

Oral Health Attitude, Knowledge and Practice among 8-14 Years Old, School Going Children in Shopian, Jammu & Kashmir, India

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Abstract: Aim: To Assess the Oral health Attitude, Knowledge and Practice among 8-14 years old, School Going children in Shopian, Jammu & Kashmir, India. Materials and Methods: The subjects for this study were randomly selected from five private and five government schools in the age group of 8-14 years. A total of 500 children were selected both males and females through Cluster sampling, with age group of 8 to 14 years Government and Private school going children both male and female had been selected. Self structured questionnaire was used. The questionnaire includes 10 questions without names and is used to evaluate oral health status, knowledge, attitudes and practice among school going children. Results: Overall the level of knowledge score was statistically significant with $P = 0.001$. There was statistically significant difference with $P = 0.001$ Data collected from school going children regarding method of cleaning teeth, type and frequency of brushing teeth, timing of brushing, parental supervision during brushing, gum bleeding during brushing, method employed when gums bleed, frequency of visit to the dentist, treatment done during last visit to the dentist, reason for last visit to the dentist and reason for not visiting the dentist. When comparing it was observed that statistically significant difference with $P < 0.001$ was found. Conclusion: The overall level of oral health knowledge among the surveyed children was low.

Keywords: Attitude, knowledge, oral health, practice, school children

1. Introduction

The World Health Organization (WHO) defined human health in a broader sense in its 1948 constitution as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." A healthy mouth enables an individual to talk, eat and socialize without experiencing active disease and discomfort. Health can be determined by various factors like life style, Dietary habits, socio-economic conditions, occupational environment and the quality of life is reduced due to loss of teeth and intraoral diseases^[1,2]. Oral Health status of an individual, special groups and general population depends on nutritional status^[3]. Dental caries and Periodontal diseases are the common oral diseases in populations. These diseases are highly irreversible once occur and also have complex etiology^[4]. Children suffering with oral problems are 12 times more likely to have restricted activity and literature revealed that annually more than 50 million hours are lost due to poor oral health in children^[5]. Children between the age group of 8-14 years spend most of their time in school (7-8 hours). The school is an ideal place for learning and growing up. If the schools are to become a Powerhouse of Health education, and need to change in the curriculum^[2]. Poor oral health has proven to have unfavorable effects on general health and maintaining hygiene of one's own and also of the surroundings helps in creating a healthy environment for the whole society^[6]. Hence the current study was planned to provide the baseline data regarding Oral Health status and the factor effecting it with the aim of knowing their awareness level regarding Oral Health.

2. Materials and Methods

After obtaining the Ethical clearance from ethical committee of the institution, list of schools containing required age groups of children had been obtained as per division of district by Panchayat Halquas/Tehsil and the written consent for the survey will be taken from the school authorities. The Study work was carried out in 8-14 years old school going Children in Shopian District, Jammu and Kashmir. Letter was sent to the selected schools explaining the purpose of the study and Principal of each school was asked to inform the students and their parents. Through Cluster sampling, the number of 500 children with age group of 8 to 14 years Government and Private school going children both male and female had been selected. The inclusion criteria for this study were Children with age group 8-14 years was selected so that they can easily understand and complete the questionnaire by themselves. The time allotted for each participant to fill the answer for the questions is 5 to 6 minutes and the questionnaires is collected on that day itself. Self structured questionnaire used by Al-Omiri MK, Al-Wahadni, Saeed KN^[5]. The questionnaire without names and is used to evaluate oral health status, knowledge, attitudes and practice. The children Responded to each question either by choosing one or more responses from the provided list of options. All questionnaires were completed and data collected in the classroom under the supervision of survey staff had been subjected for statistical analysis using SPSS statistical software (Statistical Package for Social Sciences version 22.0 Chicago Inc.).

3. Questionnaire

Children’s Oral Health Survey Questionnaire

Q1. What do you use for cleaning your teeth?

1. Toothbrush + toothpaste.
2. Dental floss.
3. Mouthwash.
4. Toothpicks.
5. Finger

Q2. What type of tooth brushing methods do you employ?

1. Vertical
2. Horizontal
3. Combined

Q3. How often do you brush your teeth?

1. Once per day.
2. Twice per day.
3. More than twice per day.

Q4. When do you brush your teeth?

1. Morning.
2. Afternoon (after lunch).
3. Before going to bed.
4. Other times (specify)

Q5. For how long do you brush your teeth?

1. Less than one minute.
2. One minute.
3. Two minutes.
4. More than two minutes.

Q6. My parents...

1. Watch me while brushing my teeth.
2. Do not watch but advise me.
3. Never cared.
4. Only my mother watches me.

Q7. Do you experience gum bleeding while brushing your teeth?

1. Yes
2. Sometimes
3. Never

Q8. What do you do when your gums bleed?

1. I stop brushing my teeth
2. I brush slowly
3. I visit a dentist

Q9. How often do you visit your dentist?

1. Regularly every 6-12 months.
2. Occasionally.
3. During dental pain.
4. Never visited a dentist.

Q10. When you last time visited a dentist?

1. Six months ago.
2. Last 6-12 months.
3. Last 1-2 years.
4. Last 2-5 years.
5. More than 5 years.

4. Results

A total of 500 children in the age group 8-14 years were randomly selected, Of these 300 were males and 200 were females. The schools were categorized as low and high socio-economic school groups based on the government and private schools.

Method of Cleaning Teeth

	What do you use for cleaning your teeth					Chi Square Value	P value
	Toothbrush + toothpaste	Dental Floss	Mouthwash	Toothpick	Finger		
Shopian	441	10	2	45	2	103.12	0.001
Gp	88.20%	2.00%	0.40%	9.00%	0.40%		(Significant)

The oral hygiene habits of our study sample indicated that 88.2% of the children used tooth brush and tooth paste to clean their teeth and 2.0% used dental floss after brushing. In addition to tooth brush and tooth paste 0.4% of the children used mouthwash after tooth brushing while 9.0% and 4% of the children used toothpick and fingers to clean their teeth after eating food. Statistically significant difference with P value was 0.001 as shown table 1.

Type of Brushing Method

What type of tooth brushing methods do you employ?					
	Vertical	Horizontal	Combined	Chi Square Value	P value
Shopian	217	177	106	19.38	0.001
Gp	43.40%	35.40%	21.20%		(Significant)

In brushing method 43.4% of the children used vertical method to brush their teeth while 35.4% used horizontal

method to clean their teeth and 21.2% children in Shopian district J&K used combined method to brush their teeth. Statistically significant difference with P value was 0.001 as shown table 2.

Frequency of Cleaning Teeth

	How often do you brush your teeth?			Chi Square Value	P value
	Once per day	Twice per day	More than twice		
Shopian	244	179	77	32.33	0.001
Gp	48.80%	35.80%	15.40%		(Significant)

About 48.8% of the subjects brushes their teeth once per day and 35.8% children brushes their teeth twice per day while 15.4% children brushes their teeth more than twice per day. Statistically significant difference with P value was 0.001 as shown table 3.

Timing of Brushing

When do you brush your teeth?						
	Only Morning	Afternoon (after lunch)	Before going to bed	Other Times	Chi Square Value	P value
Shopian	343	70	57	30	80.531	0.001
Gp	68.60%	14.00%	11.40%	6%		

It was seen that 68.6% of the children used to brush their teeth in morning and 14.0% children used to brush their teeth in afternoon. While 11.4% preferred to brush before going to bed and 6% children used to brush other times. Statistically significant difference with P value was 0.001 as shown table 4.

Time for Which Brushing is Done

For how long do you brush your teeth?						
	Less than one minute.	One minute.	Two minutes	More than two minutes	Chi Square Value	P value
Shopian	230	112	111	47	16.893	0.001
Gp	46.0%	22.4%	22.2%	9.4%		

About 46.0% of the subjects used to brush for less than one minute, while 22.4% children's used to brush one minute. In this study it was seen that 22.2% children's used to brush two minutes and 9.4% children used to brush more than two minutes. Statistically significant difference with P value was 0.001 as shown table 5.

Parental Supervision during Brushing

My parents...						
	Watch me while brushing my teeth	Do not watch but advise me	Never Care	Only My Mother watches me	Chi Square Value	P value
Shopian	268	158	45	29	39.994	0.001
Gp	53.6%	31.6%	9.0%	5.8%		

When questioned about the role of parents in their daily oral care, it was found that 53.6% of the parents only watching

Frequency of Visit to Dentist

How often do you visit your dentist?						
	Regularly every 6-12 months	Occasionally.	During dental pain	Never visited a dentist	Chi Square Value	P value
Shopian	98	318	67	17	184.61	0.001
Gp	19.60%	63.60%	13.40%	3.40%		

It was observed that 19.6% of the subjects would visit a dentist regularly 6-12 months and 63.6% of the children's visit a dentist occasionally. It was seen that 13.4% of the subjects visit a dentist when they experience dental pain and 3.4% of the children's reported that they have never visited the dentist. Statistically significant difference with P value was 0.001 as shown table 9.

Timing of Last Visit to Dentist

About 62.4% of the subjects visited a dentist last 6 months ago and 21.8% of the children's visited a dentist before 6-12 months. It was observed that 7.6% of the subjects visited a dentist before 1-2 years and 4.2% of the children's reported that they have visited dentist 2-5 years ago. About 4.0% of

their children's while brushing their teeth. 31.6% of the children reported that they were advised by their parents while brushing their teeth and 5.8% children's mother watches them while brushing their teeth. On the contrary, 9.0% of the children reported that their parents never cared while brushing their teeth. Statistically significant difference with P value was 0.001 as shown table 6.

Gum Bleeding During Brushing

Do you experience gum bleeding while brushing your teeth?					
	Yes	Sometimes	Never	Chi Square Value	P value
Shopian	5	57	438	132.641	0.001
Gp	1.00%	11.40%	87.60%		

About 1.0% of the subjects experience gum bleeding while brushing their teeth and 11.4% children's sometimes experience gum bleeding while brushing. About 87.6% of the children never experience gum bleeding while brushing their teeth. Statistically significant difference with P value was 0.001 as shown table 7.

Method Employed when Gum Bleed

About 54.8% children's stop brushing their teeth during gum bleeding and 40.8% children's brush slowly during gum bleeding. 4.4% of the children visit a dentist after gum bleeding while brushing their teeth. Statistically significant difference with P value was 0.001 as shown table 8.

What do you do when your gums bleed?					
	Stop brushing my teeth	Brush slowly	Visit a Dentist	Chi Square Value	P value
Shopian	274	204	22	51.435	0.001
Group	54.80%	40.80%	4.40%		

the children's reported that they have visited dentist more than 5 years ago. Statistically significant difference with P value was 0.001 as shown table 10.

When you last time visited a dentist?							
	Six months ago	Last 6-12 months	Last 1-2 years	Last 2-5 years	More than 5 years	Chi Square Value	P value
Shopian	312	109	38	21	20	152.72	0.001
Gp	62.40%	21.80%	7.60%	4.20%	4.00%		

5. Discussion

The school is an ideal place for learning and growing up. Children between the age group of 8-14 years spend their

time in school. Children and youth collectively form a large number of population of an area. Assessing the levels of oral hygiene awareness and knowledge amongst them gives us an idea about the status of our current dental service provisions^[6]. The present study intended to provide information regarding the children aged 8-14 years old in Shopian district, J&K, As in India data on Oral health behaviour of children is not available. In the present study regarding the oral health of children, 88.2% used to clean their teeth by using tooth brush and tooth paste followed by dental floss and mouthwash. Whereas similar results were reported by WHO (83%) and Puntha and Sivaprakasam (62.9%), in a rural population in Uttaranchal state and Kanchipuram district respectively^{[7],[8]}. This results is not in accordance with that of the study by Mahesh Kumar et al in Chennai, where in his study sample some of the children resorted to the use of charcoal as a medium to brush their teeth than the tooth brush^[9]. Usage of other oral hygiene aids was found limited. Similar results have been reported by Priya et al in 2013^[5]. This could be probably due to inadequate knowledge transfer from dentist to the patients or lack of public health education programs. 9.0% children used toothpick to clean their teeth and it was seen 5% used wooden sticks and toothpicks to clean their teeth as the study done in 2016 by Bashir R et al in Pakistan^[6]. While in the present study 0.4% used fingers to clean their teeth. In case of method of brushing it was seen that 43.4% used Vertical method to brush their teeth and 35.4% participants followed Horizontal method of tooth brushing. 21.2% children followed combined method to clean their teeth while brushing. Mumghamba EGS et al done a study in which horizontal technique (75.2%) that was commonly practiced and the least practiced technique was the vertical (22.8%) and combined technique (0.6%)^[3]. In this study 48.8% of the participants performed the recommended practice of brushing their teeth once a day. This was similar to the study done Jordanian children by Al-Omiri MK et al, where majority of them brushing once per day^[10]. It was reported by Harikiran AG et al in 2008 and Al-Omiri et al that 38.5% brushed their teeth two or more times a day. The subjects also reported irregular times of tooth brushing. The use of other recommended oral hygiene methods such as dental floss (4.6%) was found to be rare; this also could be attributed to the lack of oral health education and/or the cost of such aids where the use of dental floss [2%] was very less. In contrast, Hamilton and Coulby found that a high percentage [42%] of the sample they studied in north eastern Ontario used dental floss^{[11],[10]}. In the present study 35.8% performed the recommended practice of brushing their teeth twice a day. This is similar to that observed in some industrialized countries of East Europe^{[12],[13],[14]} but low when compared to Western industrialized countries^[12, 13]. Harikiran et al done a study in which 38.5% children brushes twice a day^[11], and WHO study (49%)^[7], although this effort was not fully supported by parents since most of them advised and never observed their children during brushing. These findings agree in part with Ali MS et al who reported 51.5% children brush once daily and 42.6% brush twice daily^[2] and Prasad et al reported 66.9% children brush once and 30.7% brush twice daily in Tamil Nadu, India^[15]. About 46.0% of the subjects used to brush for less than one minute, while 22.4% children's used to brush one minute. In this study it was seen that 22.2% children's used to brush

two minutes and 9.4% children's used to brush more than two minutes. In the present study it was reported that 68.6% children used to brush their teeth in morning which was less (81.6%) as compared to the study done by Bashir R et al in 2016 Karachi, Pakistan^[6]. 14.0% children used to brush their teeth in afternoon. While 11.4% preferred to brush before going to bed and 6% children used to brush other times. According to AAPD, the first dental visit should be with the eruption of the first primary tooth and no later than twelve months of age^[16]. The parental supervision during brushing was found 53.6% and 31.6% parents don't watch their children's during brushing but advice that daily brushing prevents tooth decay while 9.0% parents never cared about their children during brushing, hence the overall effort was not fully supported by the parents. In the present study about 19.4% of the children visit a dentist due to family advice while 8.8% children visit a dentist due to dentist advice. Barker and Horton done a 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^[17]. Al-Darwish MS in 2016 reported that parents were the most popular 69.1% source of oral health knowledge information for children. As children spend most of their daily time with their parents, the optimal way to raise children's dental health awareness would be to furnish accurate information to parents. There is a need, therefore, to increase provision of oral health knowledge information to the parents^[18]. The awareness of periodontal diseases seems to have increased and it was seen 1% of children have gum bleeding during brushing their teeth. Our observation is similar to Linn in which children knew about periodontal diseases^[19]. Most of the children were not aware about bleeding gums and the consequences of dental plaque. Only few children were aware of gingival bleeding as an indicator to periodontal diseases and tooth brushing as a valuable tool to fight against this problem^[20]. Similar study was done by Sharma et al in 2013 in which he reported that the overall prevalence of gingivitis among children was 53.4%^[21]. In the present study 54.8% children's stop brushing their teeth during gum bleeding and 40.8% children's brush slowly during gum bleeding. 4.4% of the children visit a dentist after gum bleeding while brushing their teeth. Nicolas et al^[22] reported that frequent exposure to dental experiences might be a positive factor in helping to reduce patient's anxiety levels. Previous studies among Jordanians showed that approximately 80% of Jordanian adults and children received dental examinations and treatment on an irregular basis and visited the dentist only for emergencies^[23]. In the present study 63.6% visit a dentist occasionally. The findings from the analysis revealed that the children's visit a dentist due dental complain and it was seen 65.0% visit a dentist due to dental pain, while 3.4% of the children's never visited a dentist. In general, the children have less understanding about major oral diseases, this may be seen in the light of fact about the regular visit to their dentist. According to a study done by Zhu et al 73.6% of the children in China knew that regular dental check-ups are necessary^[24]. Similarly, 71.6% of the children in Chennai agreed with the importance of regular dental visit, but in reality only 19.1% of them practiced it. This scenario observed in Malaysian, Jordanian studies and in study done by Mirza BA et al in Pakistan 2011 reported 57% of high

socio-economic school children were only aware of brushing to prevent dental problems^{[25],[10],[26]}.

There were 13.4% who would seek dental service only when they suffered from dental pain. It was observed that 7.6% of the subjects visited a dentist before 1-2 years and 4.2% of the children reported that they have visited dentist 2-5 years ago. 4.0% of the children's reported that they have visited dentist more than 5 years ago. On the contrary 3.4% had never visited the dentist which is parallel to a study by Mirza et al, where 46% reported that they never visited the dentist^[26]. Bharathi MP et al in 2012 reported in her study that the majority of the children had never visited a dentist^[27]. The drive for the last visit was due to pain in 32.4% of the children in Chennai, which is less compared with a study done by Punitha and Sivaprakasam among rural children of Kanchipuram where 58.97% of them visited the dentist since they suffered from pain^[8]. This may be due to sparse knowledge among the children living in rural areas than urban region.

6. Conclusion

The present study recommends that proper oral health education is required to improve knowledge, Attitude and Practice of school going children towards oral health. The attitude and perception of children needs to be constructed for better utilization of dental services. Parents and schools play a key role in providing a knowledge about oral health. Oral health education programs could be included in school curriculum for the children to emphasize a positive attitude towards oral health.

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