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Knowledge of Mother Regarding Oral Health of Preschool Children in the Kamrup District of Assam

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ABSTRACT

Children under the age of 5, generally spend most of their time with their parents and guardians, especially mothers, even when they attend preschools or nurseries. It has been found that young children's oral health maintenance and outcomes are influenced by their parent's knowledge and awareness. The present study was undertaken to assess the knowledge of mothers regarding the oral health of their preschool children; residing under Hajo Block Primary Health Centre in the Kamrup (R)district of Assam. A cross sectional descriptive study was undertaken among 160 mothers of children aged between 36 months to 71 months chosen on simple random (lottery method) sampling technique for which the study period was from September to December, 2014. The data collection instrument was a structured interview schedule composed (in Assamese) and delivered directly through face to face interview. The findings of the study revealed that regarding knowledge on oral health, majority (67.5%) had moderately adequate knowledge, 22.5% had adequate knowledge and 10.0% had inadequate knowledge. In regards to knowledge on dietary practices, majority of the mothers (66.25 %) have moderately adequate knowledge followed by adequate (25%) and 8.75% have inadequate knowledge. Further, the study revealed a significant association between knowledge and age, educational qualification of fathers and mothers. The findings of the study demonstrated that there is lack of knowledge regarding oral health among the mothers of preschool children. Therefore, if oral health promotion efforts are to be effective in improving the oral health of young children, it is essential that there should be a good understanding of parental and caregiver's knowledge and attitudes.

Keywords*: Oral health, preschool children, mother*

INTRODUCTION

Oral health is an integral component of preschool health and well-being. Unfortunately, many children are afflicted with dental caries at an early age, as young as 12months.[1, 2]The first sign of dental caries lesions in infants who develop Early Child hood Caries (ECC) is the appearance of white demineralization areas in the cervical regions of the maxillary anterior teeth. This serves to indicate high caries lesion activity in children.[3, 4]The appearance of a single caries lesion on any tooth surface in an infant or toddler must be considered a serious health problem. It has been stated that ECC can be defined as the occurrence of any sign of dental caries lesions on any tooth surface during the first 3 years of life.[5, 6]

The prevalence of caries lesions is a multi factorial disease. These factors include susceptible tooth and host, fermentable carbohydrates in the diet, cariogenic micro organisms, and time.[5] Children with caries lesions in the primary dentition have a greater chance of developing caries lesions in the permanent dentition than children who are caries lesion free in the primary dentition.[7, 8] Initial primary incisor caries lesions before 4 years of age

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is a risk factor for future dental caries lesions.[9] India, with a population that exceeded 1 billion in 2001, is the second most populous nation in the world where eighty percent of the population lives in rural areas.

Studies using phenotyping and/or genotyping methods strongly suggest that mother is the major primary source of infection for children.

Improper feeding practices by mothers/caregivers increase the risk for the development of early childhood caries in infants and toddlers, by promoting the early establishment of S. mutans in the oral cavity.[10]

Children under the age of 5 generally spend most of their time with parents and guardians, especially mothers, even when they attend pre-schools or nurseries. These early years involve "primary socialization" during which the earliest childhood routines and habits are acquired[11] These include dietary habits and healthy behaviors established as norms at home and are dependent on the knowledge and behavior of parents and elder siblings. Studies have reported that poor attitude of parents toward oral health of infants and young children are associated with increased caries prevalence.[12]

It has been found that a more positive parents' knowledge and attitudes toward dentistry; the better will be the dental health of their children.[13] Young children's oral health maintenance and outcomes are influenced by their parent's knowledge and beliefs, which affect oral hygiene and healthy eating habits. Without basic knowledge of caries risk factors, importance of the deciduous teeth and oral maintenance, it is difficult to employ effective disease preventive strategies.[14, 15] Parent's knowledge and positive attitude towards good dental care is very important in the preventive cycle. The aim of the present study was to assess the mother's knowledge about the oral health of their pre-school children under Hajo Block Primary Health Centre in Kamrup (R) district of Assam.

OBJECTIVES

The present study intended : (1) To assess the knowledge of mothers of preschool children on oral health and (2) To find out the association between knowledge on oral health among the mothers of preschool children and some selected variables.

MATERIAL AND METHODS

A cross sectional descriptive study was undertaken among 160 mothers.The sampling frame for this study comprised of mothers of the children aged between 36 months to 71 months and who are residing under Hajo Block Primary Health Centre in Kamrup(R) district of Assam.Mothers were selected by simple random (lottery method) sampling technique.The tool used for data collection consists of the following:

Part 1. Demographic characteristics: It consists of ten items which includes age, gender, religion, type of family, history of oral-dental problems, father's and mother's educational qualification. There was no scoring for these items.

Part 2. Knowledge questionnaire: This part of the questionnaire contains items related to knowledge on pre-school child's oral health. It consists of 20 items. The areas selected were:

(a) Diet and dietary practices

(b) Oral hygiene practices

The subjects were requested to choose and mark (") in the most appropriate option (answer). Four options were provided for each item. Each correct answer carried a score of one and each wrong answer carried a zero. The maximum score was 20. Based on the scores the knowledge levels were ranged in **Table 1.**

Table 1 Knowledge level of Participants

Grade knowledge	Score range
Adequate (Mean +SD)	Above 12
Moderate (Mean – SD to Mean + SD)	6-12
Inadequate (Mean – SD)	Below 6

DATA ANALYSIS AND INTERPRETATION

All the items in the tools were coded and transferred to a master sheet for computer programming. Statistical analysis has been performed by using SPSS software version 18.0 to analyze the data. Frequency and percentage distribution was used to describe the demographic variables. The Chi square (X^2) test was applied to determine the association between the knowledge of the mother and selected socio demographic variables. Significance levels was fixed at 95% confidence intervals (p value <0.05).

Section I: Demographic Characteristics

The study showed that most of the children (38%) were between the age group of 48 to 59 months, 34% were

between 60 to 71 months and 28% were between 36 to 47 months of age. Sex wise distribution shows that majority of the school children (65%) were male and 35% were female. Findings on religion showed that majority of the children (89%) were Hindu. In relation to type of family, 80% belonged to nuclear family and 20% belonged to joint family. Father's educational level of majority of the children was higher secondary (47%), followed by graduate and above (37%). Mother's educational level was as follows; secondary 30%; upto higher secondary 33%; graduate and above 23%, upto primary education 8% and illiterate 6%. Forty eight percent of preschool children had no history of oral/dental problems whereas 52% had a history of oral/dental problems.

Section II: Knowledge on oral health among mothers

Table 2 Distribution of mother according to their level of knowledge (n=160)

Level of knowledge	Score range	Percentage (%)
Adequate	Above 12	22.5
Moderate	6-12	67.5
Inadequate	Below 6	10.0

Data presented in **Table 2** shows overall knowledge on oral health. Majority (67.5%) had moderately adequate knowledge followed by 22.5% adequate knowledge and only 10% had inadequate knowledge. Thus, the findings indicate that there is lack of knowledge on oral health among the mothers. The above data is presented diagrammatically below:

Table 3 Range, mean, median, standard deviation of knowledge of subjects on oral health (n=160)

Statistics	Value
Range	13
Mean	8.90
Median	9.00
Standard deviation	±2.932

The data presented in the above table shows that the range of knowledge scores i.e.13, mean (8.90), median (9.00) and standard deviation (±2.932)

Table 4 Distribution of mother according to knowledge on diet and oral hygiene

Knowledge	Diet	Oral hygiene
Inadequate knowledge	14(8.75%)	18(11.25%)
Moderately adequate	106(66.25%)	110(68.75%)
Adequate	40(25%)	32(20%)

From table 4 it is observed that majority of the mothers (66.25 %) had moderately adequate knowledge on dietary practices for their child followed by adequate (25%) and inadequate knowledge (8.75%). Regarding knowledge on oral hygiene it was observed that 68.75% have moderately adequate knowledge, 20% of them have adequate and 11.25% of mothers have inadequate knowledge.

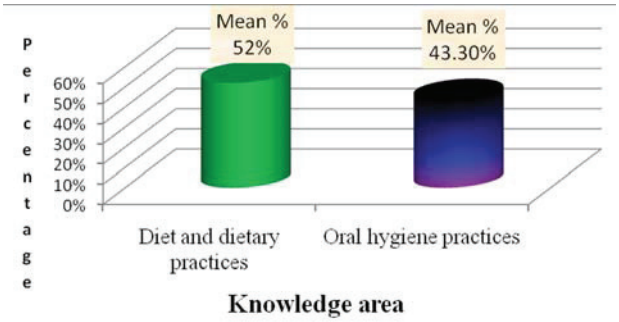

Figure 1 Bar diagram shows distribution of knowledge scores by mean percentage according to knowledge areas.

Table 5 Association between knowledge on oral health and selected socio-demographic variables

Variables	Category	Chi square value	Df	p-value	Signi-ficance
Child age (in months)	36-47 48-59 60-71	17.02	2	0.000	S
Gender	Male Female	0.52	1	0.453	NS
Religion	Hindu Muslim Others	0.658	1	0.455	NS
Type of family	Nuclear family Joint family	0.261	1	0.577	NS
Father's education	Illiterate Primary Secondary Higher secondary Graduate and above	15.51	3	0.000	S
Mother's education	Illiterate Primary Secondary Higher secondary Graduate and above	31.60	4	0.000	S
History of oral or dental problems	Yes No	1.056	1	0.304	NS

The findings showed that the relationship of knowledge on oral health with the demographic variables included in the study. Chi-square values for gender, religion, type of family, history of oral and dental problems are 0.473, 0.455, 0.687 and 0.304 respectively which are not significant at 0.05 levels. Therefore, it indicates that knowledge on oral health among the mothers of preschool children is independent of the above selected demographic variables.

However, Chi-square (x^2) values for age, father's and mothers' educational qualification are 0.000, 0.000 and 0.000 respectively which are significant at p value 0.05 level. Therefore, it can be concluded that there exists a relationship between these factors with the knowledge on oral health.

DISCUSSION

The present study found that regarding overall knowledge on oral health, only 22.5% of mothers had adequate knowledge, majority (67.5%) had moderately adequate knowledge and 10% had inadequate knowledge. The finding of the present study is consistent with the study conducted by B Kanmani on effect of oral care on oral hygiene among children in Kancheepuram District, Tamil Nadu. The results show that 86% of children had inadequate knowledge and 14% had moderately adequate knowledge on oral care.[17]

In the present study it was revealed that majority of the mothers (66.25 %) were having moderately adequate knowledge on dietary practices for their child followed by adequate (25%) and inadequate knowledge (8.75%). The mothers were having moderately adequate knowledge, i.e. 68.75%, 20% of adequate and 11.25% of inadequate knowledge regarding oral hygiene. Similar results were reported by Lin *et al*, [16] and Pradeep Kumar *et al*.[17] Majority of the mothers had good knowledge regarding the role of diet in oral health; they believed that sweet snacks and sweet drinks contribute to caries.

Oliveira ER, Narendran S, Williamson D conducted a study among the third grade school children in Harris County, USA which revealed that most children reported "fairly adequate" oral hygiene habits (58%) and oral health knowledge (48%), and "adequate" dietary patterns (59%) which indicates that there is a need to improve oral health knowledge and preventive practices. These studies support the findings of the present study in terms of lack of knowledge among the school children regarding oral health and hygiene. [18] Some other study found that the mean literacy score was 15.8 (SD = 5.3; range = 1-30). Adjusted for age, education, and number of children, low literacy scores (< 13 REALD-30) were associated with decreased knowledge (OR = 1.86; 95% CI = 1.41, 2.45) and poorer reported oral health status (OR = 1.44; 95% CI = 1.02, 2.05). Lower caregiver literacy was associated with deleterious oral health behaviors, including nighttime bottle use and no daily brushing/cleaning.[19]

The present study revealed that Chi-square (x^2) values for age, father's and mothers' educational qualification are 0.000, 0.000 and 0.000 respectively which are significant at p value 0.05 level. A similar study conducted by Chun-Hung Chu, Ping-Lit Ho, and Edward CM Lo and found that statistically significant at 0.005 level (F=19.300) for mother's educational level.[20] The result indicates that better knowledge is observed in school children whose mothers are more educated.

CONCLUSION

Nurses have a very important role to play in the early detection, treatment and prevention of diseases and also to enable individual and families to attain and maintain the highest possible level of health. The ultimate goal of nursing intervention is to help people to help themselves.

Administrators in nursing service both in the hospital and community should initiate and organize in-service education programs so that practicing nurses are kept up-to-date with advances in the field of nursing. The need for research among nurses has been recognized. Research will provide nurses the credibility to influence the health policy.

The study was conducted to find out the existing knowledge of mothers regarding oral health of their children which was found to be lacking. If oral health promotion efforts are to be effective in improving the oral health of young children, it is essential that there should be a good understanding of parental and caregiver's knowledge and attitudes. Such findings may help to guide and modify current and future oral health prevention activities. Therefore, regular school health programme and also regular dental health check up needs to be organized in the community.

Ethical Clearance: Taken.

Conflict of Interest: None declared.

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