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AWARENESS AMONG CAREGIVERS ON ORAL HEALTH OF CHILDREN

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Abstract: *A descriptive cross-sectional study was carried out at three schools in Dhaka city in Bangladesh to assess the level of knowledge or awareness among 131 mothers about children's 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 as well as oral health was checked thoroughly. The result showed shows that 44%, 26%, 18% and 12% of respondents were in 30-34 yrs, 25-29 yrs, >35 yrs and 20-24 yrs respectively and 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 42.7%, 35.9% and 21.4% respondents had poor, moderate and good knowledge on oral health respectively. Besides 61.1%, 31.3% and 7.6% respondents had moderate, good and poor knowledge on brushing pattern respectively whereas 47.3%, 38.2% and 14.5% respondents had moderate, poor and good knowledge on deciduous and permanent tooth respectively. Significant association was found between education of respondents and knowledge on oral health (P=0.001<0.05) as well as knowledge on brushing pattern (P=0.000<0.05) and lastly knowledge on deciduous and permanent tooth (P=0.005<0.05). Finally a wide gap was found*

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regarding knowledge on oral health among mothers having young child in urban area like Dhaka. Government and concerned organizations should promote and strengthen the status of literacy (oral health knowledge) among mother having young child and similar study in rural area may be instituted to get large picture on oral health issue.

Key words: Awareness, Oral health, Children

INTRODUCTION

Oral health is now recognized as equally important in relation to general health (Sheiham 2001, p. 569-91). Oral health is the foundation upon, which preventive education and dental care must be built to enhance the opportunity for life-time freedom from preventable oral diseases. 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. It is therefore expected that preventive oral health behavior of mother for children would influence their children's behavior in adapting preventive oral health practices as they grow along (Nagarajappa et al. 2013, p. 659–665). Children generally spend most of their time with their parents and guardians, especially mothers. It has been found that young children's oral health maintenance and outcomes are influenced by their mother's knowledge and beliefs. Poor diet, poor habits of food intake and inadequate tooth brushing habits during the first 2 years of life have been shown in several studies to be related to tooth decay in children. The development of caries in primary teeth further increases the risk of developing caries in permanent teeth. Appropriate oral health knowledge of mother's could be prevented some cause like caries, tooth decay that affects the primary teeth infants and young children's, carious lesions even before they are able to develop good oral hygiene habits (Ismai 1998, p. 49-61). Mother has a key role in helping their children to develop a proper oral hygiene in the first years of their life. Mother should lead and supervise their children's tooth brushing approximately for the first 12 years, until motor and mental function allow the child to routinely perform tooth brushing technique alone. After brushing the teeth of their children for the first 2 years of life, mothers will have to use playful motivation to encourage their children to brush their own teeth from about 3 years onwards the time when children want to brush their teeth

alone. At the age of around 6 years, children finished brushing, mother should re-brush the hard-to-clean this phase, mothers have to continue supervising the regular brushing efforts of their children. A lack of awareness of mothers regarding oral health can cause a multitude of health related difficulties, such as caries (Gomez et al. 2010, p. 505-17) and poor teeth development (Kujala and Eija 1982, p. 224-233). Prevention of this and related issues often comprises a proper awareness and knowledge of standard oral health recommendations in mothers. Research has shown that mothers' dental awareness has an important impact on their children's oral health and oral health-related behavior. Studies have reported that poor attitude of mother's toward oral health of infants and young children are associated with increased caries prevalence (Hind and Gregory 1995). Mother's knowledge and positive attitude toward good dental care are very important in the preventive cycle. (Suresh et al. 2010, p. 282-287) Mother's should have sufficient knowledge of understanding the value of maintaining oral health, which is turn result healthy children for the nation. Children have free of oral disease and also have attractive smile. The aim of this study was to assess the mother's knowledge about the oral health of their children and find out knowledge about brushing time, knowledge about importance of deciduous and permanent tooth, knowledge about diet.

METHODOLOGY

Study design: This was a descriptive cross-sectional study following the quantitative methods of data collection and analysis. 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.

Study place: Data were collected from three schools of Dhaka city (Shaheed Bir Uttum Lft Anwar Girls School & College, Dhaka cantonment, Bonoful School and College, mirpur-13 and Shaheed Police Sriti High school, mirpur-14.

Study period: This study was conducted for a period of four month started from may 2014 to august 2014.

Study population: Study population was mother having children age is 1 to 7 years old.

Sample size: Although the sample size was three hundred and eighty four, for the time and economical constraints it was taken as 131 mothers.

Sampling technique: Purposive sampling method was used to select sample population.

Data collection technique: 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.

Data processing and analysis: After data collection, data were sent to the researcher, which was sorted, scrutinized by the researcher herself by the selection criteria and then data were analyzed by calculator and personal computer by SPSS version 12.0 program. The open ended questions were grouped and categorized. Data were analyzed by descriptive statistics and inferential statistics.

RESULTS

The cross-sectional study was conducted to assess the awareness of mother's about children's oral health. The result of the study was presented in tabular and graphical form there by interpretation of the result in the chapter under the following headings. 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.

Table1. Distribution of the respondents by their socio-demographic characteristics (n=131)

Variables	Number	Percentage
Age (in years)		
20-24	16	12.2
25-29	34	26.0
30-34	57	43.5
>35	24	18.3
Mean±SD	27.16±6.45	
Education		
Illiterate	22	16.80
SSC	30	22.90
HSC	40	30.50
Graduation	36	27.50
Post-graduation	3	2.30
Occupation		
Housewife	107	81.7
Service	21	16.0
Business	2	1.5
Others	1	0.8
Monthly income(BDT)		
10000-19999	5	3.8
20000-29999	12	9.2
30000-39999	34	26.0
40000-49999	23	17.6
50000-59999	23	17.6
60000-69999	34	26.0

Results are expressed as number (%) and M±SD

The table 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 year. Besides 30.50%, 27.50%, 22.90% and 16.80% of respondents were HSC, graduate, SSC and illiterate respectively but post graduate were only 2.30%. Most of the respondents (81.7%) were housewife and rest was service holder and businessmen. Moreover 26%, 17.6%, 17.6% and 26% respondents had monthly income 30000-39999 BDT, 40000-49999 BDT and 60000-69999 BDT respectively.

Table2. Knowledge on oral health, brushing pattern, and deciduous and permanent tooth

Knowledge on oral health		
Category of knowledge	Frequency	Percentage
Poor knowledge	56	42.7
Moderate knowledge	47	35.9
Good Knowledge	28	21.4
Knowledge on brushing pattern		
Poor knowledge	10	7.6
Moderate knowledge	80	61.1
Good Knowledge	41	31.3
Knowledge on deciduous and permanent tooth		
Poor knowledge	50	38.2
Moderate knowledge	62	47.3
Good Knowledge	19	14.5
Total	**131**	**100**

Table 2 shows that 42.7%, 35.9% and 21.4% respondents had poor, moderate and good knowledge respectively. Regarding brushing pattern 61.1%, 31.3% and 7.6% respondents had moderate, good and poor knowledge respectively. In terms of knowledge on deciduous and permanent tooth 47.3%, 38.2% and 14.5% respondents had moderate, poor and good knowledge respectively.

Table3. Association between education and knowledge on oral health

Level of education	**Knowledge on oral health**			**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)	26.712	0.001
SSC	17(13)	4(3.1)	1(.8)	22(16.8)		
HSC	17(13)	7(5.3)	6(4.6)	30(22.9)		
Graduate	10(7.6)	17(13)	13(9.9)	40(30.5)		
Post-graduate	12(9.2)	18(13.7)	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 3 shows that significant association was found between education of respondents and knowledge on oral health (P=0.001<0.05).

Table4. Association between occupation and knowledge on oral health

Occupation	Knowledge on oral health			Total	χ2	P value
	Poor knowledge	Moderate knowledge	Good knowledge			
	N (%)	N (%)	N (%)			
Housewife	48(36.6)	40(30.5)	19(14.5)	107(81.7)	8.070	0.233
Service	8(6.1)	6(4.6)	7(5.3)	21(16)		
Business	0(0)	1(.8)	1(.8)	2(1.5)		
Others	0(0)	0(0)	1(.8)	1(.8)		

Results were expressed as frequency percentage, χ2 test was performed and P<0.05 was level of significance.

Table 4 shows that no significant association was found between occupation of respondents and knowledge on oral health (P=0.233>0.05).

Table5. Association between monthly family income and knowledge on oral health

Income in BDT	Knowledge on oral health			Total	χ2	P value
	Poor knowledge	Moderate knowledge	Good knowledge			
	N (%)	N (%)	N (%)			
10000-19999	1(.8)	1(.8)	3(2.3)	5(3.8)	17.908	0.057
20000-29999	7(5.3)	4(3.1)	1(.8)	12(9.2)		
30000-39999	20(15.3)	9(6.9)	5(3.8)	34(26)		
40000-49999	9(6.9)	7(5.3)	7(5.3)	23(17.6)		
50000-59999	9(6.9)	7(5.3)	7(5.3)	23(17.6)		
60000-69999	10(7.6)	19(14.5)	5(3.8)	34(26)		

Results were expressed as frequency percentage, χ2 test was performed and P<0.05 was level of significance.

Table 5 shows that association was may or may not be found between income of respondents and knowledge on oral health (P=0.057>0.05).

Table6. 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 ($P=0.000<0.05$).

Table7. 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 ($P=0.005<0.05$).

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. (Nagaraj & Pareek 2012, p. 167-172)

The present study showed that 44%, 26%, 18% and 12% of respondents were in 30-34 yrs, 25-29 yrs, >35 yrs and 20-24 yrs respectively and 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 42.7%, 35.9% and 21.4% respondents had poor, moderate and good knowledge on oral health respectively. Besides 61.1%, 31.3% and 7.6% respondents had moderate, good and poor knowledge on brushing pattern respectively. 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 self-administered structured questionnaire on socio-demographic information, oral health knowledge and oral health behavior was filled by the participants. They showed that The mean age of the subjects was 29.6 (SD + 4.4) years. Seventy percent of them had tertiary education and 63.9% were unemployed. A significant proportion (83.4%) of the women had medium to high score (> 50%) in the knowledge of causal and preventive factors in dental caries and gingivitis. Over seventy nine percent (79.2%) 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 (81.3%) and dental caries (86.6%) 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. (Eigbobo & Onyeaso 2013, p. 15-24) 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. (Kaur 2009, p. 463-5)

Oral health of the children is associated with oral health knowledge of their mothers/guardians, as oral health related habits (such as those related to oral hygiene and diet) are established during infancy and maintained throughout early childhood. (Wendt et al. 1996, p. 131-7) An Indian study (Suresh et al. 2010, p. 282-287) 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 (1960). (Keyes 1960, p. 304-20) Another aspect of oral hygiene practice was brushing. Most of the parents felt that they should brush their child's teeth when all the primary teeth have erupted. Contrary to our result, 95% of the parents in rural Australia believed that they should start brushing when the first tooth erupts, as reported in a study done by Gussy et al. (Gussy et al. 2008, p. 52-60) In the present study, mother's knowledge regarding fluoride was found to be inadequate.

The present study found that 47.3%, 38.2% and 14.5% respondents had moderate, poor and good knowledge on deciduous and permanent tooth respectively. Significant association was found between education of respondents and knowledge on oral health ($P=0.001<0.05$) as well as knowledge on brushing pattern ($P=0.000<0.05$) and lastly knowledge on deciduous and permanent tooth ($P=0.005<0.05$). Respondents have partial knowledge on the importance of deciduous teeth. Many of the mothers said that cavities in baby's teeth do not matter, and are not able to identify common dental problems like dental caries and gingivitis. (Suresh et al. 2010, p. 282-287) 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.

Dietary knowledge is mostly influenced by the dietary tradition of a specific area, which is also clear from the results that knowledge about the diet and dietary practice does not depend upon with mother's educational qualification or the demographic inhabitation. In addition to this, as the main source of information were

the elders in the family, the dietary tradition was inherited. This also speaks of the inefficiency of the dentist and dental organizations in educating the masses. This result is not in accordance with that of William et al, who stated that parents coming from the deprived areas and with lower educational level have low level of oral health knowledge. (William et al. 2002, p. 651-4) 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. (Szatko et al. 2004, p. 175-80) 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. (William et al. 2002, p. 651-4) One of the basic factors that may give some idea about oral health awareness among parents is the frequency of dental visits, (Silver 1992, p. 191-7) and the mother with higher educational qualification does visit the dentist more often. Zavras et al, (2002) have reported that 53% of well-educated mothers visited the dentists one or two times per year versus 19.6% mothers with basic education. (Zavrsa et al. 2002, p. 12-8) A randomized control trial in UK showed that visits to trained dental educator (dentist) by mothers of pre-school children at risk of caries increased the parental knowledge and improved the attitude toward dental health of their offsprings. (Blinkhorn et al. 2003, p. 395-400) Wyne et al, had reported that 34.2% of the Saudi population get the oral health information from dentist, followed by media, (Wyne et al. 2005, p. 140-45) 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. (Chan et al. 2002, p. 322-31) Personnel, communal, cultural, and economic factors influence dental health behavior when families seek dental care. (Waldman 1995, p. 887-96)

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.

CONCLUSION

On the basis of this study, knowledge on oral health among mothers having 1 to 7 years children was not satisfactory. About 42.7% respondents had poor knowledge on oral health. Besides 61.1% respondents had moderate knowledge on brushing pattern whereas 14.5% respondents had good knowledge on deciduous and permanent tooth. Significant association was found between education of respondents and knowledge on oral health ($P=0.001<0.05$) as well as knowledge on brushing pattern ($P=0.000<0.05$) and lastly knowledge on deciduous and permanent tooth ($P=0.005<0.05$). Finally a wide gap was found regarding knowledge on oral health among mothers having young child in urban area like Dhaka.

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