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EXPLORING WOMEN'S AWARENESS ABOUT BREASTFEEDING AND HEALTH BENEFITS USING A CROSS-SECTIONAL SURVEY IN DHAKA CITY, BANGLADESH

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ABSTRACT: This cross-sectional questionnaire based study was conducted among 200 randomly selected child bearing mothers aged 16 to 40 to evaluate their awareness regarding breastfeeding and its health benefits in urban and slum area of Dhaka city from July to December 2013. The study showed that about 46% of respondents completed higher secondary education or more and about 27% were illiterate. A significant proportion of mothers (75%) were employed while 25% were housewives. More educated mothers had significantly ($p < 0.001$) better knowledge about colostrum milk (91.5%) about the appropriate duration of breastfeeding (81.40%) and that breast milk is the only food recommended for babies up to 6 months of age (96.90%) in comparison to that of the uneducated mothers (49.30%; 25.35% and 77.46%, respectively). Educated mothers were also significantly more likely than uneducated women to know about benefits of breastfeeding with regard to post-partum weight loss (OR=0.462, 95% CI 0.298-0.715, $p < 0.001$), prevention of unwanted pregnancy (OR=0.064, 95% CI 0.030-0.136, $p < 0.001$) and post-partum bleeding (OR=0.147, 95% CI 0.083-0.257, $p < 0.001$). Awareness of recommended breastfeeding practices and its health benefits are not satisfactory so more attention from government and non-government authority is required for the welfare of both mother and children.

INTRODUCTION: Breastfeeding is ideal food for the healthy growth and development of infants¹. It affords a broad spectrum of health benefits for both the mothers and the children^{2, 3}. To ensure the health benefit of mothers and to achieve optimal growth, development and health of the children breastfeeding is strongly recommended for the first six months of infants' life by the World Health Organization (WHO)⁶.

Studies on breastfeeding have shown that infants who were exclusively breastfed for at least 6 months are less prone to infectious diseases such as acute respiratory infection, acute otitis media, and gastroenteritis than those who were partially breastfed or non-breastfed^{4, 5}.

In the year of 2002, WHO updated their guidelines of breastfeeding and recommended "all infants should be exclusively breastfed for the first six months of life and receive nutritionally adequate and safe complementary foods while breastfeeding continues for up to two years of age or beyond"⁶. Many countries of the world including both developed and developing countries have adopted and endorsed the recommendations of the WHO⁷.

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In spite of all the well-documented health benefits of breastfeeding and the recommendations for breastfeeding of WHO in 2002, only 37% of infants aged between 0-6 months in developing countries were exclusively breastfed in 2008⁸. Several numbers of programs and projects have been launched for many years for the promotion of breastfeeding in Bangladesh. In the years of 1989 to 2002, the national recommendation of exclusive breastfeeding was from the birth of infants to five months of age⁹. But after endorsement of the "Global Strategy for Infant and Young Child Feeding"⁶ by the World Health Organization's Member States in the World Health Assembly, the recommended duration of Exclusive Breastfeeding (EBF) was subsequently increased to six months. Despite of several efforts taken by government and non-government organizations, the scenario of recommended breastfeeding duration has not been changed significantly.

The surveys conducted by the national Bangladesh Demographic and Health surveys (BDHS) in 1999, 2004, and 2007¹⁰⁻¹² reported that the prevalence of EBF (defined as giving only breast milk, not even water) among infants below six months of age has not increased in the past twelve years. These surveys showed that the rate of EBF remained quite alike at around 45% in 1993 and 1999. But the rate decreased slightly to 42% in the year of 2004 and thereafter it has not improved notably. BDHS 2007 reported that the mean duration of EBF to be 3.3 months. The median duration has remained the same in the three surveys: 1.8 months in 1999-2000, 1.7 months in 2004, and 1.8 months in 2007⁹. There may be multiple factors influencing breastfeeding decisions and practices of mothers which include knowledge, attitudes and beliefs as well as socio-cultural and physiological factors^{13, 14}. But the results from the researches for determining these factors seemed to be contradictory.

To enhance breastfeeding promotion strategies in the context of relatively recently changed recommendations, it is important to have a good understanding of mothers' knowledge of the current recommendation and benefits of breastfeeding and also their awareness to meet the breastfeeding recommendation¹⁵. However, a limited data is

found in Bangladesh that has explored mothers' awareness of the breastfeeding. Moreover the relation of awareness and socio-demographic status was poor and none has examined mother's knowledge about certain diseases related to breastfeeding.

The aims of the study were to explore mothers' awareness about breastfeeding and to relate the awareness level with educational condition of the respondents. The article also tried to evaluate the knowledge of mothers' about several health complications that are exclusively related to breastfeeding.

METHODS:

Study design:

This cross sectional study was carried out to investigate the awareness of breastfeeding and health benefits among the educated and uneducated mothers from July to December, 2013 in different areas of Dhaka City, capital of Bangladesh.

Study area:

The study areas were divided into two; one was the urban household areas and the other was the urban slum areas from Motijheel, Kamalapur and Arambagh of Dhaka City. As Dhaka is the biggest city of Bangladesh that's why it was not possible to cover maximum area during the study period. The specific sites were selected by the field investigators based on the availability of both educated and uneducated mothers. Time and distance were also considered to select the study areas.

Study participants:

All participants were purposively selected for convenience and to assure that they met certain criteria which included geographical location in typical household and slum areas as well as age of the mothers (16-40 years). Other criteria were to include both educated and uneducated mothers as well as both working and non-working mothers. To reduce the risk of biasness, study participants were identified and listed with the help of a physician. Mothers having children above six months the day before the study started were listed so that the interviewers could start the survey from one end of the selected area and continue till the quota for

respondent mothers was completed. This study included only those respondents who were easily available for data collection and gave information willingly. Mainly, mothers found in households were selected. Those who did not feel comfortable to give information were excluded of the study. Mothers who had certain diseases either acute or chronic were excluded.

Sample size:

To select the study participants, a simple random sampling technique was used. Initially 502 mothers of the specified areas were found to be within the desired criteria. Among them a total of 305 mothers participated in the study from which we randomly selected 200 mothers who full filled the study objectives.

Data collection:

A face-to-face interview was conducted by the field researchers with participating mothers at their home and at the nearby schools of the study area. Women (with Masters Degrees) previously working as interviewers for renowned organizations were recruited for data collection. They were divided into two teams, one for data collection from the household areas and the other from slum areas, based on their experience. Each team consisted of two interviewers. They translated the questions from English to Bengali to make it easily understandable to the participant mothers for the purpose of gathering information. Although the interviewers were experienced nevertheless they were trained for two weeks on the different methodologies to be used for data collection and also about their roles. The baseline interviews lasted 20–30 minutes and included a range of questions about age, education, income and health status of respondents; knowing about duration and benefits of breast feeding; relationship of overweight, breast cancer and post-partum bleeding with breast feeding. Questionnaire was constructed into English and translated to Bengali by the interviewers to make the questions easily understandable to the participants during face to face interview.

Data analysis:

Data-entry and analysis were done by using SPSS for Windows (version 16) (SPSS Inc., Chicago, IL,

USA). Proportions and 95% confidence intervals (95% CI) were calculated using descriptive statistics. Differences between proportions were considered statistically significant if 95% CI did not overlap. The odds ratios and p values were calculated by risk estimate and chi-square test using analytic statistics. An alpha level of 0.05 or less was considered significant.

Ethical consideration:

Approval for the formative research was obtained from the Ethical Review Committee of one of the public university of Bangladesh. Consent was taken from all the study participants prior to interview. Information taken from the participants preserved confidentially.

RESULTS:

Socio-demographic characteristics of the respondents:

The socio-demographic characteristics of the respondent mothers are shown in **Table 1**. Among the 200 households surveyed, 120 (60%) were in the urban household area and 80 (40%) were in the urban slums.

TABLE 1: SOCIO DEMOGRAPHIC CONDITION OF THE RESPONDENT MOTHERS

Parameters	Total (%)
Study area	
Urban household	120 (60)
Urban slum	80 (40)
Age (year)	
<18	4 (2.0)
18-24	33 (16.5)
25-30	113 (56.5)
31-40	50 (25.0)
Educational Level	
Illiterate	58 (27.0)
Primary Level	13 (6.5)
S.S.C.	37 (20.5)
H.S.C. and above	92 (46.0)
Occupational Status	
Employed	150 (75.0)
Unemployed	50 (25.0)

S.S.C. = Secondary School Certificate; H.S.C. = Higher Secondary Certificate

All the 200 mothers giving a response rate of 100% in the selected areas were included in the analysis. The age range of mothers was from 16 to 40 years. A major portion (56.5%, n = 113) of the mothers were within the age of 25-30 years, 50 (25.0%) mothers were within the age of 31-40 years, 33 (16.5%) mothers were within the age of 18-24

years whereas about 4 (2.0%) mothers were under 18 years of age. About 46% of these mothers had passed H.S.C. level while only 20.5% of them continued their education till Secondary School Certificate (S.S.C.) level. Among the respondent mothers 6.5% had crossed primary level of education.

Awareness of the respondents about breast feeding During the study the respondent mothers were asked several questions to judge their awareness about proper breastfeeding and the obtained results were recorded in **Table 2**. The results demonstrated that a significant percentage of the studied mother were aware about breastfeeding and related information.

About 85% of the respondent mothers knew about colostrum milk. But the study results reflected that the educated mothers (mothers who have completed S.S.C. level or higher) had better

knowledge about colostrum milk in comparison to that of illiterate or little educated respondent mothers. Among the educated mothers about 91.47% had a significant knowledge ($\chi^2 = 47.24$; $p < 0.001$) about colostrum milk whereas only 50.70% of uneducated mothers knew about it.

When asking the respondents about the appropriate duration of breast feeding it was found that about 25% of the mothers were unaware of appropriate duration. However a proportion (74.65%) of the uneducated mothers were found to have no knowledge about it which significantly differs ($\chi^2 = 86.05$, $p < 0.001$) from the results obtained for educated mothers (18.60%). The study results also highlighted that about 22.54% of uneducated mothers had no knowledge about the fact that the infants should only be fed breast milk for the first 6 month of their birth without any other foods. But almost all the educated mothers (96.90%) had good knowledge about this fact.

TABLE 2: KNOWLEDGE AND AWARENESS AROUND BREASTFEEDING ACCORDING TO MATERNAL EDUCATION LEVEL (UNEDUCATED = LESS THAN SECONDARY SCHOOL LEVEL)

		Total (%)	Educated (%)	Uneducated (%)	Chi Square (d.f.) P-value
Knowledge about colostrum milk	Beneficial	85.00	91.47	49.30	47.24 (3)
	Non-beneficial	15.00	8.53	50.70	<0.001
Appropriate duration of breast feeding for both mother and child	Aware	75.00	81.40	25.35	86.05 (3)
	Unaware	25.00	18.60	74.65	<0.001
Knowledge about breast milk is the only food for first 6 month of child	Yes	87.50	96.90	77.46	39.70 (3)
	No	12.50	3.10	22.54	<0.001

Mothers whose educational level was under S.S.C. were considered as uneducated. $p \leq 0.05$ was considered significant

Breast feeding and certain diseases:

In **Table 3**, mother's knowledge about the relation of certain diseases with breast feeding is presented. The results showed that all the parameters varied significantly ($P < 0.001$) from the educated to the uneducated mothers. Among the educated, about 87 (67.44%) mothers had no knowledge that regular breast feeding can reduce weight gain which is statistically significant (OR = 0.462; 95% C.I. = 0.298-0.715) with the number of mothers, 42 (32.56%), who knew about it.

In addition 64 (90.14%) uneducated mothers had no idea that extensive breast feeding can reduce overweight while only 7 (9.86%) of them barely heard about it (OR = 0.047; 95% C.I. = 0.014-0.157).

It was found that no uneducated mothers (OR = 2.00; 95% C.I. = 1.688-2.369) knew that unwanted pregnancy can be prevented by extensive breastfeeding. Surprisingly only 6.20% of educated mothers knew about it (OR = 0.0640; 95% C.I. = 0.030-0.136) and 93.80% were unaware about preventing unwanted pregnancy by proper breastfeeding.

The majority of the educated (89.00%; OR = 0.147; 95% C.I. = 0.083-0.257) and uneducated (93.96%; OR = 0.015; 95% C.I. = 0.002-0.112) mothers were unaware of the fact that breastfeeding can reduce post-partum bleeding. Whereas a little and negligible number of educated and uneducated mothers respectively knew about it.

TABLE 3: KNOWLEDGE ABOUT THE RELATIONSHIP BETWEEN BREAST FEEDING AND CERTAIN DISEASES

		Total (%)	Educated (n=129)			Uneducated (n=71)		
			Total (%)	P value	Odds ratio (95% C.I.)	Total (%)	P value	Odds ratio (95% C.I.)
Breast feeding reduces overweight	Positive	45 (22.50)	42 (32.56)	<0.001	0.462(0.298-0.715)	7 (9.86)	<0.001	0.047(0.014-0.157)
	Negative	155 (77.50)	87 (67.44)			64 (90.14)		
Unwanted pregnancy can be prevented by proper breastfeeding	Positive	8 (4.00)	8 (6.20)	<0.001	0.064(0.030-0.136)	0	<0.001	2.00(1.688-2.369)
	Negative	196 (96.00)	121 (93.80)			71 (100.00)		
Reduce post-partum bleeding	Positive	22 (11.00)	17 (13.18)	<0.001	0.147(0.083-0.257)	5 (7.04)	<0.001	0.015(0.002-0.112)
	Negative	178 (89.00)	112 (86.82)			66 (93.96)		

p<0.05 was considered significant

DISCUSSION: It was found from our study, though several mothers had detected some breastfeeding promotional messages from the media and different sources, educational status of mothers plays a vital role in breastfeeding. A previous study among Norwegian women reported that maternal age, education, marital status, employment and smoking were among the most significant factors that influenced lactation duration¹⁸. In our current study we also found that there were about 33.5% of uneducated respondents in our current study that had lack of knowledge about breastfeeding duration and benefits of breastfeeding.

Colostrum milk is often termed the “first milk” or “prothom dudh”, only the first few drops of colostrum are fed during the first three days of a new born⁹. Some studies showed that the prevalence of colostrum milk feeding in Bangladesh has increased over the years from 87% to 92% which may be the result of the promotional message that highlighted its necessity by calling it the “first vaccination” for an infant. This type of promotion also increased the tendency in initiation of breastfeeding within one hour (from 24% to 42%)^{11, 12, 16}. In our study we found that about 91.47% of educated mothers and 49.30% of uneducated mothers had knowledge about colostrum milk. Although the overall rate is good but still there is a large knowledge-to-practice gap and that the media messages have not been clearly focused on the specific recommendations and how they can be implemented^{17, 18}.

Documenting mothers’ perceptions about timely initiation and appropriate duration of breastfeeding it was found that 25% mothers (both educated and uneducated) were ignore about the appropriate initiation and duration of lactation time. It was interesting finding that about 87.50% mothers knew that breast milk is the only food for first 6 month of child though many of them did not continued breastfeeding to the appropriate time. The lack of information on lactation period given by health workers at antenatal visits is one of the major reasons. Due to the lack of practical training given to the reproductive and other health workers regarding breastfeeding, they could not deliver the appropriate messages to the mass people. Thus there is an urgent need for updating the in-service and pre-service curriculum as well as the training manuals with particular emphasis on practical sessions^{9, 19}.

It is possible that women who breastfeed their children have a better health status, healthier lifestyles and higher socioeconomic status than women who do not breastfeed²⁰. Despite all those beneficial health effects still many people are unaware of these facts. The study also revealed that a majority of the respondents had no knowledge about those facts that appropriate breastfeeding can reduce overweight, prevent unwanted pregnancy and also reduce post-partum bleeding. This may be due to the fact that the respondent mothers had lack of counseling from the health practitioners⁹. Therefore, specific and priority messages need to be selected and reinforced by health providers who

are a major influencing factor both in rural and urban areas. Training of health workers (facility and community-based) and volunteers should focus on counseling rather than on just giving messages. Essential breastfeeding education must start early in the antenatal checks, as early as the first or second trimester in case the pregnant woman does not return to the health facility or to a group education session in the community²¹. Thus the infant and child mortality rate can be reduced which will help in achieving the Millennium Development Goals of WHO by 2015.

CONCLUSION: Advertisements might be one of the influential factors in choosing different baby foods against proper breastfeeding mainly in uneducated mother. More and more training and media campaign should be needed to increase the perception regarding the benefits of breastfeeding for both mother and children. Consciousness should be developed not only for pregnant and childbearing mothers but also for women's of all adult ages.

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