European Journal of
Health Sciences
(EJHS)

Breast Feeding and Weaning Practices among Post-Partum Mothers in Selected Health Facilities in Umuahia Metropolis in Abia State.

Amaechi Nwannediuto F and Ezenduka Pauline O

European Journal of Health Sciences
ISSN 2520-4645 (online)
Vol.7, Issue 4, pp 26 - 40, 2022
www.ajpojournals.org

Breast Feeding and Weaning Practices among Post-Partum Mothers in Selected Health Facilities in Umuahia Metropolis in Abia State

Amaechi Nwannediuto F[1*] and Ezenduka Pauline O[1]

Nursing and Midwifery Council of Nigeria, Benin Zonal Office, Benin City, Edo State.

[*]Corresponding Author's Email: francisamaechi96@gmail.com

Abstract

Purpose: This study examined the breastfeeding and weaning practices among postpartum mothers in selected health facilities in Umuahia metropolis, Abia State, Nigeria.

Methodology: A cross-sectional descriptive design survey was conducted among 135 postpartum mothers who were conveniently selected from health facilities in Umuahia metropolis, Nigeria. The health facilities were selected by multi stage sampling technique. Data were collected using a self-structured questionnaire that incorporated the Breastfeeding Self-Efficacy Scale-Short Form questionnaire by Faux and Dennis and analyzed with Statistical Package for Social Sciences (SPSS) version 21.

Results: Findings showed that 78.1% had adequate initiation of breastfeeding (0-1 hour after childbirth), 28.9% of the participants initiated breastfeeding at 0-30 minutes of childbirth while 54.7% of the participants did not practice exclusive breastfeeding. Most (83.6%) of the participants had adequate BFSE scores. About 31.3% of the participants practiced good commencement of complimentary feeding. Majority of the participants used infant milk formula (33.6%) and Pap with sugar (12.5%) for complimentary feeding. The hypothesis tested revealed that there is a significant strong positive relationship between age and BFSE ($p = 0.000^*$, γ effect size = 92.1%) and there is also a significant strong positive relationship between parity of mother and BFSE ($p = 0.000^*$, γ effect size = 61.2%). There was good initiation of breast feeding but poor practice of exclusive breastfeeding amidst good BFSE. Based on the findings the researcher recommended that Stake holders in maternal and child health should design community based platforms for the identification and discourse of the reasons for the poor compliance with exclusive breastfeeding.

Recommendation: Stake holders in maternal and child health should design community based platforms for the identification and discourse of the reasons for the poor compliance with Exclusive Breastfeeding.

Keywords: *Exclusive-breastfeeding, Complimentary-feeding, Infant, Postpartum.*

Introduction

Adequate nutrition during infancy and early childhood is essential to ensure the growth, health, and development of children to their full potential (Cassar, 2016). It has been recognized worldwide that breastfeeding is beneficial for both the mother and child, as breast milk is considered the best source of nutrition for infants (Nursan, Dilek, & Sevin, 2014). Globally, infant feeding which include patterns of breastfeeding, and the use of formula feeding, solid feeds and other complementary feeds and liquids still falls short of UNICEF recommendations (Sholeye, Abosede, & Salako, 2015). About 35% of the world's infants are not exclusively breastfed, and an estimated 65% of the world's infants are at risk of obesity, diabetes and memory related problems due to breast milk deprivation (Agunbaide & Ogunleye, 2012).

In Nigeria, only 56.1% of the infants receive exclusive breastfeeding up to 6 months from birth (Sholeye, Abosede, & Salako, 2015). In the south-east of Nigeria in 2011, 53.6% of infants received exclusive breastfeeding up to 6 months from birth (Agu & Agu, 2011). This figure had since dropped to 35.9% in 2013 (Ugboaja, Berthrand, Igwebe, & Obi-Nwosu, 2013). Adequate breastfeeding (exclusive breastfeeding) have been conceived by World Health Organization [WHO] (2016) as giving of breast milk to an infant as the only source of food and water from the time of birth till 6 months, thereafter the infant should receive complementary foods with continued breastfeeding up to 2 years of age or beyond. Owing to the reason that studies show that Infants who received breast milk during their first year of life and up to the second year have decreased risk of infectious diseases such as diarrhea, respiratory, ear, and urinary tract infections (United Nations Childrens' Fund [UNICEF], 2012). It is believed in scientific circles that the long-term child benefits of exclusive breastfeeding initiation include decreased incidence of obesity and chronic illnesses such as diabetes, allergies, and asthma (Ashmore, 2011). Meanwhile, the long term maternal benefits include regular involution (return to pre-pregnancy health status).

Weaning involves the introduction of hygienically prepared food substances that are diversely rich in nutrients into an infants' diet as a complement to breast milk from the age of 6 months (UNICEF, 2016). However, Campos, Chaoul, Carmona, Higa, and Vale (2015), Setegn, et al. (2012), Tarrant et al. (2010) and Gatti (2008) have shown that mothers find it difficult to meet exclusive breastfeeding goals and to adhere to the expert recommendations for continued exclusive breastfeeding despite increased rate of initiation. Some mothers technically wean their infants within the first four to six weeks from birth often starting with the introduction of glucose water. It is estimated that less than 45% of infants globally receive exclusive breastfeeding till 6 months of age (Khan, 2014). National data shows that although an increasing number of mothers are initiating breastfeeding, many are unable to meet the recommendations for exclusivity and duration (UNICEF, 2013). The highest rate of drop-out occurs during the first four weeks after birth (Ashmore, 2011).

Also, while on community clinical posting, it was observed that a number of women who visited the health facility for routine immunization for infants had baby formula, pap (akamu), or glucose water in flasks. A brief interaction with some of them individually revealed that despite adequate awareness of exclusive breastfeeding, they were not exclusively breastfeeding despite the fact that depriving infants of exclusive breastfeeding could lead to grave long term physical and physiological consequences. The discovery above engineered this study to investigate the

breastfeeding and weaning practices among postpartum mothers in selected health facilities in Umuahia metropolis Abia State Nigeria.

Purpose and Objectives: The general purpose of this study was to examine breastfeeding and weaning practices among postpartum mothers in selected health facilities in Umuahia metropolis Abia State Nigeria.

Specific objectives of the study were to:

1. Ascertain the Breastfeeding Initiation period by postpartum mothers.
2. Ascertain the proportion of postpartum mothers who practice Exclusive Breastfeeding
3. Determine the Breastfeeding Self-efficacy (BFSE) of postpartum mothers.
4. Determine the time of commencement of complimentary feeding by postpartum mothers.
5. Identify the types of complimentary feed used by postpartum mothers.

Hypotheses: Hypothesis formulated include:

1. There is no significant relationship between age of mother and Breastfeeding Self-efficacy.
2. There is no significant relationship between parity of mother and Breastfeeding Self-efficacy.

The Breastfeeding Self-efficacy theory was utilized in the study. It was developed by Dr Dennis in 2002 during her doctorial training in Nursing Sciences. She incorporated Bandura's (1977) Social Cognitive Theory and developed the breastfeeding self-efficacy concept and theoretical model (Dennis, 2010). Breastfeeding self-efficacy refers to a maternal confidence in breastfeeding her infant. The Breastfeeding Self-efficacy theory assumes a theoretical link between performance accomplishments, vicarious experience, verbal persuasion and physiological/affective responses to behavioral initiation, performance, maintenance and Confidence.

The four constructs of the Breastfeeding Self-efficacy Theory by Dennis are performance accomplishments, vicarious experience, verbal persuasion and physiological/affective responses. It is theorized that good breastfeeding and weaning practices are dependent on performance accomplishments, vicarious experience, verbal persuasion and physiological/affective responses (all of which could be objective or subjective). The occurence to life events relating to performance accomplishments, vicarious experience, verbal persuasion and physiological/affective responses could stimulate objective or subjective responses over time. If the responses are objective, the life events will amount to good breastfeeding and weaning practices. Nonetheless, if the responses are subjective, the life events will not amount to good breastfeeding and weaning practices.

Materials and Methods

Research design: Descriptive survey design was adopted for the study to assess the breastfeeding and weaning practices among postpartum mothers in selected health facilities in Umuahia metropolis, Abia State in the South Eastern Nigeria.

Sample and Sampling Technique: The study population consisted of 3,840 postpartum mothers (7-12 months) who attended Infant Welfare Clinic in World Bank Comprehensive Health Center, Infant Welfare Clinic and Adelabu Comprehensive Health Centre. A sample size of 135 was calculated using the Sullivan's Power analysis formula. Multi-stage sampling technique was adopted. At the first stage, the three preselected health facilities are placed on strata. The three preselected health facilities are World Bank Comprehensive Health Center, Infant Welfare Clinic

and Adelabu Comprehensive Health Centre. In the second stage, convenient sampling method was implored to select 45 respondents each from the three preselected health facilities (strata) to get the total number 135 that was calculated as the sample.

Research Instrument: The instrument for data collection was self-structured questionnaire that incorporated the Breastfeeding Self-Efficacy Scale-Short Form questionnaire. The instrument has six sections: section A to E. Section A has seven items which dealt with demographic characteristics of the respondents. Section B has one item that covered Breastfeeding Initiation. Section C has one item that tapped into Exclusive Breastfeeding. Section D has fourteen items that examined Breastfeeding Self Efficacy. Section E has two items that looked into time of commencement of weaning and types of weaning feeds. Section A, B, C and E were designed to measure variables in nominal (categorical) scale. Section D was designed to measure Breastfeeding Self Efficacy in four point likert scale (interval scale).

Validity of the Instrument: The questionnaire was validated for face and content validity by experts in the field of study and a statistician.

Reliability of the Instrument: To ensure reliability of the instrument, a pilot study of the instrument was conducted A pilot study was carried out using 13 mothers at 7-12 months postpartum. The reliability of the instrument for data collection was pre-tested using a split half technique. A Cronbach alpha coefficient of 0.883 and a Guttman Split-half coefficient of 0.804 were obtained which shows the instrument is reliable.

Method of Data Analysis: A total of 135 copies of the questionnaire were distributed. Ethical clearance was obtained from Ethical Committee, Federal Medical Center Umuahia, Abia State, Nigeria and approval was obtained.

Method of Data Analysis: Data were analyzed the aid of Statistical Package for Social Sciences (SPSS) version 21. Descriptive statistics including frequencies (f), percentages (%), mean and standard deviation (SD) were used to describe the collected data. Chi square based Fisher exact test was used to test hypothesis at $p < 0.05$ level of significance.

Results

Table 1: Socio-demographic characteristics of the study participants

Item	Variable	Details	f	%
1	Age (in years)	15-24	34	26.6
		25-34	62	48.4
		35-44	27	21.1
		45-54	5	3.9
		Mean		
2	Parity	1-2	55	43.0
		3-4	68	53.1
		5-6	5	3.9
		Mean		
3	Mode of birth of current baby	Vaginal	115	89.8
		Caesarean	13	10.2

4	Marital status	Single	18	14.1
		Married	110	85.9
5	Religion	Christian	128	100.0
6	Education	Primary	6	4.7
		Secondary	89	69.5
		Tertiary	33	25.8
7	Occupation	Civil servant	9	7.0
		Farmer	19	14.8
		Teacher	18	14.1
		Tailor	16	12.5
		Trader	49	38.3
		Health worker	6	4.7
		House wife	4	3.1
		Hair dresser	7	5.5

Almost half (48.4%) of the study participants were aged 25-34 years old. Majority (53.1%) of the respondents had 3-4 children. Most of the participants were married (85.9%) and had vaginal birth (89.9%) in their last delivery. Majority of the participants had secondary level education (69.5%) and were Traders (38.3%).

Research Question 1: What is the breastfeeding initiation period by postpartum mothers?

Item 8 was analyzed to answer research question 1. Table 2 summarized the responses to item 8.

Table 2: Breastfeeding initiation period by postpartum mothers

Item	Question	Details	f	%
8	At what time from the birth of your baby did you start breastfeeding your baby as his only source of food or water?	0-30 minutes	37	28.9
		30 minutes – 1 hour	63	49.2
		1-2 hours	4	3.1
		2-3 hours	24	18.8

Table 2 showed that about half (49.2%) of the study participants initiated breastfeeding at 30 minutes to 1 hour. In addition, about one in every three participants (28.9%) initiated breastfeeding at 0-30 minutes of childbirth. Generally speaking, most of the respondents (78.1%) had adequate initiation of breastfeeding (0-1 hour after childbirth).

Research Question 2: What is the proportion of postpartum mothers who practice exclusive breastfeeding?

Item 9 was analyzed to answer research question 2. Table 3 summarized responses to item 9.

Table 3: Proportion of postpartum mothers who practice exclusive breastfeeding

Item	Question	Details	f	%
9	Exclusive breastfeeding involves the giving of breast milk to an infant as the only source of food and water from the time of birth till 6 months. Are you practicing exclusive breastfeeding?	No	70	54.7
		Yes	58	45.3

Table 3 showed that generally speaking there was moderate practice of Exclusive Breastfeeding (45.3%). More than half (54.7%) of the participants did not practice exclusive breastfeeding.

Research Question 3: What is the Breastfeeding Self-efficacy (BFSE) of postpartum mothers?

Items 10-23 were analyzed to answer research question 3.

Table 4: Breastfeeding-self-efficacy of postpartum mothers

Item	Statement	Not at all confident	Few times Confident	Many times Confident	Always confident
	Allocated Score	[1]	[2]	[3]	[4]
	Details	**f (%)**	**f (%)**	**f (%)**	**f (%)**
10.	I can always determine that my baby is getting enough milk.	5(3.9)	13(10.2)	77(60.2)	33(25.8)
11.	I can always successfully cope with breastfeeding like I have with other challenging tasks.	10(7.8)	15(11.7)	86(67.2)	17(13.3)
12.	I always breastfeed my baby without using formula as a supplement.	8(6.3)	52(40.6)	33(25.8)	35(27.3)
13.	I always ensure that my baby is properly latched on the breast for the whole feeding.	14(10.9)	39(30.5)	38(29.7)	37(28.9)
14.	I can always manage the breastfeeding situation to my satisfaction.	6(4.7)	14(10.9)	100(78.1)	8(6.3)
15.	I can always manage to breastfeed even if my baby is crying.	4(3.1)	24(18.8)	72(56.3)	28(21.9)
16.	I always keep wanting to breastfeed.	4(3.1)	83(64.8)	10(7.8)	31(24.2)
17.	I can always comfortably breastfeed with my family members present.	11(8.6)	21(16.4)	38(29.7)	58(45.3)
18.	I am always satisfied with my breastfeeding experience.	10(7.8)	15(11.7)	86(67.2)	17(13.3)
19.	I can always deal with the fact that breastfeeding can be time-consuming.	4(3.1)	18(14.1)	65(50.8)	41(32.0)
20.	I always finish feeding my baby on one breast before switching to the other breast.	27(21.1)	28(21.9)	45(35.2)	28(21.9)

21.	I can always continue to breastfeed my baby for every feeding time.	18(14.1)	14(10.9)	75(58.6)	21(16.4)
22.	I can always manage to keep up with my baby's breastfeeding demands.	6(4.7)	33(25.8)	63(49.2)	26(20.3)
23.	I can always tell when my baby has finished breastfeeding	2(1.6)	23(18.0)	60(46.9)	43(33.6)

Table 4 showed that Most (83.6%) of the participants had adequate BFSE. However, majority (64.8%) of the participants reported they were few times confident they always wanted to breastfeed. About one in every four participants (40.6%) was only few times confident that they can breastfeed their baby without formula as supplement

Research Question 4: What is the time of commencement of complimentary feeding?

Item 24 was analyzed to answer research question 4. Table 5 summarized responses to item 24.

Table 5: Time of commencement of complimentary feeding among mothers

Item	Question	Time	f	%
24	At what time from the birth did you start introducing hygienically prepared food substances into your baby's diet as a complement to breast milk?	0-2 months	36	28.1
		2-4 months	42	32.8
		4-6 months	10	7.8
		6-7 months	40	31.3

Table 5 showed that about one in every three (31.3%) study participants practiced good commencement of complimentary feeding.

Research Question 5: What are the types of complimentary feed used by postpartum mothers?

Item 25 was analyzed to answer research question 5. Table 6 summarized responses to item 25.

Table 6: Types of complimentary feed used by postpartum mothers

Item	Question	Details	f	%
25	Which of the following food substances are you giving your infant currently?	Pap with sugar, and Tea	2	1.6
		Plain water, and Pap without sugar	9	7.0
		Pap with sugar, and Infant milk formula	5	3.9
		Plain water, Pap without sugar, and Infant milk formula	3	2.3
		Plain water	10	7.8
		Pap with sugar	16	12.5
		Infant milk formula	43	33.6
		Pap without sugar, infant milk formula, and Tea	8	6.3
		Pap without sugar	15	11.7
		Plain water, water with sugar, Pap without sugar, home-made fruit juice, and Tea	17	13.3

Table 6 revealed that majority of the study participants used infant milk formula (33.6%) and Pap with sugar (12.5%).

Research Hypothesis 1: There is no significant association between age of mother and Breastfeeding Self-efficacy.

Table 7 tested research hypothesis 1.

Table 7: Association between age of mother and breastfeeding self-efficacy

Variables		Breastfeeding Self-efficacy		df	Fisher χ^2	Gamma γ	P value	Interpretation
	Details	Inadequate F	Adequate F					
Age (in years)	15-24	17	17	3	38.74	0.921	<0.0001	Significant
	25-34	4	58					
	35-44	0	27					
	45-54	0	5					

Table 7 demonstrated that there was significant strongly positive relationship between age and BFSE (p = 0.000*). The relationship is such that as Age increases BFSE increases as well with an effect size of 92.1%.

Research Hypothesis 2: There is no significant association between parity and Breastfeeding Self-efficacy.

Table 8 tested research hypothesis 2.

Table 8: Association between parity of mother and breastfeeding self-efficacy

Variables		Breastfeeding Self-efficacy		df	Fisher χ^2	Gamma γ	P value	Interpretation
	Details	Inadequate F	Adequate F					
Parity	1-2	17	38	2	19.45	0.612	<0.0001	Significant
	3-4	2	66					
	5-6	2	3					

Table 8 unveiled that there was significant strongly positive relationship between parity of mother and BFSE (p = 0.000*). The relationship is such that as Parity increases BFSE increases as well with an effect size of 61.2% (Goodman-Kruskal gamma).

Discussion

Research Question 1: What is the breastfeeding initiation period by postpartum mothers?

This study found that about half of the study participants initiated breastfeeding at 30 minutes to 1 hour, and fewer participants initiated breastfeeding at 0-30 minutes of childbirth. Nonetheless, most of the respondents had adequate initiation of breastfeeding (0-1 hour after childbirth). This finding would imply that most of the respondents were in compliance with the WHO's recommendation on breastfeeding initiation. WHO/UNICEF (2016) recommended that breastfeeding should be commenced within one hour of birth as a standard. This finding was higher

than that noted by Umar and Oche (2013) who in a study on Breastfeeding and Weaning Practices in an Urban Slum, North Western Nigeria, found that breastfeeding was initiated by 58% of mothers within 1 hour of childbirth. The difference in finding may be linked to the method of data collection. Umar and Oche (2013) utilized a self-report questionnaire, whereas the present study utilized an interview style checklist. The use of interview style checklist may have introduced the Hawthorne effect bias such that participants may give answers to impress on the researcher. Hawthorne effect refers to bias resulting from the participants' awareness that they are under study.

In contrast however, this finding supports that of Mohammed (2014) who in a study on Infant Feeding and Weaning Practices among Mothers in Northern Sudan found that 83.6% of mothers initiated breastfeeding within 1 hour of childbirth. The similarity in finding could be related to the design of the study. Both Mohammed (2014) and the present study utilized cross-sectional descriptive design. A crooss-sectional descriptive design is a type of observational study that permits the investigation of a phenomenon in its natural environment using a one time snapshot of data collection without the consious manipulation of variables. It may be possible that a different result could have been the outcome if a different design was used. This stated possibility was evidenced by Fernandes and Fernandes (2014) who while using longitudinal-prospective design in a study on Breastfeeding self-efficacy: a cohort study in the city of São Paulo found that 100% of the participants initiated breastfeeding within one hour of childbirth. It was further evidenced by Blyth et al (2012) who while using longitudinal prospective design in a study on Effect of Maternal Confidence on Breastfeeding Duration in Brisbane Australia, found that 92% of participants initiated breastfeeding within 1 hour of birth.

Research Question 2: What is the proportion of postpartum mothers who practice Exclusive Breastfeeding?

This study revealed that there the participants reported moderate practice of Exclusive Breastfeeding (45.3%) when subjectively asked "do you practice exclusive breastfeeding?". This finding would mean that majority of the participants reported not abiding by the conditions of exclusive breast feeding. This finding was not in line with Lar et al (2015) who in a study on Lactating Mothers' Weaning Practices in Lamingo Plateau State Nigeria, found that 76.3% reported practicing exclusive breastfeeding. The divergence in finding could be connected to the sampling technique used in the study. Lar et al (2015) utilized probability based systematic sampling technique, whereas the present study utilized a non-probability based multistage sampling. The use of a non-probability based multistage sampling does not allow equal chances of selection for all members of the target population. This may have introduced selection bias into the study. Also, this finding was larger than that noted by Blyth et al (2012) who in a study on Effect of Maternal Confidence on Breastfeeding Duration in Brisbane Australia, found that 28.6 percent were breastfeeding exclusively. The slight discrepancy in findings could be linked to differences in sample size. Blyth et al (2012) utilized a sample size of 300, whereas the present study examined a sample size of 128. Based on the premise that a larger sample may offer greater external conclusion validity, it is possible that the smaller sample size used in the present study over estimated the result obtained.

Research Question 3: What is the Breastfeeding Self-efficacy (BFSE) of postpartum mothers?

This study unveiled that generally, the participants had adequate BFSE (mean 2.9(0.83)). Most (83.6%) of the participants had adequate BFSE. This finding pointed out that most of the

respondents have adequate confidence at breastfeeding. Keemer (2013) wrote that mothers with adequately high BFSE scores have the capacity and the likelihood to exclusively breastfeed. Meanwhile in this study, results uncovered that majority did not practice exclusive breastfeeding even when this result showed that the majority had adequate BFSE score, other confounding variables are suspected to have caused this. Such confounding variables were enumarated by the conceptual model for this study which was adapted form the Breastfeeding Self-Efficacy Theory (Dennis, 2010). They include previous experience with breastfeeding, culture, family support system among others. The stated assertion was supported by Tarrant et al. (2010) and Viera et al (2010). Furthermore, this finding was supported by Fernandes and Fernandes (2014) who found in a study on Breastfeeding self-efficacy in the city of São Paulo found that 82.3% of the participants had scores compatible with high self-efficacy for breastfeeding. The convergence in findings could be related to the reliability of the instrument for data collection utilized in the study. Both the Fernandes and Fernandes (2014) and the present study utilized the Breastfeeding Self-Efficacy Scale-Short Form questionnaire (a standardized instrument). Based on the similarity in content validity, constructs and domains measured by the named instrument, similar results were expected between Fernandes and Fernandes (2014) and the present study. This finding was further confirmed by Keemer (2013) in a study on Breastfeeding Self-efficacy of Women Using Second-line Strategies for Healthy Term Infants in the First Week postpartum in one private metropolitan birthing facility in Australia. Keemer (2013) in his study also utilized the Breastfeeding Self-Efficacy Scale-Short Form questionnaire.

Research Question 4: What is the time of commencement of complimentary feeding?

This study uncovered that about one in every three (31.3%) study participants practiced good commencement of complimentary feeding. This finding deduced that majority of the respondents commenced complimentary feeding before 6 months of childbirth. This practice was not is conformity with the American Academy of Pediatrics and the World Health Organization recommendation of waiting until 6 months before introducing baby food(Cassar, 2016). This finding was coroborated by Mohammed (2014) who in a study on Infant Feeding and Weaning Practices among Mothers in Northern Kordofan State Sudan, found that 91.6% of the mothers introduced non-breast milk fluids before 6 months of infant age. The similarity in findings could be explained by the similarity in the operational definition in outcome variable of measure. Both Mohammed (2014) and the present study investigated time of commencement of complementary feeding based on the criterion of 6 months as standard. Based on this similar results were expected. This result is considerably different from the findings in studies such as Umar and Oche (2013) and Imonikebe (2009), who operationalized commencement of complimenrtary feeding using 4 months as was later advocated by Vyas et al. (2014).

Both Umar and Oche (2013) and Imonikebe (2009) found values notably less than the finding in the present study. Umar and Oche (2013) for example, found in a study on Breastfeeding and Weaning Practices in an Urban Slum, Maidugari Bornu North Western Nigeria, that that a minority (22.3%) of the participants commenced weaning before 4 months after childbirth. Imokebe (2009) found this statistic to be 15.3%. From yet another perspective, this finding was not in agreement with Lar et al (2015) who in a study on Lactating Mothers' Weaning Practices in Lamingo Plateau State northern Nigeria, found that a majority 76.3% of the respondents commenced complimentary feed at 6 months. The discrepancy in findings could be connected to the area/setting of the study. Lar et al. (2015) carried out their study in the predominantly Hausa/fulani muslim populated area

of Nigeria, whereas the present study was conducted in the predominantly Igbo christian south-east of Nigeria. Possible pecular differences in culture and tradition of the different groups of participants used in the different studies may have influenced the findings within the studies.

Research Question 5: What are the types of complimentary feed used by postpartum mothers?

This study revealed that majority of the study participants used infant milk formula (33.6%) and Pap with sugar (12.5%). This finding was not well supported by Umar and Oche (2013) who in astudy on Breastfeeding and Weaning Practices in an Urban Slum, North Western Nigeria noted that pap made from corn or millet was the most popular complimentary feed used by majority of mothers. The divergence in findings could be linked to the economic/income status of the participants. Umar and Oche (2013) carried out their study in an Urban Slum. The word "slum" connotes an area of relative lower income. In comparison, the present study was conducted in the urban affluent area. Thus, the lower income individuals may have utilized the less expensive cereal based product (Pap), while the affluent utilized infant milk formula. This logic was found to have repeated itself in Lar et al (2015) and Imonikebe (2009). Lar et al (2015) in a study on Lactating Mothers' Weaning Practices in Lamingo Plateau State Nigeria noted that most mothers would use cereal based fluids for complimentary feeding. Imonikebe (2009) in a study on Weaning Practices of Mothers and Nutritional Status of infants in Isoko Delta State Nigeria also noted that the commonest semi-solid foods given by the mothers were corn-pap (56.6%) and infant formula (32.7%). Where both Lar et al (2015) and Imonikebe (2009) studies were carried out in semi-urban areas. To further substantiate this logical argument, Campos et al (2015) carried out a study in the more affluent university hospital in São Paulo Brazil, and found that the types of liquids the mothers used as complementary feeds were water (18.6%), infant milk formula (17.9%) among others.

Research Hypothesis 1: There is no significant association between age of mother and Breastfeeding Self-efficacy.

This study demonstrated that there was significant strong positive association between age and BFSE ($p = 0.000$*). The association is such that as Age increases BFSE increases as well with an effect size of 92.1% (Goodman-Kruskal gamma). This finding supports the conceptual model for this study which expressed a presumed associational relationship between maternal age and BFSE as guided by Dennis (2010). This finding was somewhat in conflict with the finding in Vieira et al (2010), who in a study on Determinants of Breastfeeding Initiation within the First Hour of Life in a Brazilian Population found that bi-variate analysis showed a significantly lower rate of breastfeeding in the first hour after delivery among mothers older than 20 years ($p < 0.05$). The deviation in findings could be linked to the statistical tool used in the study. Vieira et al (2010) utilized a more sensitive parametric statistical tool (bi-variate regressional analysis), whereas the present study utilized a less robust chi square based Goodman-Kruskal gamma analysis. The two mentioned statistical approaches handle data slightly differently. Where bi-variate regressional analysis would measure degree of relationship between variables, chi square based Goodman-Kruskal gamma measure the degree of association. Due to the slight difference in sensitivity of the different statistical methods, the choice of chi square based Goodman-Kruskal gamma may have imposed a modest chance of committing Type 1 error.

Research Hypothesis 2: There is no significant relationship between parity and breastfeeding self-efficacy.

This study unveiled that there was significant strongly positive relationship between parity of mother and BFSE (p = 0.000*). The relationship is such that as Parity increases BFSE increases as well with an effect size of 61.2% (Goodman-Kruskal gamma). This finding further supports the conceptual model for this study which articulated a supposed associational relationship between maternal parity and BFSE as guided by Dennis (2010). Based on the context that adequately high BFSE directly results to likelihood to practice exclusive breastfeeding (Keemer, 2013), this finding was in disagreement with Umar and Oche (2013). Umar and Oche (2013) in a study on Breastfeeding and Weaning Practices in an Urban Slum, Maidugari Bornu North Western Nigeria found no relationship between parity and the practice of exclusive breastfeeding. The discrepancy in findings could be linked to the non-satisfaction of probability assumption during sample selection, hence a possible skewed sample data. The present study utilized a combination of purposive, quota and consecutive sampling techniques while carrying out Multi-stage sampling. The sampling techniques individually have their inherent sampling error weaknesses. When combined, the resultant combined sampling error may increase the chance of threat to internal validity of the study.

Conclusion

This study concluded that there was good initiation of breast feeding but poor practice of exclusive breastfeeding. There was good BFSE but poor commencement of complimentary feeding. BFSE (confidence to breastfeed) was influenced by maternal age and parity.

Recommendations

Based on the findings of this study, the researcher recommended that:

1. Stake holders in maternal and child health should design community based platforms for the discourse and identification of the reasons for the poor compliance with Exclusive Breastfeeding.
2. Nurses should encourage women talk about their fears on exclusive breast feeding and dispel them.
3. Government should put forward incentives designed to encourage breastfeeding among mothers of infants

Acknowledgement

All the authors that contributed from the beginning to the end of this study are hereby acknowledged. We also acknowledge all the authors and article sources we used for the study. The women Umuahia metropolis in Abia State who willingly consented to participate in this study are hereby appreciated.

Declaration of interest

The authors declare there is no conflict of interest of any form with regards to this study

Funding sources

There was no external source of funding received for this study from any funding institutions or donor with regards to this study

References

Agu, U., & Agu, M. (2011). Knowledge and Practice of Exclusive Breastfeeding among Mothers in a Rural Population in South-eastern Nigeria. *Tropical Journal of Medical Research, 15*(2), 6-7. http://www.ajol.info>Journal Home> Vol 15, No2.

Agunbaide, O., & Ogunleye, O. (2012). Constraints to Exclusive Breastfeeding Practice among Breastfeeding Practice in Sowthwest Nigeria: Implications for Scaling Up. *International Breastfeeding Journal, 7, 5*.

Ashmore, S. (2011). Maternal emotional wellbeing and infant development. *Hindawi Journal, 72*(2), 13-15. http://www.hindawi.com/journal/files/emotional/2520

Blyth, R., Creedy, D., Dennis, C., Moyle, W., Pratt, J., & De-vries, S. (2012). Effect of maternal confidence on breastfeeding duration: an application of breastfeeding self-efficacy theory. *Birth, 29*(4), 278-284. http://www.ncbi.nlm.nih.gov/pubmed/12484390

Campos, A., Chaoul, C., Carmona, E., Higa, R., & Vale, I. (2015). Exclusive breastfeeding practices reported by mothers and the introduction of additional liquids. *Revista Latino-Americana De Enfermagem, 23*(2), 283–290. doi:10.1590/0104-1169.0141.2553. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4459002/

Cassar, D. (2016). Perceived Insufficient Milk. *Journal of human Lactation*. http://www.jhumlact.com/.../12545

Dennis, C.L. (2010). *Breastfeeding Self-Efficacy*. NewYork: Mothering Transitions Research. http://www.cindyleedennis.ca/research/1-br.

Fernandes, E. d., & Fernandes, R. Á. (2014). Breastfeeding self-efficacy: a cohort study. *Acta paul. enferm., 27*(5), 97. http://www.scielo.br/scielo.php?script...

Gatti, L. (2008). Maternal Perceptions of Insufficient Milk Supply in Breastfeeding. *Journal of Nursing Scholarship, 40*(4), 355–363. http://www.ncbi.nlm.nih.gov/pmc/articles/ PMC4508856/

Imonikebe, B. (2009). Weaning Practices of Mothers and Nutritional Status of infants in Isoko Delta State Nigeria. *African Research Review, 3*(4), 7-8 . http://www.ajol.info/index/ 33933

Keemer, F. (2011). Breastfeeding Self-Efficacy and Alternative Techniques to Overcome Maternal or Infant Breastfeeding Challenges: A Retrospective Descriptive Study. *Queensland University Science Journal*, *12*(3), 25-27. http://www.queenslanduniversity. edu.com/keemer

Keemer, F. (2013). Breastfeeding self-efficacy of women using second-line strategies for healthy term infants in the first week postpartum: an Australian observational study. *International Breastfeeding Journal, 8,*18. https://internationalbreastfeedingjournal.bio...

Khan, R. (2014). 2014 Health Statistics by UNICEF. *International Journal of Child Health*, 50-62. http://www.unicef.org/.../under-five.

Lar, L., Banwat, M., Wash, A., Abubakar, J., & Lar, L. (2015). Lactating Mothers' Weaning Practices in Lamingo Plateau State Nigeria. *International Journal of Medicine & Health Research, 1*(2), 1-8. http://www.advancejournals.org/...

Mohammed, S. (2014). Infant Feeding and Weaning Practices among Mothers in Northern Kordofan State Sudan. *European Scientific Journal*. http://www.euroscij.com/ mohammed-somiya.../pdf

Nursan, C., Dilek, K., & Sevin, A. (2014). Breastfeeding Self-efficacy of Mothers and the Affecting Factors. *Aquichán 14*(3), 165-167. http://www.scielo.org.co/scielo...005

Setegn, T., Belachew, T., Gerbaba, M., Deribe, K., Deribew, A., & Biadgilign, S. (2012). Factors associated with exclusive breastfeeding practices among mothers in Goba district, south east Ethiopia: a cross-sectional study. *International Breastfeeding Journal*, 7(1),17. doi:10.1186/1746-4358-7-17. https://internationalbreastfeedingjournal.biomedcentral. com/articles...4358-7-17

Sholeye, O., Abosede, O., & Salako, A. (2015). Exclusive Breastfeeding and Its Associated Factors among Mothers in Sagamu, Southwest Nigeria. *Journal of Health Science, 5*(2), 25-31. http://www.article.sapub.org/10.5923.j.health.

Tarrant, M., Fong, D., Wu, K., Lee, I., Wong, E., Sham, A., . . . Dodgson, J. (2010). Breastfeeding and weaning practices among Hong Kong mothers: a prospective study. *BMC Pregnancy and Childbirth, 10*, 27. doi:10.1186/1471-2393-10-27. http://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/1471-2393-10-27

Ugboaja, J., Berthrand, N., Igwebe, A., & Obi-Nwosu, A. (2013). Barriers to Postnatal Care and Exclusive Breastfeeding among Urban Women in South-eastern Nigeria. *Nigerian Medical journal, 54,* 45-50. http://www.nigeriamedj.com/article.asp%3Fi.

Umar, A. S., & Oche, M. O. (2013). Breastfeeding and Weaning Practices in an Urban Slum, North Western Nigeria. *International Journal of Tropical Disease & Health, 3*(2), 114-125. http://www.sciencedomain.org/abstract/1150

UNICEF. (2012). Maternal and newborn health. *International Journal of Breastfeeding, 7*(2), 15-16. http://www.unicef.org/health/index_maternalhealth.html

UNICEF. (2013). At a glance: Nigeria. *South African Journal of Reproductive Health, 17*(2), 122-124. http://www.unicef.oeg/infobycountry/nigeria.

UNICEF. (2016). Nutrition: Breastfeeding and Complementary Feeding. *International Journal of Nutrition, 11*(3), 31-33. tp://www.unicef.org/nutrition/index_breastfeeding.

Vieira, T., Vieira, G., Giugliani, E., Mendes, C., Martins, C., & Silva, L. (2010). Determinants of breastfeeding initiation within the first hour of life in a Brazilian population: cross-sectional study. *BMC Public Health, 10*, 760. doi:10.1186/1471-2458-10-760. http://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-10-760

Vyas, S., Kandpal, S., Semwal, J., Chauhan, S., & Nautiyal, V. (2014). Trends in Weaning Practices among Infants and Toddlers in a Hilly Terrain of a Newly Formed State of India. *International Journal of Preventive Medicine, 5*(6), 741–748. http://www.ncbi. nlm.nih.gov/pmc/articles/PMC4085

WHO/UNICEF. (2016). Breastfeeding. *International journal of Breastfeeding*, *22* (1), 21-24. http://www.unicef.org.uk/Documents/Baby_Friendly/Research/infant_feeding_definitions.pdf.

World Health Organization. (2016). Nutrition: Exclusive Breastfeeding. *International Journal of nutrition*, *9*(2), 54-57. http://www.who.int/.../en/nutrition/exclusive-breastfeeding...