The Influence of Breastfeeding Attitude and Subjective Norm on Intention to Exclusive Breastfeeding of Mothers in Dhaka, Bangladesh

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Abstract

The exclusive breastfeeding (EBF) rate in Bangladesh is still very low probably due to most of the breastfeeding mothers tend to discard the colostrum, whereas substitute of pre-lacteal feeds. Based on Ajzen’s Theory of Reasoned Action (TRA), the breastfeeding attitude and subjective norm are important factors that may have been impact on intention to EBF of mothers. Thus, it was worth to investigate this phenomenon in Bangladesh, where no such study has been conducted. The purpose of this descriptive study was to examine the extent to which the breastfeeding attitude and subjective norm influence the intention to EBF of mothers. Sixty five mothers completed three questionnaires: 1) the Breastfeeding Attitude Questionnaire, 2) the Subjective Norm Questionnaire, and 3) the Intention to Exclusive Breastfeeding Scale. Content validity and a back translation were done by experts. The Cronbach’s alpha reliabilities of the first two questionnaires were 0.94 and 0.96, respectively. The test-retest reliability of the last questionnaire was 0.85. A hierarchical multiple regression revealed that for the first model, breastfeeding attitude explained 25% of the variance in intention to EBF (R²=0.25, F(1, 63) =21.17, p=0.000) and the regression coefficient was 0.50 (t=4.60, p=.000). In the second model, breastfeeding attitude and subjective norm together explained 27% of the variance in the intention EBF of the mothers (R² change =0.02, F(1,62) =1.90, p=0.17). The regression coefficient of breastfeeding attitude in the second step was 0.52 (t=4.78, p=0.000) whereas that of subjective norm was -0.15 (t=-1.38, p=0.17). Thus, the results suggest that nurses may use the TRA as a model for understanding the factors that predict mother’s EBF intention.

Key word: Breastfeeding attitude, subjective norm, intention to exclusive breastfeeding, Bangladesh
Background and Significance of the Problem:

The infant mortality rate in Bangladesh is 52 per 1,000 live births (Government of the People’s Republic of Bangladesh, 2007). The major causes of infant mortality are diarrhea (Afroza & Begum, 2003; Talukder, 2002), acute respiratory tract infection (Afroza & Begum, 2003), malnutrition (Marques, Lira, Lima, Silva, Filho, Huttly, et al., 2001), and meningitis (Victora, Kirkwood, Ashworth, Black, Rogers, Sazawal, et al., 1999) which was related to low rate of exclusive breastfeeding (EBF) as breastfeeding provides first immunization (Martindale, 2005) and anti-infective properties (Davies-Adetugbo, 1997) that can protect the infants from different kinds of diseases. Breastfeeding positively affects the health of mother such as it helps the uterus in returning to normal size (Khoury, Moazzem, Jarjoura, Carothers, & Hinton, 2005) which in turn, reduces the risk of postpartum hemorrhage. It is also observed that breastfeeding practice prevents breast, ovarian, and endometrial cancers (Memon, Sheikh, Memon, & Memon, 2006). Psychologically, it increases the self-confidence (Khoury et al., 2005) and contributes to the feelings of attachment between mother and child (Memon et al., 2006).

Exclusive breastfeeding is the most important issue for infants in developing countries, especially in Bangladesh, where most of the mothers are illiterate. According to World Health Organization (2009), EBF is defined as an infant receiving only breastmilk from his or her mother, or expressed breastmilk with no other supplementation of any types of foods (e.g., water, juice, and non-human milk) except for vitamins, minerals supplements, medicine, and oral rehydration up to six months after birth.

The EBF rate in Bangladesh was 11.7% up to six months (Mihrshahi, Ichikawa, Shuaib, Oddy, Ampon, Dibley et al., 2009) which is still low. In Bangladesh, most of the mothers tend to discard colostrum due to some traditional and cultural beliefs and also due to the lack of adequate support from significant others. Substitute of pre-lacteal feeds such as honey, water, misripandi (palm sugar water), ghutti (herbal paste), and mastered oil are used for feeding the infants due to the common actual practices among Bangladeshi mothers (Darrmstadt, Syed, Patel, & Kabir, 2006; Khatun, Banu, & Khatoon, 2008).

Based on Ajzen’s Theory of Reasoned Action (TRA) (Ajzen, 1988; Ajzen & Fishbein, 1980), the breastfeeding attitude and subjective norm are important factors that may have an impact on intention to EBF of mothers in Bangladesh context. However, inconsistent findings have been reported about the magnitude of predictability of these factors in the literature.
example, Kloeblen-Tarver, Thompson, and Miner (2002) found that the attitudinal factor was more influential in mother’s intention to breastfeeding than normative factor. Wambach (1997) found that attitude was the dominant predictor of intention to breastfeeding whereas subjective norm was not a predictor of intention to breastfeeding of mothers. In contrast, Hill, Arnett, and Mauk (2008) found that subjective norm was a predictor of intention to breastfeeding whereas attitude could not predict intention to breastfeeding of mothers. All of these studies were conducted in the United States.

Therefore, it was worth to investigate this phenomenon in Bangladesh where no such study has been conducted till date. Findings of this study may be used to provide nursing care to increase mother’s intention to breastfeeding and this will also lead to increase the rate and duration of EBF in Bangladeshi mothers and decrease the infant’s mortality and morbidity rates and also infection and malnutrition of the infants.

**Objective:**

To examine the extent to which the breastfeeding attitude and subjective norm influence on intention to EBF of mothers

**Technical Terms:**

Breastfeeding attitude refers to the level of mother’s positive or negative beliefs regarding EBF and the outcome evaluation of these beliefs. It was measured by the Breastfeeding Attitude Questionnaire developed by the researcher based on the TRA (Ajzen, 1988) and literature review.

Subjective norm refers to the mother’s perception about significant other’s preferences or expectations to perform her EBF and her motivation to comply with each of these other’s expectations. It was measured by the Subjective Norm Questionnaire developed by the researcher based on the TRA (Ajzen, 1988) and literature review.

Intention to EBF is the degree of mothers’ agreement whether they want to perform or ignore the EBF for at least six months postpartum. It was measured by the Intention to Exclusive Breastfeeding Scale developed by the researcher based on the TRA (Ajzen, 1988) and literature review.
Framework of the Study:

The conceptual framework of this study was guided by the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980). According to TRA, a central factor is the individual’s intention to perform a given behavior (Ajzen & Fishbein, 1980). Intentions are assumed to describe the motivational factors that influence the behavior. In this study, intention to EBF is the degree of mother’s psychological willingness to perform or neglect EBF to their infants up to six months. According to this theory, the researcher assumed that the mother’s intention to EBF can be predicted by breastfeeding attitude and subjective norm (Figure 1).

![Conceptual framework of the study](image)

*Figure 1. Conceptual framework of the study*

Research Methodology:

Research Design:

This descriptive study was focused on factors expected to influence mother’s intention to EBF. These factors consisted of breastfeeding attitude and subjective norm.

Population and Setting:

The population in this study was all postpartum mothers admitted in the postnatal ward at Dhaka Medical College Hospital (DMCH), Bangladesh.

This hospital was selected for the research setting because it was located in the central Dhaka and is considered as the top referral and specialized hospital of the country. A large number of mothers came from different places to receive antenatal and postnatal care. Therefore, this setting was appropriate representative for all mothers in Bangladesh.
Sample and Sampling:

The sample size in this study was estimated by using Thorndike’s formula (Thorndike, 1978).

\[ n \geq (10k) + 50 \]

Where, \( n \) is sample size, \( k \) is the number of independent variables (two variables) that gives the calculation of sample size of at least 70 participants. However, the final sample size for data analysis was 65 because five subjects were deleted due to non normality of data distribution. Based on Nunnally and Bernstein (1994), the sample size should be 30 cases per independent variable when performing regression analysis. Therefore, it is appropriate for doing a regression analysis in this dataset.

A purposive sampling method was used to recruit the eligible subjects who met the inclusion criteria. The inclusion criteria for the postpartum mothers were that they should be normal labor, have no flat or inverted nipple, have no history of AIDS or HIV infection, have no skin lesions that are communicable to infant; and the inclusion criteria for the infants were healthy full term infants and no cleft lip or cleft palate.

Instruments:

Data was collected by using four set of questionnaires: 1) The Demographic Data Questionnaire, 2) the Breastfeeding Attitude Questionnaire, 3) the Subjective Norm Questionnaire, and 4) the Intention to Exclusive Breastfeeding Scale.

The Demographic Data Questionnaire was designed by the researcher based on literature review.

Breastfeeding attitude was measured by the Breastfeeding Attitude Questionnaire developed by the researcher based on the TRA (Ajzen, 1988) and literature review. It consists of two subscales: Breastfeeding beliefs (23 items) and outcome evaluation of breastfeeding beliefs (23 items). A 5-point likert scale was used for all items ranging from 5 = strongly agree to 1 = strongly disagree. An estimate of the breastfeeding attitude was obtained by multiplying belief strength and outcome evaluation of breastfeeding beliefs, and summing the resulting products (Ajzen, 1988). For example, breastfeeding attitude score = summation of breastfeeding beliefs score multiplied by outcome evaluation of breastfeeding beliefs score. The higher score indicates the greater attitude of intention to EBF.
Subjective norm regarding breastfeeding was measured by Subjective Norm Questionnaire developed by the researcher based on the TRA (Ajzen, 1988) and literature review. It consists of two subscales: Normative beliefs concerning referents or the mother’s perception about the influence from significant others to perform or avoid performing her breastfeeding (10 items) and the mother’s motivation to comply with these referents (10 items). A 5-point likert scale was used for all items ranging from 5 = strongly agree to 1= strongly disagree. An estimate of the subjective norm was obtained by multiplying the normative beliefs score and motivation to comply score, and summing the resulting products (Ajzen, 1988). The higher score indicates the greater perception of mother about influences from significant others to perform and motivation to comply about EBF.

Intention to EBF of mothers was measured by the Intention to Exclusive Breastfeeding Scale developed by the researcher based on the TRA (Ajzen, 1988) and literature review. There is 0 to 10 points numeric rating scale containing endpoints of “I should not exclusively breastfeed my baby for at least six months postpartum” (0) and “I should exclusively breastfeed my baby for at least six months postpartum” (10). The midpoint (5) of the scale represent unsure of EBF. A higher score indicates that mothers strongly intend to EBF their babies.

Translation, Validity and Reliability of the Instruments:

The original instruments were developed in English language. The English versions of all instruments were translated into Bengali language through back translation procedure (Brislin, 1970).

The content validity of the instruments in the original English versions was validated by three experts: Two experts in a pediatric nursing area and one in a pediatric area.

A pilot study was done with 20 postpartum mothers who had the same inclusion criteria as the subjects in this study to assess the readability and reliability of all questionnaires. The internal consistency reliability of Breastfeeding Attitude Questionnaire and Subjective Norm Questionnaire was acceptable (Cronbach’s Alpha coefficients = 0.94 and 0.96, respectively) because an acceptable Cronbach’s Alpha coefficient is at least equals to 0.70 (Polit & Beck, 2008). The test-retest reliability of the Intention to Exclusive Breastfeeding Scale was acceptable (correlation coefficient = 0.85) because an acceptable level of correlation coefficient is at least equals to 0.70 (Polit & Beck, 2008).
Protection of Human Subjects:

This study was approved by the Institute of Review Board of the Faculty of Nursing, Prince of Songkla University, Thailand. All postpartum mothers received sufficient information about the purpose of the study, the methods, and the instruments used in collecting the data, and the protection of all their rights. Confidentiality of subject’s responses was assured by using sample coding. Participants were assured that they have rights to refuse or to participate in the study at any time.

Data Collection:

After approval of the research proposal and permission to collect the data was granted from the Director of the DMCH, Dhaka, Bangladesh, the researcher met with the head nurse of the postnatal ward and the participants who met the inclusion criteria. The researcher introduced herself and briefly explained the purpose of the study. The researcher explained mothers to sign an informed consent that they have rights to refuse or to participate in the study at any time. The researcher read the questions to the mothers ‘word by word’ and asked them to provide the answers in accordance with the questions being asked. The researcher checked the completeness of the questionnaires. The data was collected from December 2009 to February 2010.

Data Analysis:

Both descriptive and inferential statistics were used for analyzing the data. A hierarchical multiple regression analysis was used to analyze whether breastfeeding attitude and subjective norm can predict the intention to EBF of mothers.

Results of the Study:

Demographic Characteristics

Almost half of the mothers had a secondary school of education (47.8%). Most mothers were housewives (78.5%). Almost all of them were Muslim (98.5%) and had no complications or condition during this pregnancy (98.5%). Most of them had inadequate of income (60%) and no previous experience about breastfeeding (60%). In terms of infants, most of them were male (64.6%).
Relationships among Breastfeeding Attitude, Subjective Norm, and Intention to Exclusive Breastfeeding

The results showed a statistically significant moderate and positive correlation between breastfeeding attitude and intention to EBF of mother (r=0.50, p=0.000) whereas no correlation between subjective norm and intention to EBF of mothers (r=-0.08, p=0.26) and between subjective norm and breastfeeding attitude (r=0.13, p=0.15) was found.

Influencing Effects of Breastfeeding Attitude and Subjective Norm on Intention to Exclusive Breastfeeding

After testing the assumptions of regression analysis and it was found that all of them were acceptable, intention to EBF of mothers was regressed on breastfeeding attitude and subjective norm. The order and content of the steps were based upon the theoretical view of the TRA. In the first regression analysis, breastfeeding attitude was regressed into the equation. In the second regression analysis, breastfeeding and subjective norm were together regressed into the equation. For the first step of regression or model 1 (Table 1), the result indicated that breastfeeding attitude explained that there was 25% of the variance in intention to EBF of the mothers \( R^2=0.25, F (1,63) =21.17, p=0.000 \) and the regression coefficient was 0.50 (t=4.60, p=0.000). In the second step or model 2 (Table 1), it was found that breastfeeding attitude and subjective norm together explained that there was 27% of the variance in the intention to EBF of the mothers. Adding subjective norm into the equation included a non-significant 2% to the explained variance to the equation \( R^2 \text{ change}=0.02, F \text{ change} (1,62) =1.90, p=0.17 \). The regression coefficient of breastfeeding attitude in the second model was 0.52 (t=4.78, p=0.000) whereas that of subjective norm was -0.15 (t=-1.38, p=0.17).

Table 1
A hierarchical multiple regression of breastfeeding attitude and subjective norm with intention to EBF of mothers (N= 65)

<table>
<thead>
<tr>
<th>Model</th>
<th>Independent Variables</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Breastfeeding Attitude</td>
<td>0.001</td>
<td>0.000</td>
<td>0.502</td>
<td>4.602</td>
<td>0.000</td>
</tr>
<tr>
<td>2</td>
<td>Breastfeeding Attitude</td>
<td>0.001</td>
<td>0.000</td>
<td>0.522</td>
<td>4.777</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Subjective Norm</td>
<td>-0.006</td>
<td>0.005</td>
<td>-0.150</td>
<td>-1.377</td>
<td>0.173</td>
</tr>
</tbody>
</table>

\( R^2=0.252 \) for the model 1, \( R^2 \text{ change}=0.022 \) for the model 2, total \( R^2=0.274 \)
Discussions:

The present study examined the extent to which the breastfeeding attitude and subjective norm influence the intention to EBF of mothers in Bangladesh. The findings illustrated that whether the findings of the present study support the theory/previous studies or not. The present findings provide the utility of the TRA in its partial implication to the prediction and understanding of intention to EBF of mothers. According to TRA, attitude and subjective norm are the major factors which determine person’s behavioral intention. In this study, the results support the TRA partially. Breastfeeding attitude predicted intention to EBF of mothers whereas subjective norm did not predict intention to EBF of mothers.

It was found that breastfeeding attitude explained that there was 25% of the variance in the intention to EBF. The magnitude of breastfeeding attitude coefficient was moderate ($\beta=0.50$, $t=4.60$, $p=0.000$). This result is consistent with the theory which stated that attitude is the variable influencing behavioral intention. The results are also consistent with those of other studies among different populations (Kloeblein-Tarver et al., 2002; Persad & Mensinger, 2008; Ratananugool, 2001; Wombach, 1997).

In contrast, the results of the present study are not consistent with the study of Hill et al. (2008). They found that breastfeeding attitude did not predict intention to breastfeeding. The possible reason behind these findings was probably that this study was conducted in a developed country (The United States of America). Most mothers had higher education; thus, breastfeeding attitude may not create much influence on their intention to breastfeeding. In contrast, the present study was conducted in Bangladesh which is a developing country. Most mothers had lower education and strongly agreed with positive attitude items (6 in 7 items or 85.11%) and disagreed with negative attitude items (9 in 16 items or 56.25%). Simply, an attitude toward any concept is a person’s general feeling of favorableness or unfavorableness for that concept (Ajzen & Fishbein, 1980). Based on the TRA, attitude towards behavior is a person’s judgment that the performing the behavior is good or bad for him/her, and that she/he is in favor or against performing the behavior (Ajzen & Fishbein, 1980). It means that a person who believes that performing a given behavior will lead to mostly positive outcome will have a favorable attitude toward performing that behavior while a person who believes that the behavior will lead to mostly negative outcomes will have an unfavorable attitude. In this study, most of the mothers
held a favorable or positive attitude toward performing a behavior. Thus, breastfeeding attitude of mothers in this study predicted their intention to EBF.

In this study, subjective norm did not predict intention to EBF of mothers ($\beta=-0.15$, $t=-1.38$, $p=0.17$). This finding did not support the TRA but the finding is consistent with two previous studies (Ratananugool, 2001; Wambach, 1997). Based on the TRA, subjective norms are also a function of beliefs, namely the person’s beliefs that specific referents think that she should or should not perform a behavior and her motivation to comply with those normative beliefs (Ajzen, 1988). In this study, most mothers perceived that all their referents thought that they should definitely breastfeed their infants (10% strongly agreed; 90% agreed). They also were motivated by their referent’s thinking (10% strongly agreed; 90% agreed). Although, most mothers agreed with their referent’s suggestions and had motivation to comply with their thought; unfortunately, subjective norm could not predict the intention to EBF in this study. This means that although most mothers in this study perceived that all their referents suggested that they should definitely breastfeed their infants and they also were motivated by their referent’s thinking but these could not create an impact on their intention.

The possible reason behind this probably may be due to religion beliefs. Almost all mothers (98.5%) were Muslim. Based on Islamic law, women can empower and shape their lives. Based on a breastfeeding aspect, this duty is considered as a woman business. Thus, it can be assumed that these mothers themselves may have confidence in making their own decision whether they want to perform or ignore the EBF for at least six months postpartum.

**Conclusion and Recommendation:**

This study demonstrated the implication of the TRA in examining the extent to which the breastfeeding attitude and subjective norm have influence on intention to EBF among Bangladeshi postpartum mothers. The study findings provided information that can be used in clinical practice and future research to promote the increase rate of exclusive breastfeeding.
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