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A Web Based Cross Sectional Survey to Assess the Knowledge, Attitude and Practice towards Oral Health among 8-14 Year Old School Children of Private School Of Udaipur City, Rajasthan, India

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ABSTRACT: **Aim:** The study was conducted to assess the oral hygiene Knowledge , Attitude and Practice (KAP) among 8-14 years old, School Going children in Udaipur city of Rajasthan, India.
Materials and Methods: The study was conducted among selected school children in the age group of 8-14 years. About 215 children were selected both boys and girls who were present in the online class of the data collection days. The children's answered questionnaire regarding oral Hygiene KAP among school going children in the Google form.
Results: Overall the level of knowledge and attitude score was statistically significant with P< 0.05. About 215 children were participated including 123(57.21%) male and 92(42.79%) female children through online lecture session. 45.59% of surveyed children clean teeth once per day and 61.86%of children uses toothpaste and tooth brush to clean teeth.($p<0.05$)
Conclusion: The overall level of oral health knowledge among the surveyed children was low. Significant results were found for boys and girls knowledge, attitude and practice towards oral health. Therefore it is needed to add oral health in school curriculum, and to arrange seminars and health camps in school time to time to enhance children's knowledge, attitude and practice towards oral health.
KEYWORDS: KAP study, Oral Health, Knowledge, Attitude, Practice, Gums

I. INTRODUCTION

Oral Health is an integral part of overall health and well-being and is a fundamental human right without distinction of race, religion and political belief, economic and social condition, age groups, sex, education etc. A healthy mouth helps an individual to talk, eat and socialize without experiencing any discomfort. Health is defined as a state of complete physical, mental and social well-being and not merely the absence of disease. According to the WHO, "Promotion of oral health is cost-effective strategy to reduce the burden of oral disease and maintain oral health and quality of life."[1]

Dental caries, periodontal diseases, and oral cancer are among the most prevalent dental diseases affecting people globally including Indians.[2] In an epidemiological study prevalence of dental carries was found as high as 60-80% in children.[3] Which is a major public heath problem in India. Most of the time of children was spent in schools (7-8 hours) and the school is an ideal place for learning and growing up.

Oral Health status of an individual, general population or particular group depends on nutritional status and it can be determined by various factors like life style, dietary habits, socio-economic status, occupational environment, genetic predisposition , developmental problems, poor oral hygiene, traumatic incidents and the quality of life is reduced due to loss of teeth and intraoral diseases.[4,5,6] Poor oral health creates significant effects on general health and maintaining hygiene of one's own and also of the surroundings helps in creating a healthy environment for the entire society.[7] In previous studies it has been shown that Indian children have low level of oral health awareness and practice as compared to their western counterparts.[8] Hence the current study was conducted to provide the baseline data regarding Oral Health status and the factor affecting it with the aim of knowing their awareness level regarding Oral Health.

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OBJECTIVE

To study the knowledge , attitude and practice towards oral health among the school children of age group 8-14 years.

II. MATERIAL AND METHODS

Study Design:

This study was conducted to assess the Knowledge, Attitude and Practice (KAP) towards oral health among 8 to 14-year-old school children studying in a private school of Udaipur City, Rajasthan. A web based cross sectional study was conducted during 1st august to 10th August using Google form. A link was provided to the school teachers, and they were asked to send this link to students of their respective standards.

Data collection:

A total of 215 school children (Boys:123; Girls: 92) were selected for the study. Age group 8-14 years was selected for the study with the intention that the baseline data collected will be used for future planning of a school oral health programs which will be for duration of 2 years. All the children in the age group of 8-14 years who were present online on those days of data collection were included in the study. Consent for participation of school children was obtained from the principal of the school.

Data on oral health Knowledge, Attitude and Practice (KAP) was collected by means of 18 self-administered close-ended questionnaires. The questionnaire was pretested by conducting pilot study among 5% of sample size to assess the children's ability to understand the questions and answer them without any help. As it was English Medium School, questionnaire was pre paired in English only. It took about 20 min to all the questionnaires. Interpersonal communication, parent's guidance was not allowed and the children were informed of the importance of answering the questions honestly in the online class. Questionnaires were completed under the supervision of investigator online.

Statistical Analysis:

Data collected regarding oral hygiene KAP had been subjected for Statistical Analysis using M.S.Excel. Chi Square test was applied to test the significant association between qualitative variable with significant p value< 0.05

III. RESULTS

The study was conducted to assess the oral hygiene KAP among 8-14 years old, school going children in Udaipur city of Rajasthan , India. About 215 children were participated including 123(57.21%) male and 92(42.79%) female children through online lecture session.

Table1: Demographic profile of study participants

Demographic Data	Options	Total participants N=215 (%)	Boys N=123 (%)	Girls N=92 (%)
Father's Education	Illiterate	9(4.19)	6(4.88)	3(3.26)
	Schooling	6(2.79)	1(0.81)	5(5.43)
	Graduate	146(67.91)	94(76.42)	52(56.52)
	Post Graduate/Doctorate	54(25.12)	22(17.89)	32(34.78)
Mother's Education	Illiterate	15(6.98)	7(5.69)	8(8.69)
	Schooling	19(8.84)	3(2.44)	16(17.39)
	Graduate	168(78.14)	109(88.62)	59(64.13)
	Post Graduate/Doctorate	13(6.05)	4(3.25)	9(9.78)

Table 1 showed that in present study out 0f 215 participants 123(57.21%) were boys and 912(42.79%) were girls. Majority of the boy's fathers (76.42%) and mother (88.62%) were graduated. Whereas almost half of the girl's fathers (56.35%) and mothers (64.13%) were graduated.

Table 2 : Knowledge of oral health status among study participants

Questions	Options	Total participants N=215 (%)	Boys N= 123 (%)	Girls N= 92 (%)	Chi Square value	P value
How would you describe health	Very Good	64(29.77)	29(23.58)	35(38.04)	7.37	0.11
	Good	114(53.02)	75(60.98)	39(42.39)		

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of your teeth and gums	**Average**	31(14.42)	15(12.20)	16(17.39)		
	Poor	7(3.26)	3(2.44)	4(4.35)		
	Very poor	2(0.93)	1(0.81)	1(1.09)		
Are you satisfied with the appearance of your teeth	**Yes**	178(82.79)	104(84.55)	74(80.43)	0.62	0.42
	No	37(17.21)	19(15.45)	18(19.57)		
Do you avoid smiling and laughing because of your teeth?	**Yes**	29(13.49)	6(4.88)	23(25)	18.26	0.00*
	No	188(6.51)	117(95.12)	69(75)		
Do other children make fun of your teeth	**Yes**	6(2.79)	1(0.81)	5(5.43)		
	No	26(12.09)	18(14.63)	8(8.70)		
	Don't know	183(85.12)	104(84.55)	79(85.87)		

*p value<0.05 ; Significant

Table 2 showed that 60.98% boys described their tooth and gums condition good followed by 23.58%boys described very good. Whereas 42.39% of girls described their tooth and gums condition good followed by 38.04% said very well. Most of the boy's (84.55%) and girls (80.43%) were satisfied with the appearance of their teeth. Which was not statistically significant.($p>0.05$) Almost all 95.12% boys and 75% girls refuse the reason of avoiding smiling laughing due to their teeth.($p<0.05$)

Table 3: Knowledge and Attitude towards oral health among study participants

Questions	**Options**	**Total participants N=215 (%)**	**Boys N=123 (%)**	**Girls N=92 (%)**	**Chi Square value**	**P value**
Who give information regarding oral health?	**Friends**	49(22.79)	23(18.70)	26(28.26)	23.55	0.00*
	Parents/Relatives	57(26.51)	24(19.51)	33(35.87)		
	TV/Social Media	84(40)	52(42.28)	32(36.96)		
	Dentist	25(10.70)	24(19.51)	1(1.09)		
Tooth decay can make me look bad	**Agree**	97(45.12)	38(30.89)	59(64.13)	23.48	0.00*
	Disagree	118(54.88)	85(69.11)	33(35.87)		
Keeping natural teeth is not very important	**Agree**	31(14.41)	19(15.45)	12(13.04)	0.24	0.62
	Disagree	184(85.58)	104(84.55)	80(86.96)		
Do you afraid of going to a dentist because of possible pain?	**Agree**	36(16.74)	8(6.50)	28(30.43)	21.62	0.00*
	Disagree	179(83.26)	115(93.50)	64(69.57)		
Regular visits to the dentist keep dental problems away	**Agree**	194(90.23)	110(89.43)	84(91.30)	0.21	0.65
	Disagree	21(9.77)	13(10.57)	8(8.70)		
Brushing teeth regularly can prevent tooth decay and gum	Agree	209(97.21)	119(96.75)	90(97.83)	0.22	0.63
	Disagree	6(2.79)	4(3.25)	2(2.17)		

disease						
Eating and drinking more sweet and soda things does not cause tooth decay	Agree	89(41.40)	74(60.16)	15(16.30)	41.73	0.00*
	Disagree	126(58.60)	49(39.84)	77(83.70)		

*p value<0.05 ; Significant

Table 3 showed that 40% of the study participants come to know about oral health from TV and social media including 42.28% boys and 36.96% girls. Followed by 26.51% of study participants got information by parents /relatives. While only 10.70% got information from dentist (p<0.05).Almost half 45.12%participants agreed that they may look bad due to tooth decay, out of that only 30.89% boys and 64.13%of girls felt same, which found statistically significant (p<0.05). Majority of boys (84.55%) and girls (86.96%) believe that keeping natural teeth is very important. Very few 16.74% of participant afraid of going to dentist because of possible pain (p <0.05).Most of the boys (89.43%) and girls (91.30%) visits dentist regularly. Very few boys(3.25%) and girls (2.17%) were disagree to believe with brushing can prevents tooth decay and gums disease. Most of the girls 83.70% believe that eating and drinking more sweets soda cause tooth decay than the boys (39.84%) (p<0.05).

Table 4: Practice toward oral health among study participants.

Questions	Options	Total Participants N=215 (%)	Boys N=123 (%)	Girls N=92 (%)	Chi Square value	P value
How often do you brush your teeth	**Once a day**	98(45.59)	77(62.60)	21(22.83)	39.00	0.00*
	Twice a day	84(39.07)	37(30.08)	47(51.09)		
	Once a weak	28(13.02)	6(4.88)	22(23.91)		
	Sometimes	3(1.40)	2(1.63)	1(1.09)		
	Never	2(0.93)	1(0.81)	1(1.09)		
Do you use tooth paste containing fluoride	**Yes**	62(28.83)	47(38.21)	15(16.30)	12.73	0.002*
	No	31(14.42)	17(13.82)	14(15.22)		
	Don't know	122(56.74)	59(47.97)	63(68.47)		
Do you use any of the following to clean your teeth	**Toothbrush + Toothpaste**	133(61.86)	72(58.54)	61(66.30)	7.40	0.06
	Dental floss	23(10.70)	12(9.76)	11(11.96)		
	Mouth wash	54(25.12)	38(30.89)	16(17.39)		
	Finger	5(2.33)	1(0.81)	4(4.35)		

*p value<0.05 ; Significant

Table 4 showed that 45.59%that is almost half of the study participants do brush once a day, followed by 39.07%of participants do brush twice a day. In particular 62.60% of boys do brush once a day where as 51.09%of girls do brush twice a day (p<0.05). 56.74%of participant was not aware about the fluoride content of toothpaste they used, but 38.21%of boys used fluoride toothpaste (p <0.05). Majority of the study participants 61.86% use toothbrush and toothpaste both to clear teeth including 58.54% boys and 66.30% girls, followed by 25.12% uses mouthwash, followed by 10.70% uses dental floss and only 2.33% uses finger to clean teeth (p>0.05).

IV. DISCUSSION

In present study total of 215 children including 123(57.21%) boys, and 92(42.79%)girls were included to conduct the study based on Knowledge , Attitude and Practice (KAP) towards

oral health among school children of age group 8-14 years.

The mean age of study participants is 12.6 years. In the present study, 4.19% and 6.88% of fathers and mothers of the study participants were illiterate.(Table 1) This is contradict to the data from National oral health survey and fluoride mapping, India, where it was 17.4% and 28.1% for males and females in the age group of 35-44 years.[9]

In the present study, Table 2 showed that 60.98% boys described their tooth and gums condition good followed by 23.58%boys described very good. Whereas 42.39% of girls described their tooth and gums condition good followed by 38.04% said very well. Also 3.26% of participants answered that health of their teeth was poor which was very less when compared to a previous study by Benoit Varenne et al.[10] where it was 63%.

In present study, most of the boy's (84.55%) and girls (80.43%) were satisfied with the appearance of their teeth. Which was not statistically significant.($p>0.05$) Almost all 95.12% boys and 75% girls refuse the reason of avoiding smiling laughing due to their teeth.($p<0.05$)

It was found that only 13.9% of study participants avoided smiling and laughing because of their

Bad looking teeth which was in contrast to study by Petersen et al. (20%) and approximately similar result with the findings of study by Varenne et al. (8%).[10,11]

According to table 3, in present study the 40% study participants received information regarding oral health mainly from television and social media including 42.28% boys and 36.96% girls. Followed by 26.51% of study participants got information by parents /relatives. While only 10.70% got information from dentist ($p<0.05$). This results agrees with the results of the study by Jamjoum.[12] In contrast to this, in other study by Varenne et al. many children living in urban areas received oral health information from their parents; the reason for this difference may be because parents of the children had high level of education when compared to the present study.[10]

In present study (Table 3),almost half 45.12% participants agreed that they may look bad due to tooth decay, out of that only 30.89% boys and 64.13%of girls felt same, which found statistically significant ($p<0.05$). Majority of boys (84.55%) and girls (86.96%) believe that keeping natural teeth is very important. Most of the boys (89.43%) and girls (91.30%) visits dentist regularly. This result is similar to study by Varenne et al. where majority of children in urban areas reported that tooth cleaning and regular dental visits may prevent oral disease.[10] Very few 16.74% of participant afraid of going to dentist because of possible pain ($p <0.05$). Very few boys(3.25%) and girls (2.17%) were disagree to believe with brushing can prevents tooth decay and gums disease. Most of the girls 83.70% believe that eating and drinking more sweets soda cause tooth decay than the boys (39.84%) ($p<0.05$),which was high than the study by Varenne

et al. (57%).[10]

In present study, Table 4 showed that 45.59 % that is almost half of the study participants do brush once a day, followed by 39.07%of participants do brush twice a day. In particular 62.60% of boys do brush once a day where as 51.09%of girls do brush twice a day ($p<0.05$). This finding is similar to that observed in some industrialized countries of East Europe but low when compared to Western industrialized countries.[13,14] But high than a study done by Harikiran et al in which 38.5% children brushes twice a day.[15]

In present study (Table 4) 56.74% of participant was not aware about the fluoride content of toothpaste they used, but 38.21%of boys used fluoride toothpaste ($p <0.05$). Majority of the study participants 61.86% use toothbrush and toothpaste both to clear teeth including 58.54% boys and 66.30% girls, followed by 25.12% uses mouthwash, followed by 10.70% uses dental floss and only 2.33% uses finger to clean teeth ($p>0.05$).

V. CONCLUSION

The present study indicates that education of participant's parents education is mainly limited to high school education. Results of this present study suggest that oral health Knowledge, attitude and practice (KAP) among study participants are poor and needs to be improved. Findings of KAP study was not satisfactory due to lack of poor oral hygiene practices, lack of parental guidance, with the lack of knowledge .

VI. RECOMMANTIONS

Oral health education programs could be included in school curriculum for the children in order to enhance the awareness among children to impact positive attitude towards oral health and keep that practicing in day to day life.

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Ethical Approval: Institutional ethical approval not required due to only KAP study.

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