

# Utility of Knowledge and Practice Survey of Dental Caries among 10 to 13 Year Old Children Visiting Saveetha Dental College

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**Abstract:** ***Aim:** The aim of this survey is to assess the knowledge, attitude and measures taken to maintain the oral health by 10 to 13 year old children visiting saveetha dental college. **Materials and method:** 150 children who were visiting saveetha dental college were selected using random sampling method. Prevalence of dental caries was determined using decayed, missing, and filled permanent teeth (DMFT) index. A self-administered questionnaire on self-care practices in oral health, knowledge, and attitude was filled by children. The association of different variables with knowledge was analyzed using binary logistic regression analysis. **Results:** The dental caries prevalence was 59.4%, and 54.5% had low knowledge. They lacked knowledge regarding use of fluoridated toothpaste and did not use them. There was no association of other oral health care practices and attitudes with knowledge. **Conclusion:** Oral health care practices and attitudes are not fully explained by knowledge, and other models of health education need to be considered.*

**Keywords:** dental knowledge; health practice; dental caries

## 1. Introduction

The objectives of the study were the following;

- To determine the prevalence of dental caries in 10- to 13-year-old children visiting saveetha dental college.
- To determine the level of knowledge and oral health care practices of these children.
- To determine the association of knowledge with oral health care practices, and prevalence of dental caries within the study sample.

## 2. Materials and Methods

The study was a cross-sectional epidemiologic survey of 10- to 13-year-old children visiting saveetha dental college. Children who had a history of chronic systemic diseases or mental disorders were excluded. A total of 150 children were invited to participate in the study.

Dental caries prevalence was determined using the decayed, missing, and filled teeth (DMFT) index, all examinations being done by a single trained examiner. The survey instrument was a self-administered questionnaire consisting of 12 questions. The questionnaire contained questions on self-care practices in oral health such as maintenance of oral hygiene, frequency of consumption of sugary foods, knowledge towards oral health care as well as sources of information on oral health. The ability of the children to understand the questionnaire was assessed and minor

changes in terminologies were done based on responses. The questions were in English.

The questionnaire was given to the children under the supervision of the dentist to ensure that all questions were answered by the children.

Data were entered using SPSS package 11.5 and descriptive data were obtained. Chi-square test was used in statistical evaluation of bivariate frequency distributions. Multivariate binary logistic regression analysis was done to find the association of knowledge with attitude, oral health practices, and dental caries prevalence.

## 3. Result

There were five questions on knowledge regarding oral health care to prevent dental caries, with three answer options – true, false, and do not know (Table 1). Children who gave at least four correct answers were categorized as belonging to the high knowledge group and those with a score of three and below were considered to be of low knowledge. Overall, 44.5% had high knowledge and the remaining 55.5% had low knowledge. The majority of children contended that the source of their knowledge on oral health were parents, (68.6%) followed by dentists (43.5%) and teachers (13.5%). The influence of television (10.7%), newspapers (8.9%), and friends (6.1%) was to a lesser extent in this regard.

S.NO		True (%)	False (%)	Don't know (%)
1	Regular dental check-ups are necessary	64.20%	17.40%	18.40%
2	Brushing teeth can prevent decay	60%	31.10%	8.90%
3	Flossing teeth can prevent tooth decay	29.70%	9.60%	60.70%
4	Use of fluoride prevents tooth decay	19.90%	14.70%	65.40%
5	Eating and drinking sweet food does not cause decay	15.50%	70.40%	14.10%

A large section of the study population brushed twice daily using a toothbrush and toothpaste, taking greater than 3 minutes for brushing. Sixty percent changed toothbrush every 1–3 months. Bivariate analysis revealed no statistically significant differences with regard to oral hygiene practices between children with high and low knowledge. Most were not aware whether they used fluoridated/non-fluoridated toothpaste (78%) and the lack of awareness was significantly more in the low knowledge group (Table 2).

Table 2. Percentage distribution of various oral hygiene practices according to the level of knowledge	High knowledge (%)	Low knowledge (%)	N (%)
<b>Tooth brushing frequency per day</b>			
Never	0	0.4	0.2
Once	16.2	19.2	17.8
Twice	83.8	80.4	81.9
<b>Brushing time</b>			
Morning	17.9	20.9	19.6
Morning & night	7.9	76.5	77.6
After every meals	6.1	4.7	5.3
<b>Materials used for tooth brushing</b>			
Tooth paste	96.4	95.3	95.8
Tooth powder	2.6	2.6	2.6
Others	1.1	2.1	1.6
<b>Type of tooth paste used</b>			
Fluoridated	22.8	12.6	17.2
Non- fluoridated	55.6	3.2	3.8
Don't know	22.1	84.2	78.9
<b>Use of tooth brush</b>			
Yes	97.7	97.2	97.4
Finger	2.3	2.8	2.5
<b>Time spent on brushing</b>			
Less than 3 mins	36.4	34.6	34.8
More than 3 mins	63.6	65.4	63.8
<b>Frequency of changes of tooth brush</b>			
1-3 months	63.3	57.3	60
4-6 months	16	16.2	16.4
7-12 months	3.1	6.2	4.8
After one year	2.6	3	2.8
Don't know	14.4	17.3	15.9

#### 4. Discussion

In the present study, effort was made to understand the level of knowledge and practices of oral health care for prevention of dental caries. The majority of the study population exhibited lack of awareness regarding use of fluoride, use of dental floss, and regular dental visits. A positive association between low knowledge and presence of dental caries was seen, which is self-explanatory. It is said that children with inadequate oral health knowledge are twice more likely to have caries<sup>(1)</sup>.

Children with low knowledge were found to be afraid of visiting the dentist and perceive dental appointments as unpleasant and therefore tend to visit the dentist for curative rather than preventive purposes. Lack of awareness among children may be a direct outcome of parental awareness and attitude. Children who have not been exposed to regular dental visits tend to be more afraid of dental visits<sup>(2)</sup>.

The examinations of the dental caries status were done according to WHO standard criteria. However, examination under daylight could have resulted in underestimation of

dental caries<sup>(3)</sup>. The information on oral health knowledge and behavior was collected by means of questionnaire, but this data collection method has its limitations. This method assumes that knowledge and behaviors are absolute, but under condition of uncertainty, the individual may be biased, leading to inflated positive responses<sup>(4)</sup>. Further, this is a cross-sectional study and hence a definite cause and effect of low knowledge with the prevalence of dental caries or oral health practices cannot be established. However, the study gives a possible association of the existing knowledge in the study population with the study variables.

#### 5. Conclusions

The following were the conclusions of the study:

- Low knowledge is associated with the presence of dental caries, non-use of fluoridated toothpaste, and fear of visiting dentist due to possible pain.
- Higher knowledge may not always result in the right attitude and oral health care practices. Accordingly, other oral health education models based on psychology or social learning theories such as the Health Belief model and the Transtheoretical model may be considered.

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