Patterns of Infant Feeding Practices Among Lactating Mothers in Selected Communities in Bayelsa State, Nigeria

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Abstract

The study investigated patterns of infant feeding practices and the common reasons for the adoption of the pattern among lactating mothers in Bayelsa State. Two research questions and five null hypotheses guided the study. The study adopted a descriptive cross-sectional survey research design. Purposive and convenience sampling techniques were used to select a sample size of 713 lactating mothers from the entire population. A structured Patterns of Infant Feeding Practices Questionnaire (PIFPQ), In-depth Interview Guide (IDIG), Focus Group Discussion Guide (FGDG) and Key Informant Interview Schedule (KIIS) were used for data collection. The standard descriptive statistics were applied to describe data pattern. Frequency count and percentage were used to analyse the research questions while Chi-square test was used to examine the significance of the association between categorical data at 0.05 alpha level. Findings revealed that more than half of lactating mothers (62.8%) practised inclusive methods of infants feeding while 37.2 per cent of the mothers attempted exclusive breast feeding method of infant feeding, but weaned before six months and never continued breast feeding beyond two years, which indicate non-compliance with the EBF method of infant feeding in Bayelsa State. The study concluded that inclusive breast feeding pattern of infant feeding is prevalent among lactating mothers. The study suggested that efforts towards encouraging mothers to practise exclusive breast feeding method of infant feeding should not be relented, and that midwives and other health care workers should continually be trained to support lactating mothers to enhance adoption of EBF as infant feeding method.

Keywords: Pattern, Infant, Feeding, Practices, Infant Feeding Practices, Lactating Mothers.

Introduction

Infant feeding practices varies across the various culture globally, The health and the survival of the children are largely dependent on the pattern of infant practices adopted by the lactating mother. Human history recorded that in the early years of human species, breastfeeding was the common means of nurturing human infant as there was no alternative food so suitable for the human infant (Appleton et al., 2018). Baby artificial formulas first became popular in late 15th century with many parents substituting cow or goat milk formula to their own human milk. This practice was later discovered to be associated with so many problems; ranging from systemic problems, such as: diarrhoea and constipation to developmental ones, especially in the developing world were lack of adequate clean water supply and sanitary practices are compromised. In the 16th century, the death toll on infants and young children was so alarming to draw the attention of the world health bodies. Unfortunately, many children have lost their lives before their fifth birthday being susceptible to either childhood diseases or to developmental crisis, such as: in the process of teething (Harrison, Brodribb, & Hepworth, 2017)). The World Health Organization (2015) reported that artificial formula feeding is associated with more deaths from diarrhoea in both developing and developed countries that complement malnutrition. The combination of these conditions accounts for the persistent high infant and childhood morbidity and mortality rates (UNICEF/WHO, 2015). Evidence supports the establishment of healthy feeding practices early in life to promote lifelong healthy eating patterns and protection against chronic disease(Khanal, Scott, Lee, Karkee, &Binns, 2016). Exclusive breastfeeding method is the healthy infant feeding practice that is cost effective to the family, the nation and the society as a whole (Jacobs; 2012).

The World Health Organisation (WHO) and American Academy of Paediatrics (AAP) emphasized the value of exclusive (EBF) over inclusive (IBF) as method of infant feeding for mother

as well as children (Harrison et al., 2017). The advantages of breastfeeding, they pointed, out cannot be overemphasized both for mother and for baby. For one, breast milk is adopted by nature to meet the nutritional and emotional need of the human child which is required for optimal growth and development. Furthermore, breastfeeding is self evidently a normal and natural procedure and contains all required nutrients in the right proportions: protein, carbohydrates and fats and does not need other foods or drinks before the age of six months. Human breast milk also contains a large amount of immunoglobulins A (Ig A) including specific antibodies to E.coli and against infections and so is the best food for the baby compared to artificial formula or any other foods before six months of life. It is always available 24hours and quite clean and sterile. It does not cost money to buy, available in correct temperature and easily digested, it creates bonding between the mother and baby and lot more. The authors further explained that the benefits of breast feeding is optimized when it is exclusive (EBF), that is, the feeding of the infant on only breast milk for the first six months of life), which can be compromised when it is inclusive (that is feeding infants with breast milk and other foods/drinks before six months of life).

Exclusive breast feeding according to Arora et al. (2020), refers to an infant's consumption of human milk with no supplementation of any type (no water, no juice, no non-human milk and no other foods) except for vitamins, minerals and medications. Un9ted Nations Children Fund and World Health Organization (UNICEF/ WHO; 2015) explained that EBF is sufficient for the nutritional need of the infant before six months of age, stating that human breast milk is the ideal food for human infants from birth to six months due to its nutritional superiority over inclusive breast feeding practices. Inclusive breast feeding method of infant feeding refers to feeding the infant with other foods other than human breast milk before six months of age. It involves feeding the infants with commercial formulas and other drinks/foods alongside (complementary) or completely without breast milk.(Supplementary) before six months of age. Adoption of Exclusive Breast feeding (EBF) according to Jacobs (2012), entails that the lactating mother initiates breastfeeding as soon as possible after birth and continues to breast feed the infant exclusively for the first six months of life. United Nations Children's Fund (UNICEF) (2011) reported that even though breastfeeding is a natural human activity, difficulty and complications are not uncommon that could deter the lactating mother from practicing EBF. Many mothers who understood the benefits of EBF practices could desire to adopt and practice EBF before birth, but other situations could arise that could challenge and compromise such desire. Isabu (2018) identified such challenges as: economic factors, especially poverty, where the family cannot afford adequate feeding for the mother who is required to practice EBF. Other major challenges also identified include: lack of social support to help reduce the mother's stress from over work of household chores, return to work after birth and the mother's desire to continue education (schooling).

A cross sectional study by Nwosu, Eke, and Enwereji (2006) revealed that lactating mothers had good knowledge of benefits of exclusive breastfeeding but only 53.6 per cent attempted the practice of exclusive breastfeeding at the time of the study, 76.4 percent of the women initiated breastfeeding exclusively at birth but the rates dropped to 30.5 per cent at ages of four through six months. The study also revealed that marital status significantly affected the practice of exclusive breastfeeding as infant feeding method with less number of single mothers practicing exclusive breastfeeding. Furthermore, postnatal support by health workers was found to significantly influence mothers' choice of infant feeding of breastfeeding positively. Mothers within more antenatal visits practised exclusive breastfeeding more than those that did not visit antenatal care. Maternal age and education level did not affect the practice of exclusive breastfeeding in the study area. Other factors that influenced non-practice of EBF in the study included: low level of knowledge about ten steps to successful breastfeeding, illusory fears about exclusive breastfeeding, ignorance, resistance to change, cultural imperatives and medical reasons.

Medical condition of either mother or the infant or both could also result to abandoning EBF plan for inclusive method of infant feeding (that is feeding the infant with other foods/drinks before six months of age). Fraser, Couper, and Crawford (2013) pointed out such medical situations as: mother's breast engorgement, cracked, sore and painful nipples, nipples retraction, congenital defects of the baby (such as: hare-lip and cleft palate) among others. Binns and Scott (2012) stated that many working mothers do not practice EBF due to work pressures and very short periods of maternity leave, and so practise more of inclusive pattern of infant feeding. Many other mothers were discouraged

from EBF practices by their spouses, parents-in-laws or their own family who usually are unwilling to render the needed support that could facilitate the mother's practice of EBF.

Despite the high cost campaign advocating for practice of EBF nationally and internationally, various studies globally and in many States of Nigeria, both in urban and rural settings have continually indicated low rate of adoption and practice of EBF. According to Agho, Michael, Dibley, Odiase, and Ogbonmwan (2011), exclusive breastfeeding rate in Nigeria is low (17%) and falls short of expected levels needed to achieve sustainable reduction in child mortality. According to recent analysis by Nigerian National Demographic Survey in 2008, suboptimum breastfeeding, especially non-exclusive breastfeeding in the first six months of life, results in 1.4million deaths and 10 percent of the disease burden in children younger than 5 years in low- income and middle-income countries (Ogbo, Agho, & Andrew, 2015). The researcher observed that some mothers, while travelling with their infants that are less than six months of age still go about with bags containing the apparatus for mixing infant formula and the formula itself. The question is therefore, what pattern of breastfeeding do the nursing mothers prefer to EBF? According to Akinsola (2008), most black women perceive the practice of breastfeeding by their culture as an obligatory role of child feeding, but breastfeeding exclusively for them is an onerous task considered impossible by most mothers. In view of these facts, the researchers aimed to investigate patterns of infant feeding among childbearing mothers in some selected communities in Bayelsa State. Specifically, the study determined the proportion of CBMs that adopted exclusive breastfeeding (EBF) and inclusive breastfeeding (IBF) patterns of infant feeding practices as well as the associated socio-demographic factors and reasons for mothers' nonadoption of exclusive breastfeeding practices despite the fact that majority of the mothers are aware of the numerous benefits associated with EBF practices both to the mother herself, to the infants, and to the nation's economy. This study finding would help health professionals, researchers, childbearing mothers among others in providing an insight to the infant feeding patterns adopted by childbearing mothers and their socio-demographic factors. The outcome would enable the aforementioned beneficiaries be better informed on the underlying patterns and socio-demographic associated factors of infant feeding and the best ways to handle them.

Materials and Methods

The study adopted a descriptive cross-sectional survey design. The population of the study consisted of childbearing mothers in Bayelsa State (392,038). The purposive and convenience sampling technique were used to draw 713 childbearing mothers. Purposive in the sense that only mothers breastfeeding their infants within six months of age were selected for the study. Convenience in the sense that childbearing mothers in different health facilities who had time and expressed consent in responding to our questionnaire were used. Also, the purposive sampling technique was used to draw 30 childbearing mothers breastfeeding their infants within six months of age used for indepth interviews; 10 midwives drawn from some of the health facilities studied used as key informants; and 28 childbearing mothers breastfeeding their infants within six months of age used for focus group discussions (FGDs).

A structured Patterns of Infant Feeding Practices Questionnaire (PIFPQ) adapted from UNICEF/WHO scale for EBF practices, in-depth interview guide, key informant interview schedule, and focus group discussions (FGD) guide were used for data collection. The PIFPQ consisted of 10 questions divided into parts A and B. Part A consisted of five socio-demographic variables (age, marital status, education level, income level, number of children). Part B consisted of five questions with dichotomous response options of yes and no. The PIFPQ was validated by five experts from Nursing and Public Health areas, and as well was tested for internal consistency. The internal consistency of PIFPQ was determined using alpha Split half (Spearman's Brown Coefficient) with an index of .825.

In-depth interview was done on 30 CBMs in some of the health facilities studied. Key informant interview was done on 10midwives in some of the health facilities studied. A total of 4 FGDs, were conducted with seven childbearing mothers in a group, sampled from some of the selected health facilities in rural and urban areas in Bayelsa State, that is, 28 discussants in four groups.

The Ethics Committee of the faculty of Nursing, Niger Delta University, Amassoma, Bayelsa State approved the study. The researchers explained the objectives of research for the participants and the latter were assured about the privacy of their personal data. After their consent was gotten, childbearing mothers were contacted in the selected health facilities where they attend for health care services in Bayelsa State for data collection. A total number of 713 questionnaires were filled out in the process. All the questionnaires administered were returned and used for analyses.

The IBM Statistical Package for Social Sciences (SPSS) version 23.0 was used for all the statistical analyses. The standard descriptive statistics were applied to describe data pattern. Frequency count and percentage were used to analyse the research questions. Chi-square test was used to examine the significance of the association between categorical data. All the tests were 2-tailed, and the probability values less than 0.05 (p<0.05) were considered significant.

Results
Table 1: Proportion of CBMs that Adopted Exclusive Breastfeeding and Inclusive Breastfeeding
Patterns of Infant Feeding Practices in Bayelsa State (n=713)

S/n	Infant Feeding Practices	EBF		IBF		No of
		n	%	n	%	respondents
			YES	N	0	
1.	Initiated EBF one hour after child birth	488	68.4	225	31.5	713
2.	Practiced pre-lacteal feeding	230	32.3	483	67.7	713
3.	Weaned infant before 6 months of age	312	43.8	401	56.2	713
4.	Breast fed baby for the 1 st 6 months	294	41.2	419	58.8	713
5.	Breast fed baby up to 2 years Overall	3	0.4 37.2%	710	99.6 62.8%	713 100%

Table 1 shows that 31.5 per cent of CBMs did not initiate breast feeding within one hour of delivery. Data in the Table also show that 32.3 per cent of CBMs practised pre-lacteal feeding (that is feeding the newborn baby with some other liquid before breast milk after birth). However, more than half of CBMs (56.2%) initiated breast feeding from birth of the baby but weaned or introduced other foods and drinks to the infants before six months of age; indicating inclusive breastfeeding practices. Furthermore, more than half of CBMs (58.8%) fed their new born with other foods and drink from birth while majority of CBMs (94.0%) did not breast-fed up to 2 years after weaning their babies. In all, more than half of CBMs (62.8%) practised inclusive methods of infants feeding while 37.2 per cent of the mothers attempted exclusive breast feeding method of infant feed but weaned before six months and never continued breast feeding beyond two years in Bayelsa State.

In-depth interview revealed that the participants unanimously expressed that majority of the CBMs who had their newborns delivered in health facilities, attempted initiation of breast feeding within the routinely stipulated one hour of delivery, but when they were discharged home out of the "watchful eyes" of the health care workers, they were influenced by either family members (mother-in laws, grandmothers, aunties), friends or neighbours to give the newborn water or other drinks, thus contravening the principle of EBF practice.

Table 2:Chi-square (χ^2) Test of Maternal Age and Infant feeding Practices among CBMs in Bavelsa State

	IFP						
Variable	N	IBF O(E)	EBF O(E)	χ² value	Df	p -value	Decision
Age							
< 20 years	48	39 (34.3)	9(13.7)				
20-35 years	576	401 (412.0)	175	5.477	2	.065	Not
•		, , ,	(164.0)				rejected

36years & 89 70(63.7) 19(25.3) above

Key: IBFP – Inclusive Breast-feeding practice *Significant (p < .05) EBFP- Exclusive Breast-feeding practice

Table 2 shows that there is no significant association between maternal age and infant feeding practices (χ^2 5.477, df 2, p =.065 > .05), indicating that the null hypothesis was not rejected. Therefore, maternal age has no significant association with infant feeding practices.

Table 3:Chi-square (χ^2) Test of Marital Status and Infant Feeding $\,$ Practices among CBMs in Bayelsa State

		IFP					
Variable	N	IBFP O(E)	EBFP O(E)	χ² value	Df	p -value	Decision
Marital Status							
Married	527	362(377.0)	165(150)	8.806	2	.012	Rejected
Single	87	72(62.2)	15(14.8)				
Cohabiting	99	76(70.8)	23(28.2)				

Key: *Significant (p < .05)

Table 3 shows that there is significant association between marital status and Infant feeding practices (χ^2 =8.806, df 2, p =.012 < .05), indicating that the null hypothesis was rejected. Therefore, marital status of CBMs has significant association with their infant feeding practices.

Table 4:Chi-square $(\chi^2)\,$ Test of Parity and Infant Feeding Practices among CBMs in Bayelsa State

		IFP					
Variable	N	IBFP O(E)	EBFP O(E)	χ² value	Df	<i>p</i> -value	Decision
Parity							Not
1-2 Children	290	203(207.4)	87 (82.6)	2.541	2	.28	Rejected
3-5 children	388	278(277.5)	110(110.5)				J
6 children &	35	29(25.0)	6(10.0)				
above							

Table 4 shows that there is no significant association between Parity and Infant feeding practices (χ^2 =2.541, df 2, p = .28 >.05), indicating that the null hypothesis was not rejected. Therefore, parity has no significant association with CBMs's infant feeding practices.

Table 5:Chi-square (χ^2) Test of Education Level and Infant Feeding Practices among CBMs in Bayelsa State

Variable	N	IFP IBFP O(E)	EBFP O(E)	χ² value	Df	<i>p</i> -value	Decision
Level of							
Education							
< Secondary	64	55(45.8)	9(18.2)	11.020	2	.004	
Secondary	385	104(109.6)	281(275.4)				Rejected
Tertiary	264	90(75.2)	174(188.8)				

Table 5 shows that there is significant association between education level and infant feeding practices ($\chi^2 = 11.020$, df 2, p = .004 < .05), indicating that the null hypothesis was rejected. Therefore, education level has significant association with CBMs's infant feeding practices.

Table 6:Chi-square (χ^2) Test of Income Level and Infant Feeding Practices among CBMs in Bayelsa State

NAEBF								
Variable	N	Yes O(E)	No O(E)	χ² value	df	<i>p</i> -value	Decision	
Income Level								
>N100,000/month	87	49(62.2)	38(24.8)	24.838	2	<.001	Rejected	
N50,000-N100,000/month	217	140(155.2)	77(61.8)				-	
<n50,000 month<="" td=""><td>409</td><td>321(292.6)</td><td>88(116.5)</td><td></td><td></td><td></td><td></td></n50,000>	409	321(292.6)	88(116.5)					

Table 6 shows that there is significant association between level of income and infant feeding practices (χ^2 =24.838, df 2, p =< .001), indicating that the null hypothesis was rejected. Therefore, income level of LMs has no significant association with their infant feeding practices.

Discussion

The study investigated infant feeding practices (exclusive and inclusive breastfeeding) among CBMs in Bayelsa State. The finding from the study are as follows: 488(68.5%) of the participants initiated EBF within 72 hour after birth, 225(31.5%) could not initiate breast feeding, 230(32.5%) practised giving the new born water/other drinks before commencement of breast feeding after birth, 401(56.8%) of the participants weaned their infants before six months of age, 294(41.2%) practised EBF for the first six months, 3(0.4%) continued breast feeding after weaning for up to two years. There was no statistically significant association between maternal age (p=.065), parity (p=.28) and infant feeding practices. However, there was statistically significant association between marital status (p=.012), level of education (p=.004), income level (p=<0.001) and infant feeding practices.

The finding from the study revealed that more than half of the participants initiated EBF within 72 hour after birth, 31.5 per cent could not initiate breast feeding. Although more than half of the mothers (68.5%) initiated breast feeding within 72 hours after birth, which is an indication of initiation of EBF practice, about 31.5 per cent who did not do that is a thing of concern bearing in mind the target of WHO/UNICEF that 90 per cent of childbearing mothers should be able to practise EBF by the year 2020. For LMs to practice EBF, the WHO/UNICEF recommendation that breast feeding be initiated as soon as possible within an hour of child birth and should be sustained for up to six months. The study also revealed that 32.5 per cent practised giving the new born water/other drinks before commencement of breast feeding after birth (inclusive BF practice). The finding is in sync with the report of Nwosu, Eke, and Enwereji (2006).

In-depth interview revealed that the participants unanimously expressed that majority of the CBMs who had their newborns delivered in health facilities, attempted initiation of breast feeding within the routinely stipulated one hour of delivery, but when they were discharged home out of the "watchful eyes" of the health care workers, they were influenced by either family members (mother-in laws, grandmothers, aunties), friends or neighbours to give the newborn water or other drinks, thus contravening the principle of EBF practice. Also, the interviews revealed that if the breast milk of childbearing mothers did not come forth and as the new born cried hungrily, they have to feed them with other alternatives, ranging from plain warm water to artificial baby formula. The finding was in line with the research report of Kuswara, Campbell, Hesketh, Zheng, and Laws (2020) who reported feeding babies with alternative food other than engaging in exclusive breastfeeding. Amazing to the researcher was the revelation statement made by some of the mothers that the midwives on duty encouraged the parents of the new born to go ahead and provide alternative feeding method instead of encouraging the mothers to keep trying to feed the new born on breast milk. The key informant interview of some of the midwives on duty indicated that the childbearing mothers who did not initiate lactation within 24 hours of birth did so because they (the mothers) did not prepare for EBF

practices prior to child birth. It is required of the mother to commence the preparation for EBF from the antenatal periods if she desires to practice EBF or else she may not be able to do that in the case of failure to initiate lactation after birth which may result to considering the alternative inclusive feeding practice (Arora, Manohar, Hector, Bhole, Hayen, Eastwood, and Scott; 2020).

The study also revealed that more than half of the participants weaned the infants before six months of age, thereby opting for inclusive infant feeding practice. This finding is in line with the report of Uchendu, Ikefuna amd Emodi (2009), Who reported that 68% of their respondents initiated breast feeding soon after birth, but weaned the infants between two and four months. Focus group discussion tallied the finding and the mothers identified the following reasons for inclusive breast feeding practice to included: inability of the breast milk alone to satisfy the infant's food need, mothers' inability to cope with business/job demands, and that of EBF practice at the same time. Other participants in the various groups unanimously expressed that the infants kept crying even when they were fed on breast milk alone and would not sleep until they were feed with other foods. Some of the mothers indicated that the breast milk is not enough for the infants, usually after two months onwards. Based on this assumption, according to the mothers, they commenced other foods and drinks depending on the need of each infant before six months of age. Focus group discussions with the mothers also revealed that most lactating mothers adopted inclusive method of infant feeding practice because of lack of spousal support to perform other demanding household chores that occupy the attention and focus of the mother from EBF practice. Some of the mothers indicated that their spouse discouraged them from practicing EBF, because they (spouses) are also interested in the breast milk, so they would gladly procure the alternative for them to also partake of the breast milk. Again, the mothers indicated that some of the spouses felt that practice of EBF makes the infant to drag the breast of their spouses dangerously as to sag too fast for their preference and so they would encourage the mothers to adopt inclusive infant feeding in order to spare the breast from sagging too quickly. The finding was also in line with the finding of Khanal, Scott, Lee, Karkee, and Binns (2016) who found that many working mothers do not practice EBF due to work pressures and very short periods of maternity leave and so practise more of inclusive pattern of infant feeding. Many other mothers were discouraged from EBF practices by their spouses, parents-in-laws or their own family who usually are unwilling to render the needed support that could facilitate the mother's practice of EBF. The study showed that 37.2 per cent of the participants practised EBF for the first six months. Although this is still below the target of WHO/UNICEF (90% EBF practice by the year 2020), but it is higher than what other researchers have been reporting about the level of EBF practice in Nigeria which was 17 per cent (Agho, Dibley, Odiase, & Ogbonmwan; 2011).). Furthermore, there was statistical significant association between marital status, and method of infants feeding. The finding was not surprising because the choice of pattern of infant feeding requires support of the spouse as the foremost social support network. The support of the spouse goes a long way to determine whether the lactating mother continue the practice of EBF or IBF. The finding was also in line with that of Ajibade, Okunlade, Makinde, Amao, and Adeyemo (2013) who conducted a study on factors influencing practice of EBF in rural communities of Osun State, Nigeria. The study also found .statistical significant association between level of education, and method of infants feeding. This is expected and agrees with the findings of Lindsay, Le, and Greaney (2017) and that of Appleton, Laws, Russell, Fowler, Campbell, and Wilson (2018).

Income level was also found to be significantly associated with adoption of infant feeding method. This finding was expected and in line with the finding of Rosenthal, Oliveira, Madubuko, Tanuos, Schwab, and Monteiro, (2018), which reported that non practice of exclusive breast feeding was prevalent among lactating mothers of low economic status (income). This finding could be linked to the fact that lactating mothers need to eat adequately to be able to meet up with both her nutritional need and that of the infant as she breast feeds the infant exclusively.

Conclusion

The findings have shown that IBF is more prevalent among lactating mothers. More than half of the participants initiated EBF within 72 hour after birth while 31.5 per cent did not initiate EBF. About 32.5 per cent practised giving the new born water/other drinks before commencement of breast feeding after birth. More than half of the participants weaned the infants before six months of age,

thereby opting for inclusive infant feeding practice. About 37.2 per cent of the participants practised EBF for the first six months. There was no statistically significant association between maternal age, parity and infant feeding practices. However, there was statistically significant association between marital status, level of education, income level and infant feeding practices. Some of the reasons identified through FGD. IDI and Key Informant interviews included: inability of the breast milk alone to satisfy the infant's food need, mothers' inability to cope with business/job demands, and that of EBF practice at the same time, and so they resorted to inclusive breast feeding. Also, most lactating mothers adopted inclusive method of infant feeding practice because of lack of spousal support to perform other demanding household chores that occupy the attention and focus of the mother from EBF practice. Lactating mothers who did not initiate breastfeeding within 24 hours of birth did so because they (the mothers) did not prepare for EBF practices prior to child birth. Majority of the CBMs who had their newborns delivered in health facilities, attempted initiation of breastfeeding within the routinely stipulated one hour of delivery, but when they were discharged home out of the "watchful eyes" of the health care workers, they were influenced by either family members (mother-in laws, grandmothers, aunties), friends or neighbours to give the newborn water or other drinks, thus contravening the principle of EBF practice.

Recommendations

- 1. Efforts towards encouraging mothers to practise exclusive breast feeding pattern of infant feeding should not be relented because of its numerous benefits to the health of the child.
- 2. Midwives and other health care workers should be encouraged to undergo in-service training and update on EBF support for lactating mothers to enhance adoption of EBF as infant feeding method.
- 3. The strategies to encourage lactating mothers to adopt exclusive breastfeeding pattern of infant feeding should be reinforced by the government and health facilities.
- 4. The spouse of the lactating mothers should be taught also about the need for them to support and encourage their wives to adopt EBF practices

References

- Agho, K. E., Dibley, M. J., Odiase, J. I., & Ogbonmwan, S. M. (2011). Determinants of exclusive breastfeeding in Nigeria. *BMC Pregnancy and Childbirth*, 11, 2. doi:10.1186/1471-2393-11-2
- Ajibade, B. L., Okunlade, J. D., Makinde, O. Y., Amao, P. O., Adeywmo, M. O. (2013). Factors influencing practice of EBF in rural communities of Osun State, Nigeria. http://www.iiste.org/journal/index.p
- Akinsola, H. U. (2008). *Behavioural science for nurses' perspectives from medical sociology and psychology* (2nd ed.). Ibadan: Conservative Press.
- Appleton, J., Laws, R., Russell, C.G., Fowler, C., Campbell, K.J.,& Wilson, E. D. (2018). Infant formula feeding practices and the role of advice and support: an exploratory qualitative study. *BMC** Pediatrics, 18, 12. doi: 10.1186/s12887-017-0977-7* PMCID: PMC578467. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC584678/
- Arora, A., Manohar, N., Hector, D., Bhole, S., Hayen, A., Eastwood, J., & Scott, J. A. (2020). Determinants for early introduction of complementary foods in Australian infants: findings from the HSHK birth cohort study. *Nutrition Journal*, *16*, 1.doi: 10.1186/s12937-020-0528-1 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5784678/
- Binns, L. W., Scott, J. A. (2012). Breastfeeding: reasons for starting, reasons for stopping and problems along the way. *Breastfeeding Rev.*, 10, 13-19 [Pubmed]
- Fraser, D. M., Couper, M. A., & Crawford, J. (2013). Child health services. In M. Myles (Ed.), *Textbook for midwives* (14th ed.). China: Chuchhill Livingston Elsevier.
- Iasbu, A. C. (2018). Determinants of and intervention strategies for non-adoption of exclusive breastfeeding practices among childbearing mothers in Bayelsa State, Nigeria (Unpublished doctorate thesis). University of Nigeria, Nsukka.
- Harrison, M., Brodribb, W.,& Hepworth, J. (2017). A qualitative systematic review of maternal infant feeding practices in transitioning from milk feeds to family foods. *Journal of Maternal and Child Nutrition*, 13, 2. doi:10.1111/mcn.12360 https://pubmed.ncbi.nlm.nih.gov/27696658/

- Jacobs, F. S. (2012). Contaminants in human milk: weighting the risks against the benefits of breastfeeding. *Environmental Health Prospect*, 116(10), a426-34. doi:10.1289/ehp.116-ad46.PMC2569122.PMD18941560
- Khanal, V., Scott, J.A., Lee, A.H., Karkee, R., & Binns, C. W. (2016). The supplemental use of infant formula in the context of universal breastfeeding practices in Western Nepal. *BMC Pediatrics*, 16, 68. doi:10.1186/s12887-016-0602-1.https://pubmed.ncbi.nlm.nih.gov/27206532/
- <u>Kuswara</u>, K., <u>Campbell</u>, K.J., <u>Hesketh</u>, K.D., <u>Miaobing Zheng</u>, M.,& <u>Laws</u>, R. (2020). Patterns and predictors of exclusive breastfeeding in Chinese Australian mothers: a cross sectional study. <u>International Breastfeeding Journal</u>, 5(1), 61. doi:10,1186/s13006-020-00304-w. <u>https://pubmed.ncbi.nlm.nih.gov/32660501/</u>
- Lindsay, A. C., <u>Le</u>, Q., & Greaney, M.L. (2017.).Infant feeding beliefs, attitudes, knowledge and practices of Chinese Immigrant Mothers: An Integrative Review of the Literature. *International Journal of Environmental Res. Public Health*, *15*(1), 21. doi: 10.3390/ijerh15010021. PMID:29295487.https://pubmed.ncbi.nlm.nih.gov/29295487/
- Nwosu, U. M., Eke, R. A., & Enwereji, E. E. (2006). Factors influencing the practice of exclusive breastfeeding in rural communities of Abia State. *Journal of Applied Psychology*, 2, 138-142.
- Ogho, F. A., Agho, K. E., & Andrew. (2015). Determinants of suboptimal breastfeeding practices in Nigeria: evidence form 2008 demographic and health survey. *BMC Public Health*, 15(259), 4991.
- Papoutsou. S., Savva, S.C., Hunsberger, M., Jilani, H., Michels, N., & Ahrens, W. (2018). Timing of solid food introduction and association with later childhood overweight and obesity: the IDEFICS study. *Journal of Maternal and Child Nutrition*, 4(1), e12471. [PMC -PubMed]
- Rosenthal, R., Oliveira, S. B., Madubuko, U., Tanuos, H., Schwab, J., & Monteiro, I.M. (2018). Effects of immigration on infant feeding practices in an Inner City, Low Socioeconomic Community. *Journal of National Medical Association*. PMID: 30177281doi: 10.1016/j.jnma.2018.07.006https://pubmed.ncbi.nlm.nih.gov/30177281/
- Uchendu, U.O., Ikefuna, A.N., & Emodi, I.J. (2009). Knowledge and practice of EBF among mothers in South-East Nigeria. *Am J Obstet Gynecol*, 200(2), 138el-8. doi:10.1016/j.ajog.2008.10.001.PMC 2684022.PMID 19110223
- UNICEF. (2011). State of the world's children. Geneva: The Author.
- UNICEF/WHO. (2015). The state of the world's children. Geneva: The Author.
- World Health Organization.(2008). Indicators for assessing infant and young children feeding practices conclusions of a consensus meeting held 6–8 November 2007 in Washington D.C., USA.