# RELIABILITY AND VALIDITY OF THE BREASTFEEDING INSTRUMENT

# DEVELOPMENT OF MEASURES OF BREASTFEEDING INTENTION AND ITS RELATIONSHIP TO OPTIMAL BREASTFEEDING BEHAVIOR: A PRELIMINARY STUDY

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## Abstract

This study generated an instrument for assessing mother's breastfeeding intention and promoting optimal breastfeeding behavior. The association between mother's breastfeeding intention and optimal breastfeeding behavior was also determined. The study sample consisted of 350 mothers attending postnatal clinics from a Provincial General Hospital. Mother's intention to optimally breastfeed was assessed by administration of a breastfeeding intention questionnaire of Likert scale developed in this study. Optimal breastfeeding behavior conversely, was determined by the three measures of breastfeeding intention. The newly developed instrument was found to be valid and reliable. In addition, the results showed that mothers' breastfeeding intention was positively and significantly related to their practise of optimal breastfeeding behavior.

**Key Word**; Breastfeeding Intention, Optimal breastfeeding behavior, breastfeeding instrument

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## Introduction

Reducing infant and young child morbidity and mortality rates through optimal breastfeeding behavior is the motivation strength behind behavior change communication strategy. Optimal breastfeeding behavior is one that is specific, feasible, measurable, and directly linked to improved health outcomes of both the mother and infant (Stockdale *et al.*, 2008). This includes initiation of breastfeeding within the first hour of birth, exclusive breastfeeding for six months of life and continued breastfeeding through the first year. The need to sustain it is unquestionable cost-effective strategy for improving infant survival and reducing the burden of childhood diseases, particularly in developing countries. In Kenya, encouraging mothers attending postnatal clinics to practice optimal breastfeeding behavior presents a major challenge to health professionals (Lakati, Binnis, & Stevenson, 2002). Even though routine instruction-based approaches have been utilized to promote optimal breastfeeding behavior surprisingly rates of initiation, exclusivity and continuation remains suboptimal (KDHS, 08-2009). Breastfeeding research has largely been conducted and acknowledged in Kenya however very few studies have been conducted on breastfeeding psychological constructs (Naanyu, 2008). The scarcity of research in Kenya on breastfeeding psychology is due to the limitation of better approaches for assessing breastfeeding intention and comprehending rationale for practise of both optimal and sub-optimal breastfeeding (Mutuli, Walingo & Othuon, 2012). Challenged with the reality that routine professional support offered is far from facilitating attainment of desired target of achieving the Millennium Development Goal 4 - to reduce the under 5 mortality rates by two thirds before 2015 and achievement of vision 2030. This study intended to generate a valid and reliable instrument for assessing breastfeeding intention and promoting optimal breastfeeding. The existing approaches of promoting optimal breastfeeding focus more on the factual importance of breastfeeding and lack the theoretical basis to understand mother's psychological constructs which motivate breastfeeding intention facilitating practise of optimal breastfeeding (Donath *et al.*, 2003 & Naanyu, 2008). In order to influence practise of optimal breastfeeding, health professionals must comprehend mothers psychological constructs; maternal attitude (value for the behaviour), social pressures (normative expectation) and control factors (confidence that they will succeed). These are grounded in a conceptualisation of motivation known as Theory of Planned Behavior which assumes human behavior is guided by three kinds of considerations; attitude, social pressures and control factors (Ajzen, 1991). To date very few breastfeeding

instruments have been developed in Kenya with scales measuring maternal attitude, social pressures and control factors (Mutuli, Walingo & Othuon, 2012). The limitations in existing instruments have highlighted the need to produce a scale that assesses measures of mother's intention to optimal breastfeeding. It ought to measure mothers' cognitive and experiential aspects that manipulate optimal breastfeeding. These are the dimensions of human behavior strategies proposed by Ajzen (1991). Assessing measures of human behavior specifically breastfeeding intention and optimal breastfeeding is still a fairly new area of study in Kenya's research. Thus, the development of the instrument, which is named breastfeeding intention scale, is deemed significant. Literature reviews also showed that, to date, limited studies have investigated the relationships between breastfeeding intention and optimal breastfeeding (Waithaka, 2009, Naanyu, 2008 & Donath *et al.*, 2003). Therefore, there is a need to look into this association, particularly in the local context. Based on the above mentioned reasons, this study attempt to achieve two objectives as following:

## OBJECTIVES OF THE STUDY

1. Determine the reliability and validity of the breastfeeding intention scale.
2. Determine the relationships between breastfeeding intention and optimal breastfeeding behavior.

## 3.0 METHODOLOGY

A research survey was conducted to achieve the two objectives of the study. A randomly selected sample of three hundred and fifty mothers attending postnatal clinics exclusively from a Provincial General Hospital was sampled. This sample size was selected since it is an appropriate size to run factor analysis for the developed 10-item scale (Nunnally, 1978). Besides, Tabachnick & Fidell (1996) emphasize that factor analysis requires at least 300 cases. Consequently the researcher is certain that the selected size (N = 350) is sufficient for factor analysis. It is also adequate to run a correlation analysis for the second objective of the study. Inclusion criteria included an optimally or sub-optimally breastfeeding mother. Exclusion criteria included non-breastfeeding mothers even if they were attending postnatal clinics or had an infant.

**Survey Instruments**

The researcher utilized two instruments to assess variables of the study. Mothers' breastfeeding intention was measured by a breastfeeding intention scale, developed by the researcher. Optimal breastfeeding was measured by a scale adapted from the Theory of Planned Behavior derived from the manual of health services researchers for constructing questionnaires based on the Theory of Planned Behaviour developed by Francis *et al.*, (2004).

**Breastfeeding Intention Scale**

The breastfeeding intention scale is a concise self-report instrument designed to assess breastfeeding intention of mothers attending postnatal clinics in a Provincial General Hospital in a rural town in Kenya. The breastfeeding intention scale included mothers' beliefs about the values of initiation of breastfeeding within the first hour of birth, exclusive breastfeeding for six months of life and continued breastfeeding through the first year. It was a 7-point Likert scale, with 10 items written in two versions; "Kiswahili" the national language and English the language of instruction. Three nutrition experts and three educational psychology researchers critically examined and verified the content of the scale. Each item was then checked by Kiswahili and English Language experts for its content and if it was actually measuring what it is intended to measure. The content requirement of this scale was guided by literature reviews on breastfeeding motivational instructional measurement scale (BMIMS) within a Baby Friendly Initiative (Baby Friendly Initiative, 1998) and Breastfeeding Self-efficacy Scale-Short Form (BSESSF) (Stockdale *et al*, 2005). The content specification of the scale is shown in Table 1.

The scale is divided into two main dimensions namely mothers' value of breastfeeding intention and the beliefs about the intention to optimal breastfeeding. From the value perspective, it measures mothers' attainment, intrinsic and utility which hold with regard to breastfeeding intention. This dimension does not measure mothers' actual breastfeeding intention. An example of the items in the value dimension is "*Mimi nilianzisha kumnyonyesha mtoto wangu kati ya saa moja nilipomzaa, nitatamnyonyesha kwa miezi sita za kuzaliwa na nitaendelea kumnyonyesha kwa mwaka mmoja wa kuzaliwa*" (I initiated breastfeeding within the first hour of birth, i will exclusively breastfeed for six months and continue breastfeeding through the first year of birth).

Table 1 shows mothers' beliefs about breastfeeding intention which facilitate practise of optimal breastfeeding. These are divided into importance and challenge dimensions. Items from the importance dimension are '*Ni vizuri kiafya kumnyonyesha mtoto wako kati ya saa moja unapomzaa, kumnyonyesha kwa miezi sita za kuzaliwa na kuendelea kumnyonyesha kwa mwaka mmoja wa kuzaliwa"* (It's healthy to initiate breastfeeding within the first hour of birth, exclusively breastfeed for six months after birth and continue breastfeeding through the first year). Whereas items from the challenge dimension are "*Ninakumbana na matatizo na vizuizi ya kumnyonyesha mtoto wangu kati ya saa moja ninapomzaa, kumnyonyesha kwa miezi sita za kuzaliwa na kuendelea kumnyonyesha kwa mwaka mmoja wa kuzaliwa"* (I encounter problems and obstacles when i initiate breastfeeding within the first hour of birth, exclusively breastfeed for six months of birth and continue breastfeeding through the first year).

As mentioned before, the breastfeeding intention scale is a 7-point Likert scale, whereby responses may range from 1 (not at all true of me) to 7 (very true of me). The ratings for items have to be reversed before a respondent's score can be computed. A respondent who has circled point 1 now obtain a score of 7. Accordingly, point 2 gets a score of 6, point 3 receives a score of 5, point 4 obtain the same score, which is 4, point 5 receives a score of 3, point 6 gets a score of 2, and finally point 7 obtain a score of 1. The reverse coding system will be done by Statistical Packages for Social Science (SPSS), version 15.0. Scale scores are obtained by summing the score for each item. The highest possible score that a respondent could attain is 315 (point 7×45 items). The possible lowest score, conversely, is 45 (point 1×45 items). The scores for breastfeeding intention, hence, may range from 45 to 315. If the obtained score is greater than one standard deviation from the mean, the respondent is believed to have positive intention to practise optimal breastfeeding. On the other hand, if obtained score is lesser than one standard deviation from the mean, respondent has negative intention to practise optimal breastfeeding. If the acquired score falls within plus minus one standard deviation from the mean, respondent still has undecided breastfeeding intention (hesitant about the practise of optimal breastfeeding).

**Optimal Breastfeeding Scale**

Optimal breastfeeding was measured by a scale adapted from the Theory of Planned Behavior by Ajzen (1991) derived from the manual of health services researchers for constructing

questionnaires based on the Theory of Planned Behaviour developed by Francis et al., (2004). It was a valid and reliable instrument (Gross, 2008). This scale consists of three sections; maternal attitude (value of behavior), subjective norms (social pressures of behavior) and perceived behavioral control (control factors of behavior). In order for the scale to be applied in breastfeeding context, alterations were done. The modified version of the scale has 60 items; concerning maternal attitude (20), subjective norm (20) and perceived behavioral control (20). It was a 7-point Likert scale; responses range from 1 (not at all true of me) to 7 (very true of me). Scale scores were determined by summing the items and getting an average. Its reliability was tested by Cronbach's alpha analysis. The researcher found that the adapted scale has an alpha coefficient of 0.86, indicating that it is very reliable.

## RESULTS AND INTERPRETATIONS

The results and interpretations were arranged in accordance with the two study objectives. The reliability and validity of the breastfeeding intention scale was first discussed. Subsequently, the relationship between breastfeeding intention and optimal breastfeeding was determined.

### Reliability of the breastfeeding intention Scale

Reliability is the degree to which an instrument consistently measures whatever it is measuring (Gay & Airasian, 2000). Reliability tests were conducted across all measures within the questionnaire since these measures were only intended to be used for weighing and for measuring a concept. Table 2 shows reliability coefficients for the grouped factors measuring each concept in the questionnaire. Gliem & Gliem (2003) indicated that Cronbach's alpha reliability coefficient usually ranges between 0 and 1. Nevertheless, there are no lower limits to the coefficient. The closer Cronbach's alpha (α) coefficient is to 1.0 the greater the internal consistency of the items in the scale. The size of alpha is determined by both the number of items in the scale and the mean inter-item correlations. George & Mallery (2003) rule of thumb was used to classify the Cronbach's alpha coefficients generated. According to the rule of thumb; >.9-Excellent, >.8-Good, >.7-Acceptable, >.6-Questionable, >.5-Poor and <.4- Unacceptable. While increasing the value of alpha is partially dependent upon the number of items in the scale, it should be noted that this has diminishing returns. So, if alpha value computed from a set of variables is larger than 0.7, the reliability of the factor extracted from the set of variables is

acceptable. Similarly, if alpha value computed from all the variables which construct the analytic structure is larger than 0.7, the variables are reliable. It should also be noted that while a high value for Cronbach's alpha indicates good internal consistency of the items in the scale, it does not mean that the scale is unidimensional. Factor analysis was used to determine the dimensionality of a scale that has been performed in this study. During pre-testing, attainment, intrinsic and utility value measures obtained questionable reliability. Measures of beliefs presented poor reliability. After the data collection measures of attainment value presented acceptable reliability but more than the coefficient obtained during pretesting. All the measures of intrinsic value presented a good reliability. Utility value measures presented an acceptable reliability but this was an improvement compared to that presented during pretesting. Belief measures presented good reliability. So, the questionnaire used for this study was considered reliable.

**Validity of the breastfeeding behavior Scale**

Validity was considered in terms of content or "face" validity and also in terms of construct validity during development of breastfeeding behavior scale. Content validity was addressed through a review by 6-person panel from nutrition and educational psychology. The content validity of individual items was assessed through item review by three experts; a statistician, nutrition expert and psychologist. Construct validity was investigated described below using principal component factor analysis with varimax rotation and Kaiser Normalization. The aim of factor analysis is to ascertain the fundamental structure of a comparatively large set of variables (Garson, 2001, 2004).

Data was screened, assumptions were examined and the practical considerations underlying factor analysis determined. The researcher conducted the procedures to test normality and the visual displays implied that the data was from a normal distribution. The Kolmogorov-Smirnov test signified that the sample did not come from a normal distribution as the observed significance level (Kolmogorov-Smirnov = 0.00) was lesser than 0.05. This result was obtained since it is impossible to find data that are exactly normally distributed when the sample size is large, such as in this study (N=350) (Nurusis, 1992). Based on Nurusis's opinion, the results of the visual displays besides the reality that factor analysis is strong to the assumption of

normality, this data was considered normally distributed. The appropriateness of the data for factor analysis was tested. The correlation matrix showed that a number of correlations exceeded 0.30 thus it was suitable for factoring. The Bartlett's Test of Sphericity was significant at 0.01, which signified that no zero correlation and the Kaiser-Meyer-Olkin measure of sampling adequacy was 0.94, far greater than 0.60, the least value required to process a factor analysis (Coakes & Steed, 2000). Besides, the matrices confirmed that all the values were above the acceptable level of 0.50 (Coakes & Steed, 2000), thus certainty that these items are factorable.

Assessment of the initial statistics showed that two factors would be extracted. This meant that the breastfeeding intention scale was not unidimensional as assumed. This scale consisted of two elements that accounted for 60% of the variance. Element I is predominant, it explained 60% of the variance and had an eigenvalue of 5.23 whereas element II accounted for 20% of the variance and had an eigenvalue of 2.45. Eigenvalues above one were allowed for the latent root criterion as recommended by Hair *et al*., (1992). Results for the extraction of common factors are shown in Table 3.

Figure 1 graphically presented the eigenvalues for each factor. Factors exceeding the inflection point of the slope were maintained. Factor I was above the inflection point of the slope as a result was should be kept. Factor II was retained because the curve first begins to straighten out at this factor. Besides Factor II was interpretable and its eigenvalue was greater than 1.Varimax rotation method was utilized to support the interpretation of the factors as it generated significant item groupings. According to the rule of thumb by Hair *et al*., (1992), factor loadings of 0.30 or higher were acceptable. The result of this analysis was shown in Table 3. There were six items with double loadings. This result is expected as items 1 to 10 were intended to measure breastfeeding intention thus the factors extracted would be related. Items that are loaded on double factors were placed in the categorization of factors that generated the highest loadings. The rotation solution showed that Factor I comprised of items 1-8 whereas Factor II is made up of items 9 and 10. Advanced assessment showed that Factor I composed of items that evaluated mothers' attainment, intrinsic and utility value of breastfeeding intention. Factor II alternatively comprised of items which assessed mothers' beliefs about the breastfeeding intention to optimal breastfeeding. After conducting factor analysis, the dimensionality of breastfeeding intention

scale was well described. Though, there are just two items indicating Factor II the importance and challenges of breastfeeding intention to optimal breastfeeding.

According to Green, Salkind & Akey (2000), this is a regular problem when factor analysis is conducted on existing scale. To rectify this difficulty, extra items had to be created. At least four items were required to assess a construct (Green, Salkind & Akey, 2000). For this reason, items 11 and 12 were included to determine mothers' beliefs about breastfeeding intention to optimal breastfeeding. These included Item 11: Importance of breastfeeding intention to optimal breastfeeding-positive statement and Item 12: Challenges of breastfeeding intention to optimal breastfeeding-negative statement. The maximum and minimum potential score increased because two new items had been added to the breastfeeding intention scale. Based on the modified scale, the scores for breastfeeding intention could range from 12 to 84. The maximum possible score that a respondent could obtain was 84 (point 7 × 12 items). The minimum possible score, on the other hand, was 12 (point 1 × 12 items).

**Relationship between breastfeeding intention and optimal breastfeeding**

The link between breastfeeding intention and optimal breastfeeding were investigated using Pearson product-moment correlation coefficient. Interpretation on the strength of association was based on guidelines proposed by Cohen (1988) (Table 4). The results of these analyses are shown in Table 5.

Table 5 illustrates that there was a significant and positive correlation between breastfeeding intention and optimal breastfeeding, demonstrating that when breastfeeding intention increases optimal breastfeeding is highly to be practised ($r = 0.68$, $p < 0.05$). Both dimensions of breastfeeding intention, mothers' attainment, intrinsic and utility value of breastfeeding intention (value dimension) and their beliefs about importance and challenges of breastfeeding intention (beliefs dimension) were found to be positively related to optimal breastfeeding. The strength of correlations between values ($r = 0.66$, $p < 0.05$) and beliefs dimensions ($r = 0.62$, $p < 0.05$) with optimal breastfeeding can be considered as relatively significant (Cohen, 1988). Partial correlation was used to further investigate the relationships between the dimensions of

breastfeeding intention with optimal breastfeeding. This analysis offers a single measure of linear association between two variables while adjusting for the effects of one or more additional variables (Pallant, 2001; Coakes & Steed, 2000). Study findings reveals that there was a moderate partial correlation between intention about optimal breastfeeding and sub-optimal breastfeeding, after the beliefs dimension were controlled ($r = 0.49$, $p < 0.05$). This implies that without taking into consideration mothers' beliefs about the values of breastfeeding behavior, the breastfeeding intention that mothers had on the practise of optimal breastfeeding was enough to produce a significant positive relationship. Conversely, there was a low but significant partial association between beliefs about the values of breastfeeding intention and the practise of optimal breastfeeding, after the breastfeeding intention dimension was controlled ($r = 0.25$, $p < 0.05$). This showed that mothers' beliefs about breastfeeding intention values alone were able to contribute a positive correlation with optimal breastfeeding. Each dimension evidently had distinctive contributions. These results were harmonizing with factor analysis which recommends that the underlying constructs of breastfeeding intention consists of mothers breastfeeding intention about optimal breastfeeding and their beliefs about the values of breastfeeding intention. The low correlation between beliefs about the values of breastfeeding intention and optimal breastfeeding may be due to the small numbers of items measuring the beliefs dimension. However, after factor analysis, two more items were added to this dimension, a higher correlation could then be achieved. Further research can be conducted to validate this assumption.

## 5.0 IMPLICATION

According to the study, breastfeeding intention significantly correlated with optimal breastfeeding; the higher the mothers' breastfeeding intention the most likely she will practise optimal breastfeeding. An implication for nursing practices cropping up out of this finding suggests that health professionals (nurses) have a significant responsibility in promoting optimal breastfeeding. They can provide mothers with information on importance of having a breastfeeding intention to practise optimal breastfeeding and convey the values of this practice. Generally, a mother should appreciate attainment, intrinsic and utility values in order to: assess her individual significance of having a breastfeeding intention to optimally breastfeed and be

able to confirm or disconfirm with the effect on her persistence and effort to perform the behaviour; experience the satisfaction that she achieves from developing an intention to practise optimal breastfeeding and then after performing the behaviour; determine the degree to which the effort of trying to develop an intention to optimally breastfeed correlates to present and future goals, such as exclusive breastfeeding for six months of life and continued breastfeeding through the first year and even beyond. Given that breastfeeding maybe a volitional or non-volitional behavior but not a skill that automatically develops as mothers initiates it. Health professionals (nurses) should take the responsibility to educate mothers on the essence of appreciating the attainment, intrinsic and utility values. These are the motivational components of the importance in developing a breastfeeding intention to optimally breastfeed and expectancy of successful optimal breastfeeding behaviour. Besides the three named values mothers also need to have positive breastfeeding attitudes and perceived maternal confidence. Positive maternal attitude and confidence will enable a mother to persist to overcome almost all barriers that may hinder her to develop an intention to optimally breastfeed. Health professionals (nurses) should also initiate approaches that effectively address the importance and challenges of the practise of optimal breastfeeding. For example, nurses should ensure a mother perceives optimal breastfeeding as a beneficial, feasible, and socially acceptable practice which can be achieved through small, doable actions negotiated with pregnant and lactating women. Since comments and actions of family members either builds or undermines a woman's confidence to optimally breastfeed and reinforces her determination to adopt and maintain other feeding practices. The health professionals (nurses) should convince the family members and caregivers to be advocates of good breastfeeding practices and support breastfeeding women. The nurses ought to use the community health workers to promote optimal breastfeeding in the communities for it to become the norm in society so that it is expected, approved, and valued. It is extremely important for pregnant and lactating women to develop a breastfeeding intention to optimally breastfeed so that breastfeeding is initiated within the first hour of birth; infants are breastfed exclusively for six months; and continued breastfeeding through the first year is achieved. Health professionals (nurses), breastfeeding promoters and researchers may use the breastfeeding intention scale to gauge mothers' level of breastfeeding intention towards the practise of optimal breastfeeding behavior. This scale is designed to be a concise instrument so that it can be used by health professionals (nurses), breastfeeding promoters and researchers for action research in the usual

maternal child health clinics when assessing breastfeeding intention towards practise of optimal breastfeeding behavior. With this simple instrument, health professional (nurses), breastfeeding promoters and researchers may assess mothers' progress in breastfeeding intention towards her practise of optimal breastfeeding after employing the approaches to appreciate and signify the importance of practising the behavior. However, the limitation of the scale has been acknowledged as being a newly developed instrument. Hence more research should be carried out to refine and extend the scale.

## 6.0 CONCLUSIONS

This study sought to determine the reliability and validity of the breastfeeding intention scale besides revealing the relationship between breastfeeding intention and optimal breastfeeding behavior. The breastfeeding intention scale's content validity was verified by a panel of experts in nutrition and psychology, and the construct validity was established with factor analysis. This newly developed instrument can be regarded as reliable, valid, and comprehensible to pregnant and lactating women. It can be utilized by nurses, breastfeeding promoters and researchers to explore mothers' breastfeeding intention towards the practise of optimal breastfeeding behavior in the Kenyan context. This study also showed that breastfeeding intention was positively associated to the practise of optimal breastfeeding behavior. This suggests that mothers are most likely to practise optimal breastfeeding behavior when their' breastfeeding intention is positively motivated. Health professionals (nurses) have to educate mothers on optimal breastfeeding behavior besides informing them on the importance and challenges of practising the behavior.

This study has no conflict of interest.

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**Table 1:** Content measurement for the breastfeeding intention scale

| Breastfeeding Intention | Items |
|---|---|
| **Attainment value of breastfeeding intention** | |
| a. Initiation of breastfeeding within the 1st hour of birth | 3 |
| b. Exclusive breastfeeding for six months | 3 |
| c. Continued breastfeeding through the 1st year of birth | 3 |
| **Intrinsic value of breastfeeding intention** | |
| a. Initiation of breastfeeding within the 1st hour of birth | 3 |
| b. Exclusive breastfeeding for six months | 3 |
| c. Continued breastfeeding through the 1st year of birth | 3 |
| **Utility value of breastfeeding intention** | |
| a. Initiation of breastfeeding within the 1st hour of birth | 3 |
| b. Exclusive breastfeeding for six months | 3 |
| c. Continued breastfeeding through the 1st year of birth | 3 |
| **Beliefs about Intention to optimal breastfeeding** | |
| a. Importance of intention to optimal breastfeeding | 9 |
| b. Challenges of intention to optimal breastfeeding | 9 |
| **Total Items** | **45** |

**Table 2**: Reliability Test for Breastfeeding Intention Questionnaire

| Concepts Measurement | Number of items | Cronbach's alpha (pretest, n=35) | Cronbach's alpha (main survey, N=350) |
|---|---|---|---|
| **Attainment Value of breastfeeding intention** | | | |
| Breastfeeding Behavior-1 | 3 | 0.57 | 0.75 |
| Breastfeeding Behavior-2 | 3 | 0.60 | 0.74 |
| Breastfeeding Behavior-3 | 3 | 0.56 | 0.72 |
| **Intrinsic Value of breastfeeding intention** | | | |
| Breastfeeding Behavior-1 | 3 | 0.56 | 0.80 |
| Breastfeeding Behavior-2 | 3 | 0.64 | 0.76 |
| Breastfeeding Behavior-3 | 3 | 0.58 | 0.78 |
| **Utility Value of breastfeeding intention** | | | |
| Breastfeeding Behavior-1 | 3 | 0.62 | 0.79 |
| Breastfeeding Behavior-2 | 3 | 0.60 | 0.68 |
| Breastfeeding Behavior-3 | 3 | 0.63 | 0.73 |
| **Beliefs about breastfeeding intention to optimal breastfeeding** | | | |
| Importance of Behavior-1 | 3 | 0.58 | 0.79 |
| Importance of Behavior-2 | 3 | 0.53 | 0.77 |
| Importance of Behavior-3 | 3 | 0.55 | 0.76 |
| Challenges of Behavior-1 | 3 | 0.52 | 0.75 |
| Challenges of Behavior-2 | 3 | 0.56 | 0.78 |
| Challenges of Behavior-3 | 3 | 0.57 | 0.79 |

**Note: Behavior-1**: Initiation of breastfeeding within the first hour of birth; **Behavior-2**: Exclusive breastfeeding for six months of life; **Behavior-3:** Continued breastfeeding through the 1st year of birth.

**Table 3:** Extraction of Common Factors

| Element | Eigenvalues | Percentage of variance | Cumulative percentage |
|---|---|---|---|
| **I** | 5.23 | 59.67 | 59.65 |
| **II** | 2.45 | 19.81 | 62.46 |

**Table 4:** Guidelines to Interpret the Strength of Correlation (*r*)

| **Correlation coefficient (*r*)** | **Strength** |
|---|---|
| *r* = 0.12 to 0.28 | Small strength |
| *r* = 0.33 to 0.49 | Medium strength |
| *r* = 0.52 to 1.32 | Large strength |

(*Source:* Cohen, 1988)

**Table 5:** Pearson Correlation between Breastfeeding Intention and Optimal Breastfeeding Behavior

| **Variables** | **Optimal Breastfeeding Behavior** |
|---|---|
| Breastfeeding Intention | 0.68** |
| Values of breastfeeding intention | 0.66** |
| Beliefs about intention to optimal breastfeeding | 0.62** |

** Correlation is significant at .01 level (1-tailed)