

# Oral Health Knowledge, Attitude and Practice and Its Relation to Oral Health Status among 12-Year Old School Children of Sullia Taluk

Dr. Mohammad Shareef<sup>1</sup>, Dr. Nusrath Fareed<sup>2</sup>, Dr. Hemant Battur<sup>3</sup>,  
Dr. Sanjeev Khanagar<sup>4</sup>

<sup>1</sup>Post Graduate Student, <sup>2</sup>Prof. and H.O.D, <sup>3</sup>Professor, <sup>4</sup>Reader  
Department of Public Health Dentistry, K.V.G. Dental College and Hospital, Sullia, D.K. India

Corresponding Author: Dr. Mohammad Shareef

Received: 25/01/2017

Revised: 14/02/2017

Accepted: 22/02/2017

## ABSTRACT

**Introduction:** Good oral health practices are necessary from an young age to ensure positive long term dental health and hygiene and the oral health of children is important towards their overall well being. Objectives: The aim of this study was to assess the Oral health knowledge, Attitude and Practice by means of a self-administered questionnaire and to assess the oral health status of 12 year old school children through WHO oral health assessment form and to determine the association between oral health knowledge, attitude, and practices and oral health status among the studied children.

**Methods:** A total of 650 school children drawn through cluster random sampling from across Sullia Taluk and data were collected by clinical examinations (WHO oral health assessments form for children 2013). Knowledge attitudes and practices were recorded through a self-administered, validated questionnaire. Statistical analysis was performed through SPSS version 21. P value was set  $\leq 0.05$

**Results:** Prevalence of dental caries was 48% (Male-40.2% Female-42.3%) with mean dmft of  $4.8 \pm 1.2$ , Prevalence of bleeding on probing was 30.15%, and Prevalence of dental trauma 30% (enamel-dentin fracture) prevalence of enamel fluorosis was 1.9%. The studied population showed 58% to be having satisfactory knowledge, where as 48% had implemented their knowledge in to practices, this gap between knowledge & implementation is reported in literature.

**Conclusion:** The prevalence of dental caries was 48%, Prevalence of bleeding on probing was 30.15%, Prevalence of dental trauma 31% and prevalence of enamel fluorosis was 1.9%. Attitude and practices were significantly associated with respect to three clinical parameters that were studied though knowledge remained constant.

**Key words-** Oral health knowledge, Attitude, Practice, Dental caries

## INTRODUCTION

Knowledge as defined by 'Oxford dictionary' is the 'expertise and skills acquired by a person through experience or education'. Knowledge acquisition involves complex cognitive processes: perception, learning, communication, association and reasoning. The term knowledge is also used to mean the confident understanding (theoretical or practical) of a subject with

the ability to use it for a specific purpose. An attitude is a relatively enduring organization of beliefs around an object, subject or concept which pre-disposes one to respond in some preferential manner. Attitudes are acquired characteristic of an individual; they naturally reflect their own experiences, cultural perceptions, familial beliefs, and other life situations and strongly influence the oral health behaviour. <sup>(1-4)</sup>

Little is known about oral health attitudes and behaviours of children from developing countries in comparison with developed countries. (5,6)

Oral health is largely dependent on habits, attitudes and behaviours that constitute current hygienic-dietary habits in the family. (7) The parents, as the highest authority, have a crucial importance in shaping the personality of the child with the positive attitude towards oral health. (8) However, implementation of existing knowledge greatly depends not only on motivation of patient (possible children) to preserve one's own health, but also on the motivation and commitment of parents. (9)

Schools serve as a valuable platform for oral health promotion of school children. (10) The school-going age is the most influential period of a child's life and it is this period during which the children develop knowledge skills, and attitude which they practice throughout their lives. (10) Hence, School strongly influence children's growth and welfare. Oral health promotion and education can be taught as well as reinforced throughout the school period. (11)

During the past two decades, many industrialised countries have experienced a dramatic decline in dental caries prevalence of children and adolescent. (12-15) The reason for the improved oral health are complex and may involve a more sensible approach to sugar consumptions, improved oral hygiene practices, fluoride in tooth paste, topical fluoride application, effective use of oral health services and establishment of school based preventive programmes. (16-20) In parallel with the changing oral disease patterns there have been significant improvements in oral health awareness, dental knowledge and attitudes of children. Conversely, increasing levels of dental caries have been observed in several developing countries. The analysis of oral health practice, knowledge and attitude of children were initiated in the late 1980s and these studies are being carried out among selected urban children only.

With this background this study was undertaken with an aim of assessing Knowledge, Attitude and Practice of oral health among the 12 year old school children of Sullia Taluk Dakshina Knnada District of Karnataka state. This study provides baseline information about children's knowledge attitudes and practice and its relation to oral health. The results of this study are aimed to design an effective programme which will help to educate the school children to care about their oral health.

## **MATERIALS AND METHODS**

**Study design:** A descriptive cross sectional study was designed and conducted among 12 year old school children of Sullia Taluk (Dakshina Kannada District).

**Ethical clearance/Informed consent:** Ethical clearance was obtained by the institutional review board; the permission to conduct the study was obtained by the concerned authorities (Deputy Director of public instruction DK district, and the concerned head masters/head mistress). The consent was obtained from the respective parents through the Head of the school. Study was scheduled over a period of three months.

**Sample size estimation:** Sample size was determined based on Proportion or prevalence of interest at a margin of error of 2% and a confidence level of 95% and a prevalence of dental caries at 50%, and the calculated sample size was 594, an additional 5% of the estimated sample size was added to compensate for sampling loss, if any, thus the final estimated sample size was 650. This sample was drawn from across the Sullia Taluk through cluster random sampling methodology. [Figure-1]

## **SELECTION OF SUBJECTS**

**Inclusion criteria and Exclusion criteria:** 12 year old school children of Sullia Taluk with informed consent who were present on the day of examination having permanent dentition were included in the study. Subjects with obvious physical deformities

who were unable to co-operate with clinical examination were excluded from the study.

**Sampling methodology:** School children eligible for inclusion were included by means of a multistage stratified cluster random sampling. Sullia Taluk is divided in to two distinct geographic regions namely urban and rural areas. The list of schools in each of these included areas was obtained from Deputy Director of public instruction (DDPI) office. A sample of schools proportionate to size from each of the included area was drawn separately based on the socio demographic characteristics viz. rural vs. urban, public vs. private and the medium of instructions. Each class was considered as the sampling unit, all children in each included class present on the day were examined. In schools with multiple sections of the class (7th standard) one class was randomly included. The details of the sampling design are as represented in the Flow chart.No-1.

**Procedure:** After selecting the sampling units the selected schools were visited by the investigator himself with prior permission of the Head master and concerned authorities. Each class of the included school was considered as sampling unit. Data was collected on a specially designed proforma which contained three parts.

Part A - Recorded the basic demography of the school children.

Part B - Was a pretested self administered questionnaire containing statements on oral health knowledge, attitude, and Behaviour among 12-year old school children. The questionnaire had a total of 23 simple questions, 8 each on Knowledge & Attitude and 7 questions pertaining to daily oral health practices.

Part C- Recorded caries prevalence in the form of dentition status and periodontal status according to the W.H.O recommendation. [21]

**Development of the questionnaire:** The questionnaire was self-administered and developed in the department of public health dentistry. A list of 23 questionnaires relating

to children's oral health knowledge, attitude and practice was developed through analysis of published literature and statements were made accordingly. Content validation of the questionnaire was performed by mailing the questionnaire to 5 experts and their opinion was sought on a 5 point likert scale. Each statement was analysed on basis of Aikon's Index and CVR value for each was obtained. Questions with the CVR of 0.6 and above were included. The questionnaire was pretested for reliability upon 25 school children and intra class correlation of 0.89 was obtained suggesting good reliability. Then the questionnaire was further translated in to regional language and back translation to English was performed. The process of translation included recommended methodology, mandating forward translation and backward translation.

**Calibration of the examiner:** The investigator was trained and calibrated in the Department of Public Health Dentistry. Further, duplicate examination was performed in the field. Two percent of the daily examination was repeated at the end of the day. The kappa statistics for the same (During training and field) are 0.67 and 0.82.

A pilot study was conducted on 25 children prior to the main study to assess the feasibility of the study; the reliability of the questionnaire was assessed through Cronbach's alpha coefficient which showed a high reliability of 0.896.

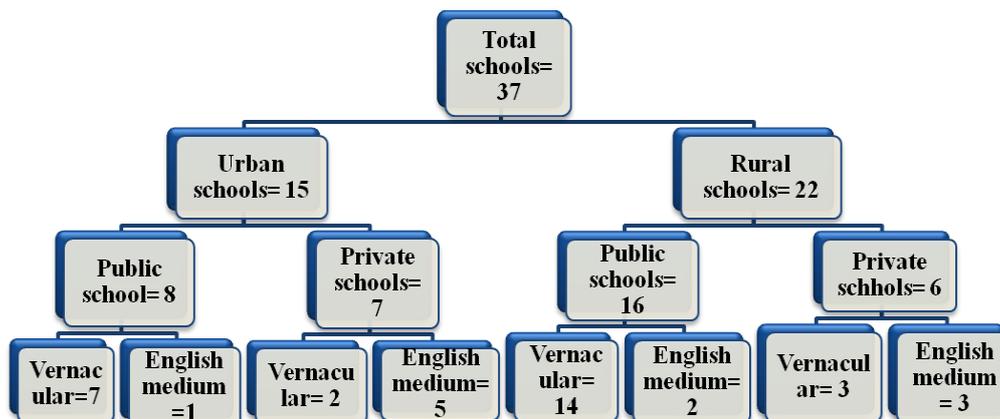
### STATISTICAL ANALYSIS

Once the questionnaire was completed, it was stored securely in a locked file cabinet. The questionnaire charts were reviewed for completeness and clarity before starting data entry into a computer. All data were double entered to assure accuracy. Both entry and double entry of the data were completed by the main researcher.

Data collected were analysed using SPSS version 21. Chi-square statistics was used to determine the associations between the

various variables and the level of significance set at  $p < 0.05$ .

Flow chart 1: Sampling and inclusion procedure of schools



Total number of schools-37

Total number of children's included in the study-650

## RESULTS

The Analysis of the socio demographic characteristics of the studied school children revealed a higher percentage of male children from urban areas. Vernacular language speaking children's from public schools had a higher representation compare to English speaking children's from private schools as shown in Table no-1.

Table No-1 Socio-demographic characteristics of the school children

SL.N	Socio-demographic Characteristics	N (%)	
1	Gender	Male	342 (53)
		Female	308 (47)
2	Geographical Location	Urban	362 (56)
		Rural	288 (44)
3	Medium of Instructions	English	248 (38)
		Vernacular	402 (62)
4	Type of Schools	Government	376 (58)
		Private	274 (42)

Further the analysis of oral health status in relation to socio demographic characteristics reveals a statistically significant difference in caries experience among rural and urban children, other significant findings were in relation to bleeding amongst government & private school children. A statistically significant higher prevalence in dental trauma was observed in relation to gender as shown in Table no-2.

Analysis of the questionnaire pertaining to Knowledge Attitude & Practice was segregated and their cumulative score were dichotomized to satisfactory & non-satisfactory. Each aspect was analyzed further in relation to socio demographic characteristics. Significant differences were obtained in terms of attitude & practices where as the knowledge remains the same. In terms of knowledge urban children were found to have statistically significant higher scores but scores for practices & attitudes remains the same. In terms of Attitude and Practice English medium students were found to have a better score compare to their vernacular counterpart. In terms of practice private school students were found to have better scores as shown in Table no-3.

Analysis of oral health status of the study population in relation to their Knowledge Attitude and Practice revealed a higher prevalence of dental caries among the subjects with unsatisfactory attitude & practice. However the knowledge scores remained constant and significant correlation was observed for the bleeding component. Attitude was the determining factors for higher prevalence of dental trauma among the study population as shown in table no-4.

**Table No-2 Oral health status interms of Socio-Demographic characteristics**

SL.N	Characteristics		Caries	P value*	Bleeding	P Value*	Dental Trauma	P Value*
1	Gender	Male	137 (40.2)	0.57	58 (17)	0.29	79 (23)	0.04
		Female	130 (42.3)		43 (14)		55 (18)	
2	Location	Urban	192 (53)	0.03	62 (17)	0.51	69 (19)	0.81
		Rural	129 (45)		55 (19)		57 (20)	
3	Instructions	English	124 (50)	0.80	35 (14)	0.06	42 (17)	0.40
		Vernacular	197 (49)		80 (20)		76 (19)	
4	Schools	Government	177 (47)	0.46	71 (19)	0.05	79 (21)	0.11
		Private	137 (50)		36 (13)		44 (16)	

Chi-square test;  $P \leq 0.05$

**Table No-3 KAP of the studied population in relation to their Demographic status**

SL.N	Characteristics		Knowledge	P value*	Attitude	P Value*	Practice	P Value*
1	Gender	Male	186 (54)	0.07	136 (40)	0.001	130 (38)	0.02
		Female	184 (60)		160 (52.5)		123 (40)	
2	Location	Urban	228 (63)	0.6	198 (55)	0.05	181 (50)	0.2
		Rural	149 (52)		184 (64)		132 (46)	
3	Instructions	English	148 (60)	0.47	187 (65)	0.0003	193 (67)	0.00
		Vernacular	209 (52)		249 (62)		169 (42)	
4	Schools	Government	202 (54)	0.22	218 (58)	0.765	154 (41)	0.002
		Private	178 (65)		178 (65)		156 (57)	

Chi-square test;  $P \leq 0.05$

**Table No-4 Oral health status of the studied population in relation to their KAP**

SL.N	Characteristics		D.C	P value*	Bleeding	P value*	Trauma	P value*
1	Knowledge	Satisfactory	143 (43)	0.395	47 (14)	0.48	87 (26)	0.724
		Unsatisfactory	148 (47)		51 (16)		79 (25)	
2	Attitude	Satisfactory	130 (44)	0.02	47 (16)	0.30	71 (24)	0.03
		Unsatisfactory	173 (49)		67 (19)		96 (27)	
3	Practice	Satisfactory	56 (22)	0.02	33 (13)	0.05	53 (21)	0.77
		Unsatisfactory	103 (26)		75 (19)		87 (22)	

Chi-square test;  $P \leq 0.05$

## DICUSSION

Oral health is as important as general health. Oral health knowledge, Attitudes and Practice among different groups are being continuously evaluated worldwide. As there is a constant change in the Knowledge, Attitude and Practice in almost all groups of

a population, hence there is a need to study the effects of oral health.

For ease in interpretation of the questionnaire, responses to Knowledge, Attitude and Practices were dichotomized in to satisfactory and Un-satisfactory. A cumulative score of less than one third for each component was considered an un-

satisfactory. We observed a caries prevalence of 48% with a mean dmft of  $4.8 \pm 1.2$  this finding is in accordance with national and regional averages.

The studied population showed 58% to be having satisfactory knowledge, where as 48% had implemented their knowledge in to practices, this gap between knowledge & implementation is reported in literature. The reasons for this trend in the studied population have to be elucidated. Further, knowledge scores were significantly better amongst urban children, whereas attitude and practice scores were higher for females & English medium private school children from urban areas. These findings are in contrast to the findings reported by Harikiran AG et al [22] who have reported same knowledge, attitude and practices amongst females irrespective of socio demographic characteristics. However similar findings also have been reported in literature. [23]

Over all practice scores were seen to be consistently higher amongst female, the probable reason could be that females are more punctual and meticulous in imparting their knowledge to practice. Knowledge score for three clinical parameters that were assessed in this study were the same However; we have observed that attitudes and practices are more important determinants for the clinical parameters studied.

Prevalence of trauma observed in our study was 30% (enamel-dentin fracture) in accordance to the reporting findings of Francisco SS et al. [24] A significantly higher percentage of dental trauma was observed among the male students, which is in agreement with reported findings of Rohini Dua & Sunil Sharma. [25]

We conclude that unless knowledge turns in to action in terms of changes in attitude and practices it is of no use.

## CONCLUSION

The knowledge scores were fairly uniform amongst the various parameters studied, however attitude and practices were

significantly favouring towards females, English medium children studying in private schools. The prevalence of dental caries was 48%, Prevalence of bleeding on probing was 30.15%, Prevalence of dental trauma 31% and prevalence of enamel fluorosis was 1.9%. Attitude and practices were significantly associated with respect to three clinical parameters that were studied though knowledge remained constant.

## RECOMMENDATIONS

We recommend that to improve Attitude and Practices more interactive sessions should be implemented at the school level. Oral health program can be integrated with already present school health programmes.

## REFERENCES

1. Chen MS. Children's preventive dental behaviour in relation to their mother's socioeconomic status, health beliefs, and dental behaviours. *J Dent Child.* 1986;53:105-109.
2. Friedman LA, Mackler IG, Hoggard GJ, et al. A comparison of perceived and actual dental needs of a selected group of children in Texas. *Community Dent Oral Epidemiol.* 1976;4:89-93.
3. McCaul KD, Glasgow RE, Gustafson C. Predicting levels of preventive dental behaviors. *J American Dent Assoc.* 1985;601-605.
4. Wright FA. Children's perception of vulnerability to illness and dental disease. *Community Dent Oral Epidemiol.* 1982;10:29-32.
5. Diwan S, Saxena V, Bansal S, Kandpal SD, Gupta N. Oral Health: Knowledge and Practices in Rural Community. *Indian J Comm Health.* 2011;22:29-33.
6. Al- Omiri M, Board, J, Al-Wahadni, AM, Saeed, KN. Oral health attitudes, knowledge and behavior among school children in North Jordan. *J Dent Educ.* 2005;70 (2):179-187.
7. Janjanin M. Planned health education in the prevention of caries. *Stomatol Glas Srb.* 2000;47(Suppl 1):25-27.
8. Igetic M, Apostolovi M, Kostadinovi L, Šurdilovi D, Trikovi-Janji O. Parental level of information about the effects of proper nutrition, oral hygiene and fluoride prophylaxis on dental health of

- seven-year olds. *Acta Stom Naissi*. 2005;21(50):447-456.
9. Chung MH, Kaste LM, Koerber A. Dental and medical students' knowledge and opinions of infant oral health. *J Dent Educ*. 2006;70(5):511-517.
  10. The status of school health. Report of the School Health Working Group and the WHO Expert Committee on Comprehensive School Health Education and Promotion. Geneva: World Health Organization; 1996.
  11. Kwan SY, Petersen PE, Pine CM, Borutta A. Health-promoting schools: an opportunity for oral health promotion. *Bulletin of the World Health Organization*. 2005 Sep;83(9):677-85.
  12. Marthaler TM, O'Mullane D, Vbric V. The prevalence of dental caries in Europe 1990-1995 (ORCA Saturday Afternoon Symposium 1995). *Caries Res*. 1996;30:237-255.
  13. Burt BA. Trends in caries prevalence in North American children. *Int Dent J*. 1994 Aug;44(4 Suppl 1):403-13.
  14. Beltrán-Aguilar ED, Estupiñán-Day S, Báez R. Analysis of prevalence and trends of dental caries in the Americas between the 1970s and 1990s. *Int Dent J*. 1999 Dec 1;49(6):322-9.
  15. Petersen PE, Christensen LB, Moller IJ, Johansen KS. Continuous improvement of oral health in Europe. *J Ir Dent Assoc*. 1993 Dec;40(4):105-7.
  16. World Health Organization. *Global Oral Health Data Bank*. Geneva: WHO, 2000.
  17. Bratthall D, Hänsel-Petersson G, Sundberg H. Reasons for the caries decline: what do the experts believe?. *Eur J Oral scie*. 1996 Aug 1;104(4):416-22.
  18. Petersen PE, Torres AM. Preventive oral health care and health promotion provided for children and adolescents by the Municipal Dental Health Service in Denmark. *Int J Paediatr Dent*. 1999 Jun 1;9(2):81-91.
  19. Källestål C, Wang NJ, Petersen PE, Arnadottir IB. Caries-preventive methods used for children and adolescents in Denmark, Iceland, Norway and Sweden. *Community Dent Oral Epidemiol*. 1999 Apr 1;27(2):144-51.
  20. Szoke J, Peteren PE. Evidence for dental caries decline among hidren in an East European country. *Community Dent Oral Epidemiol*. 2000;28(2):155-160.
  21. World Health Organization. *Oral health surveys: basic methods*. World Health Organization; 2013.
  22. Harikiran AG, Pallavi SK, Hariprakash S, Nagesh KS. Oral health-related KAP among 11-to 12-year-old school children in a government-aided missionary school of Bangalore city. *Indian J Dent Res*. 2008 Jul 1;19(3):236.
  23. Oliveira ER, Narendran S, Williamson D. Oral health knowledge, attitudes and preventive practices of third grade school children. *Pediatr dent*. 1999 Dec;22(5):395-400.
  24. Francisco SS, de Souza Filho FJ, Pinheiro ET, Murrer RD, de Jesus Soares A. Prevalence of traumatic dental injuries and associated factors among Brazilian schoolchildren. *Oral health prev dentistry*. 2013 Jan 1;11(1).
  25. Dua R, Sharma S. Prevalence, causes, and correlates of traumatic dental injuries among 7-12 year old school children in Dera Bassi. *Cont Clin Dent*. 2012 3(1):30-41.

How to cite this article: Shareef M, Fareed N, Battur H et. al. Oral health Knowledge, Attitude and Practice and its relation to oral health status among 12-year old school children of Sullia Taluk. *Int J Health Sci Res*. 2017; 7(3):160-166.

\*\*\*\*\*