



## Association between mothers knowledge and oral health of children

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### Abstract

Mothers should have sufficient knowledge of understanding the value of maintaining oral health. Mother is the decision makers in matters of health-care for children; thus, they play an important role in achieving the best oral health outcomes for their young children. A descriptive cross-sectional study was carried out at three schools in Dhaka city in Bangladesh to assess the level of knowledge among 131 mothers about children oral health. Face to face interview was carried out with the semi-structured questionnaire. Purposive sampling technique was used to collect data on the basis of inclusion and exclusion criteria and written consent was taken prior to interview. Mean±SD age was 27.16±6.45 years. About 30.50%, 27.50%, 22.90% and 16.80% of respondents were HSC, graduate, SSC and illiterate respectively. About 61.1%, 31.3% and 7.6% respondents had moderate, good and poor knowledge on brushing pattern respectively. Moreover 47.3%, 38.2% and 14.5% respondents had moderate, poor and good knowledge on deciduous and permanent tooth respectively. Strong significant association was found between education of respondents and knowledge on brushing pattern. Significant association was found between education of respondents and knowledge on deciduous and permanent tooth.

**Keywords:** Children, Dhaka city, Knowledge, Mother, Oral health, Relationship.

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**Contribution of this paper to the literature**

This is the first study to assess level of knowledge about child's oral health among the mother living in Dhaka city to reduce physical and financial burden of children and to prevent oral diseases too. The best of my knowledge very few studies have been conducted regarding this issue so far. This study contributes to existing literature by creating new information regarding awareness level on deciduous and permanent tooth in the perspective of Dhaka city.

**1. Introduction**

Children oral health is the foundation upon which preventive education and dental care must be built to enhance the opportunity for lifetime, free of preventable oral diseases. Mothers are decision maker and play an important role in achieving the best oral health outcomes for their young children. A young child's dental environment is complex because their mother's dental knowledge, attitude, beliefs and practices affect their child's oral condition. In India most of the parents had poor knowledge of cleaning, brushing of baby's teeth, caries development, and teething signs and symptoms. More than half of the parents (58.7%) believed that cleaning of baby's mouth after each feeding should begin only after the teeth erupt [1]. Parents are key persons in ensuring the well-being of young children in terms of best oral health outcome. Social risk factors comprise low parental education, low socioeconomic status, and lack of awareness about the dental disease. To maintain a good oral hygiene, both the parent and the child must work together. It is seen that poor attitude of parents generally reflect as a poor oral health in children. Parents' perceptions of their children's oral health as being better than their own should not be mistaken for the children's oral health status as being good. Very young children are dependent on their mothers to attend to their oral hygiene and feed them. The importance of good health and education to a woman's well-being - and that of her family and society - cannot be overstated. Good oral health practices are vital for the proper growth and development of a child. Failure to maintain can cause disease, have a tremendously adverse effect on the state of the teeth, and in many cases, a combination of these factors can result in severely hampered healthy long-term development. Considering mother's important role in well-being of young children, it is essential to explore their knowledge, attitude and beliefs as it affects the dental care children receive at home. Considering perspective of Bangladesh, awareness regarding dental health of children is dire need and it will fill up the existing knowledge gap. This is the first study to assess level of knowledge about child's oral health among the mother living in Dhaka city to reduce physical and financial burden of children and to prevent oral diseases too. The best of my knowledge very few studies have been conducted regarding this issue so far. This study contributes to existing literature by creating new information regarding awareness level on deciduous and permanent tooth in the perspective of Dhaka city.

**2. Materials and Methods**

This was a descriptive cross-sectional study. This study was designed to grab more data in a short time, so that it can be used for assessing the level of knowledge or awareness of the respondents. Data were collected from three schools of Dhaka city. Study population was mother having children aged 1 to 7 years. Purposive sampling method was used to select sample population. Data were collected from the respondents through face-to-face interview. The questionnaire was used after verbal consent of the respondents and their voluntary participation was sought. The bangle questionnaire was used during interview. Oral health was checked thoroughly. After data collection, data were sent to the researcher. The open-ended questions were grouped and categorized. Data were analyzed by descriptive statistics and inferential statistics. Limitations of studies are very common in social work. One of the major difficulties was the time constraint. The concern of the research topic often shaped various forms of psychosomatic defense among the interviewees. In general, the respondents hesitated to discuss their income level. Some respondents were incapable of understanding the importance for conducting a study. Hence, they showed deprecating attitudes toward the interviews or skip some questions. In some cases, they showed non-cooperation. Although the study was carried out in three schools in urban area in Bangladesh and the number of respondents appeared small. It is very difficult to quantify one's knowledge but I tried to know some aspect of knowledge by fixing some questions about different arena of oral health like brushing pattern, deciduous and permanent tooth. The internalization of infection, understanding and the skill that was gained through education or experience-considered as knowledge. Three categories were defined on the basis of the score obtained by each participant: poor (<50% of the total score); moderate (50%-70% of the total score) and good (>70% of the total score) and it was pre-defined knowledge scoring.

**Table 1. Distribution of respondents by age group (n=131).**

Age group	Frequency	Percentage
20-24	16	12.2
25-29	34	26.0
30-34	57	43.5
35-39	24	18.3
Mean±SD	27.16±6.45	
Total	131	100.0

**3. Results**

The Table 1 shows that 44%, 26%, 18% and 12% of respondents were in 30-34 yrs, 25-29 yrs, 35-39 yrs and 20-24 yrs respectively. Mean±SD age was 27.16±6.45 years whereas minimum and maximum age was 20 year and 39 year.

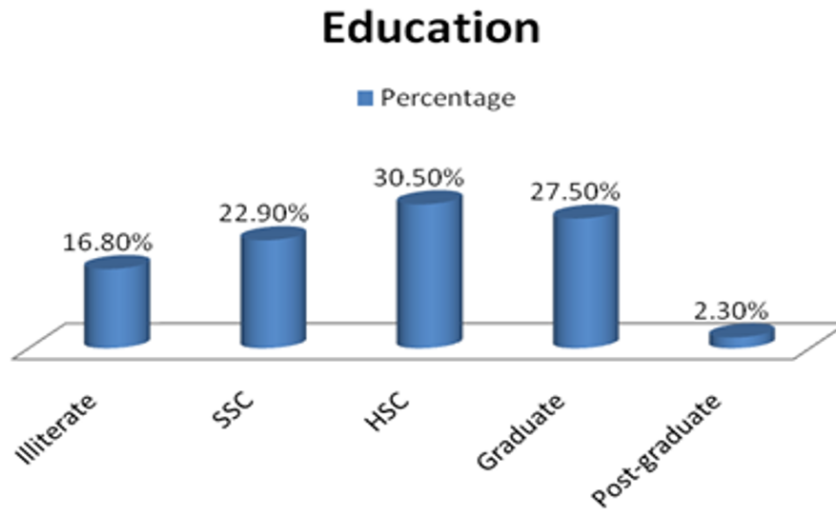


Figure 1. Distribution of respondents by education (n=131).

The Figure 1 shows 30.50%, 27.50%, 22.90% and 16.80% of respondents were Higher Secondary Certificate (HSC), Graduate, Secondary School Certificate (SSC) and illiterate respectively but post graduate was only 2.30%.

Table 2. Distribution of respondents by occupation (n=131).

Occupation	Frequency	Percentage
Housewife	107	81.7
Service	21	16.0
Business	2	1.5
Others	1	0.8
Total	131	100.0

Table 2 shows that most of the respondents (81.7%) were housewife and rest were service holder and businessmen.

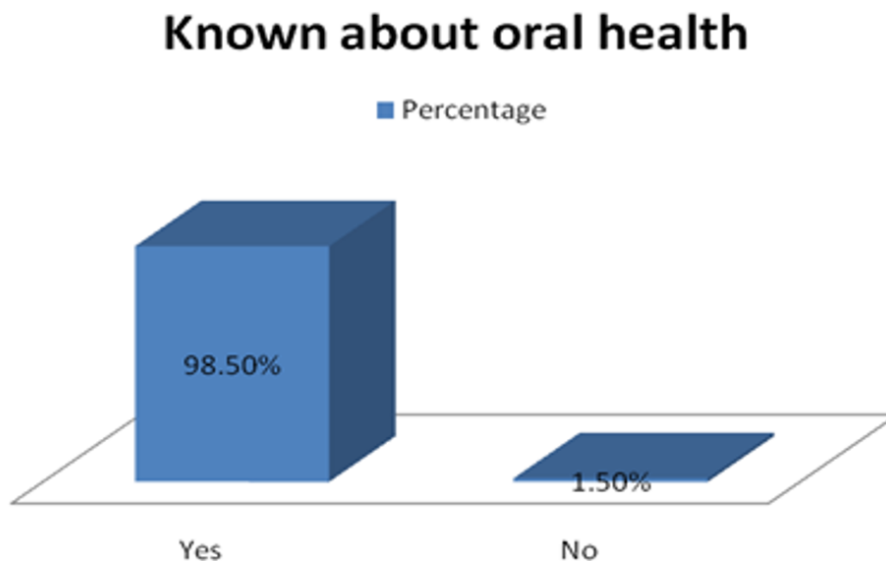


Figure 2. Known about oral health (n=131).

The Figure 2 clearly shows almost all the respondents knew about oral health.

Table 3. Source of information (n=131).

Source of information	Frequency	Percentage
Family	25	19.1
Textbook	19	14.5
TV	67	51.1
Dentist	19	14.5
Others	1	0.8
Total	131	100.0

Table 3 presents that more than half of the respondents (51.1%) got information on oral health from Television (TV). Besides 19.1%, 14.5% and 14.5% respondents got information from family members, textbook and dentist respectively.

Table 4. Knowledge on brushing pattern.

Category of knowledge	Frequency	Percentage
Poor knowledge	10	7.6
Moderate knowledge	80	61.1
Good knowledge	41	31.3
Total	131	100.0

Table 4 shows that 61.1%, 31.3% and 7.6% respondents had moderate, good and poor knowledge on brushing pattern respectively.

Table 5. Knowledge on deciduous and permanent tooth.

Category of knowledge	Frequency	Percentage
Poor knowledge	50	38.2
Moderate knowledge	62	47.3
Good knowledge	19	14.5
Total	131	100.0

Table 5 shows that 47.3%, 38.2% and 14.5% respondents had moderate, poor and good knowledge on deciduous and permanent tooth respectively.

Table 6. Association between education and knowledge on brushing pattern.

Level of education	Knowledge on brushing pattern			Total	$\chi^2$	p value
	Poor knowledge	Moderate knowledge	Good knowledge			
	n (%)	n (%)	n (%)			
Illiterate	0(0)	1(.8)	2(1.5)	3(2.3)	32.111	0.000
SSC	7(5.3)	14(10.7)	1(.8)	22(16.8)		
HSC	1(.8)	22(16.8)	7(5.3)	30(22.9)		
Graduate	1(.8)	25(19.1)	14(10.7)	40(30.5)		
Post-graduate	1(.8)	18(13.7)	17(13)	36(27.5)		

Results were expressed as frequency percentage,  $\chi^2$  test was performed and  $p < 0.05$  was level of significance.

Table 6 shows that strong significant association was found between education of respondents and knowledge on brushing pattern ( $p = 0.000 < 0.05$ ).

Table 7. Association between education and knowledge on deciduous and permanent tooth.

Level of education	Knowledge on deciduous and permanent tooth			Total	$\chi^2$	p value
	Poor knowledge	Moderate knowledge	Good knowledge			
	n (%)	n (%)	n (%)			
Illiterate	0(0)	1(.8)	2(1.5)	3(2.3)	28.235	0.005
SSC	16(12.2)	5(3.8)	1(.8)	22(16.8)		
HSC	14(10.7)	11(8.4)	5(3.8)	30(22.9)		
Graduate	12(9.2)	23(17.6)	5(3.8)	40(30.5)		
Post-graduate	8(6.1)	22(16.8)	6(4.6)	36(27.5)		

Results were expressed as frequency percentage,  $\chi^2$  test was performed and  $p < 0.05$  was level of significance.

Table 7 shows that significant association was found between education of respondents and knowledge on deciduous and permanent tooth ( $p = 0.005 < 0.05$ ).

#### 4. Discussion

Cultural influences, competing pressures and perceptions of hereditary influences, together with a lack of contemporary oral health knowledge are the main factors affecting oral health knowledge and beliefs. Mothers' knowledge, belief and practices help in formulation of more effective strategies to benefit infants [2]. The present study showed that 30.50%, 27.50%, 22.90% and 16.80% of respondents were HSC, graduate, SSC and illiterate respectively. Knowledge level was analyzed in good knowledge, moderate knowledge and poor knowledge by predefined score. About 61.1%, 31.3% and 7.6% respondents had moderate, good and poor knowledge on brushing pattern respectively. Moreover 47.3%, 38.2% and 14.5% respondents had moderate, poor and good knowledge on deciduous and permanent tooth respectively. Strong significant association was found between education of respondents and knowledge on brushing pattern. Significant association was found between education of respondents and knowledge on deciduous and permanent tooth. Seven hundred and six women in different stages of pregnancy were recruited from the antenatal clinic of the University of Port Harcourt Teaching Hospital over a period of four weeks. A significant proportion (83.4%) of the women had medium to high score in the knowledge of causal and preventive factors in dental caries and gingivitis. Over seventy nine percent of them acknowledged that primary teeth are important, but 43.6% did not know whether primary teeth should be restored or not. Only 39.3% of the women knew that leaving a feeding bottle/breast in the mouth of a sleeping child could be harmful to the teeth. Knowledge of the role of bacteria in gingivitis and dental caries was high. Over 45% of participants agreed that mothers could transmit cariogenic bacteria to their children. Only 0.7% of the women had taken their children to the dental clinic for routine checkup [3]. Another study revealed that there is a low initiation of the parents when oral health care of small children is concerned; however, an active collective effort of the school and dental team can make awareness program effective [4]. Oral health of the children is associated with oral health knowledge of their mothers/guardians, as oral health related habits are established during infancy and maintained throughout early childhood [5]. An Indian study [6] showed that the knowledge regarding the oral hygiene practice which includes brushing, sharing of utensils, especially feeding spoon, and knowledge about fluoride was not satisfactory, as nearly 294 (72.8%) of the mothers had only inadequate or partial knowledge which was quite similar with the present study. The concept of dental caries as an infectious and transmittable disease was convincingly demonstrated by Keyes [7]. Significant association was found between education of respondents and knowledge on oral health. There is a significant difference between the three categories of questionnaires. Most of the mothers had good knowledge about diet, but knowledge of oral hygiene and importance of primary teeth was

very poor. This suggests a need for pediatricians and the primary health workers, who come in contact with new mothers, to play an active role in oral health promotion and to draw mother's attention to the need for their child to be seen by a dentist. Mothers with higher education have a better knowledge regarding the oral hygiene practice and importance of deciduous teeth. This is similar to a Polish study which reports that mothers with lower level of education also have low levels of oral health knowledge [8]. It has been suggested that the parents with a general, improved level of education may be able to assess appropriate source of information and understand that information more completely [9]. One of the basic factors that may give some idea about oral health awareness among parents is the frequency of dental visits, [10] and the mother with higher educational qualification does visit the dentist more often. Zavras, et al. [11] have reported that 53% of well-educated mothers visited the dentists one or two times per year versus 19.6% mothers with basic education. Wyne, et al. [12] had reported that 34.2% of the Saudi population get the oral health information from dentist, followed by media, [12] whereas in the present study very few subjects got the information from dentist. This is due to low utilization of dental services by the pre-school children as the parents do not perceive that dental problem might exist in their child [13]. Personnel, communal, cultural, and economic factors influence dental health behavior when families seek dental care [14]. Conditions established in pre-school years provide a foundation for oral health condition and patterns for use of dental services later and in adulthood. Parents, especially mothers, need to be helped to realize that they are role models for their children and to be encouraged to improve the child's dental health habit.

## 5. Conclusion

Strong significant association was found between education of respondents and knowledge on brushing pattern. Significant association was found between education of respondents and knowledge on deciduous and permanent tooth

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