hygiene among sec. school children. Total no of students were 370, students of age 14-17 were 18.9% (70) and those of 16-17 were 81.1% (300). Females were 77.3% and males were 22.7%. Overall knowledge and practice regarding oral hygiene was not adequate but males were better than females but this difference was only apparent.

50.5% of our students had poor oral hygiene practices like tooth brushing at least once a day and higher prevalence of caries. Research by Wierzbicka⁹ and his colleagues of Poland⁷ show that 64% of the students had adequate oral practices and results from Pakistani school children of Green Cricket Academy of Lahore⁵ also show 44.7% students with adequate practice. Research by Farah HH in Khartoum¹⁰ gives statistics of 92.3% students with adequate oral practice. Research by Prasai Dixit in Nepal¹² showed that only 24% students had good oral practice. Reasons of high percentage of poor oral hygiene in our research was lack of education and ignorance of parents and students.

In our research children undergoing tooth surgery were 19.7%. In research by Rajab LD in Jordan⁸ students with symptomatic dental visits were 86% and 49% having tooth extraction in our research 20.3% had tooth extraction at least once. Reasons for low percentage of dental visits can be that in our society children don't bother about their dental problems unless it becomes too painful or a cosmetic problem.

Dental caries was reported by 51.9% of our research students and gums problems including bleeding gums and painful were reported by 12.7% of our research students whereas it was reported by 97% of the students in research by Wierzbicka⁹ and 8% caries and 68% gingivitis in research by Farah HH¹⁰. Research by Prasai Dixit¹² showed that 31% of their students had dental caries and subsequent tooth decay.

In our research children with extrinsic tooth discoloration were found to be 16.5%, in a similar research by EL Qaderi¹¹ in Jordan 64% of the students were found to have extrinsic tooth discoloration.

CONCLUSION: Majority of the students have poor knowledge and practice of oral hygiene but male students were better regarding knowledge and practice of oral health as compared to female students.

RECOMMENDATIONS:

It is recommended that use of tooth brushes, dental floss and mouth wash should be promoted in the younger age group.

Health education among the parents and children about oral hygiene and its hazards if not taken care of Regular visits to the dentist and check up for oral health should be emphasized.

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ACKNOWLEDGMENTS:

Professor Dr. Musarrat Ramzan (HOD Community Medicine Department, Dean Wah Medical College)
Dr. Sabah Imran (Asst. Professor, Community Medicine Department, WMC)

"QUESTIONNAIRE"

(KNOWLEDGE AND PRACTICE OF ORAL HYGIENE)

GENDER..... AGE.....

Do you brush your teeth? Yes/No
 How many times a day ,you brush your teeth? 1 / 2 /More than 2
 At what time of the day you brush your teeth? Morning/Bed time/Both
 How much time do you spend on brushing? 1 min/ 2 min/ 3 or more min
 How do you brush your teeth? Horizontal/LTD recommended/Non specific
 Do you use mouth wash? Yes/No
 How many times do you use mouth wash daily? 1 time/ 2 times/ 3 or more
 Do you perform flossing? Yes/No
 How many times do you perform flossing daily? 1 time/ 2 times/ 3 or more
 What type of floss you use? Waxed/Unwaxed/Any other
 What do you use to clean your teeth? Toothpaste/Manjan/Any other
 Which toothpaste do you use? Fluorinated/Non fluorinated
 Which toothbrush do you use? Soft /Intermediate /Hard bristle
 When do you change your tooth brush? 3 months/ 6 months/Non specific
 How often do you examine your oral cavity? Never /Daily /Weekly
 What is the condition of your gums? Healthy/Painful/Bleeding
 Do you visit dental clinic ? Yes/No
 How often you visit in a year? 1 time/ 2 time / 3 or more
 Do you have dental caries? Yes/No
 How often you have mouth ulcer? Never/Rarely/Always
 Do you use braces? Never/Rarely/Always
 Do you ever have tooth surgery? Yes/No
 If yes, then what type of surgery? Root canal/Tooth extraction/Any other
 Do you have bad breath? Never/Rarely/Always
 What is colour of your teeth? White/Yellow/Blackish

(Batch H)

Do you know many times a day you should brush your teeth? Yes/No
 If yes, then how many times? 1 / 2 /More than 2
 Do you know at what times you should brush your teeth? Morning/Bed time/Both
 Do you know how much time should be spend at brushing? 1 min/ 2 min/ 3 or more
 Do you know how teeth should be brushed? Horizontal/LTD recommended/Non specific
 Do you know how many times mouth wash to be used? 1 time/ 2 times/ 3 or more
 Do you know how many times you should perform flossing? 1 time/ 2 times/ 3 or more
 Do you know what should be used to clean teeth? Toothpaste/Manjan/Any other
 Do you know which tooth paste to be used? Florinated/Non florinated
 Do you know which tooth brush to be used? Soft/Intermediate/Hard bristle
 Do you know after how much time you should change your toothbrush? 3 months/6 months/Non specific
 Do you know how many times in a year you should have dental visit? 1 time/ 2 times/ 3 or more
 Do you know how often you should examine your oral cavity? Never/Daily/Weekly
 Do you know what type of floss to be used? Waxed/Unwaxed/Any other