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Infant and Young Child Feeding (IYCF) practices and its determinants in flood-affected communities in Edo State, Nigeria

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Abstract

The immediate effect of child malnutrition in Africa is morbidity. In the longer term, it limits the child's potential for life even when the child manages to survive its instantaneous effects. This cross-sectional study focused on investigating the socio-demographic determinants of the components of Infant and Young Child Feeding (IYCF) in flood-affected Local Government Areas (LGAs) in Edo State, Nigeria. A total of 400 mothers were interviewed using a semi-structured questionnaire. Results from this current study indicate that only about 48% of mothers surveyed exclusively breastfed their under 5 children. Also, only about 55% of mothers initiated breastfeeding within 1 hour of birth and gave colostrum, and about 45% of the mothers actually adhered strictly to the prescribed complementary feeding practice of giving nutritionally adequate and safe complementary foods alongside breastfeeding at six months up till 2 years of age and even beyond. Education, source of income, marital status, and access to healthcare facilities were strong influencers of misconceptions and other factors impeding the implementation of the core components of IYCF as observed in this study. Flood remains a significant contributing factor depleting household food security structures leading to maternal and infant malnutrition. A concerted governmental coordinated intervention is required to relieve flood-affected families of the burden of malnutrition and infectious diseases. Training and retraining of health workers will be helpful in strengthening community involvement in implementing and monitoring IYCF components in the community. Longer maternity leave for nursing mothers should be strongly advocated for.

Keywords: Breastfeeding; Complementary feeding; Edo State; Infant Young Child Feeding (IYCF); Malnutrition

1. Introduction

The routine burden of malnutrition in the world cannot be overemphasized. This is because, according to a World Health Organization (WHO) report [1] the long-term financial chaos currently being experienced in the world and the recent COVID-19 pandemic have diverted the attention of world leaders who are now occupied with finding possible solutions to the economic crisis ushered by COVID-19 pandemic, thereby paying less attention to issues of hunger and malnutrition affecting millions of children all over the world. The United Nations Children's Fund (UNICEF) reports that infants under the age of 5 are more affected by malnutrition which makes them vulnerable to diseases [2]. This is because, when infants are malnourished, their immune systems are weakened exposing them to the risk of pneumonia, malaria, diarrhea, and possibly death [3]. Iodine deficiency resulting from malnutrition reduces the intellectual quotient (IQ) in children which causes low academic output [4]. These primary consequences of malnutrition have a direct effect on the education of children as over 80% of school dropouts are attributed to child illness. According to a growth assessment and surveillance study carried out by [5], one in every four children in the world is underdeveloped due to

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malnourishment. Outrageously, malnutrition is responsible for over 45% of all infant mortality globally. When infants are malnourished for a prolonged amount of time, they experience an irreversible delay in their physical growth and micronutrient deficiencies which manifest as stunting which is an irreversible condition that stunts the physical and cognitive development of children [6]. Symptoms of Severe Acute Malnutrition (SAM) can also present as wasting which is a life-threatening condition where children are too thin for their height, resulting in weakened immune systems [7]. With a national prevalence rate of over 32%, Nigeria ranks among the top countries with the highest number of stunted children worldwide [2]. Shockingly only a few of the estimated 2 million children under the age of five suffering from SAM in Nigeria are reached with the intervention [2]. Malnutrition has eventually destroyed the future prospects of infants [4]. Women of childbearing age also suffers from the devastating effect of acute malnutrition as about 10% of them are affected by undernourishment due to poverty and lack of necessary nutritional knowledge and skill [2]. Malnourished pregnant women are at risk of giving birth to children with low birth weights who stand a higher chance of being malnourished [2]. However, coordinated efforts have continuously initiated various intervention programs in resolving the demoralizing nature of malnutrition around the world. In Nigeria, the National Plan of Action on Food and Nutrition was instigated to strengthen health and community systems through the integration of nutrition programs into all aspects of the primary health care (PHC) system, with a particular focus on Infant and Young Child Feeding (IYCF) interventions among others [2]. IYCF intervention focuses on early initiation of breastfeeding within one hour of birth, exclusive breastfeeding for the first 6 months of life, and, the introduction of nutritionally adequate and safe complementary foods at 6 months together with continued breastfeeding up to 2 years of age or beyond. Although the IYCF strategic components have been used to prevent and manage the resulting effects of malnutrition in Nigeria but have not been effective enough as there are still cases of SAM in some parts of the country [8]. Flooding encourages the spread of other communicable diseases which together with malnutrition can worsen the routinely rising rates of child morbidity and mortality. Esan South East, Etsako East, Etsako Central, and Ovia South West are Local Government Areas (LGAs) affected by flooding in Edo State. Consequently, this research aims to identify socioeconomic determinants militating IYCF feeding practices and proffer ways to reduce malnutrition among under-5 children.

2. Methods

2.1 Study design

A cross-sectional survey was conducted to collect data between August and September 2018. The survey was designed to investigate socioeconomic determinants of IYCF indicators on a representative sample of households in the study area.

2.2 Study setting

This study was conducted in communities in the four floods-affected Local Government Areas (LGAs) in Edo State which includes Esan South East, Etsako Central, Etsako East, and Ovia South West LGAs. The people in Esan South East and Ovia South West speak Esan and Benin Languages respectively while those in Etsako East and Central speak Etsako Language. People from the communities under survey are mostly, petty traders, farmers, and Civil servants.

2.3 Sampling methodology

Judgmental/purposeful sampling was used in this study.

2.4 Study participants

The study participants for this survey are mothers or caregiver of children who are less than 5 years old and living in the area under the survey.

2.5 Sample size

One mother or caregiver of a child under the age of 5 was selected from 100 households in each of the four LGAs amounting to a total of 400 mothers.

2.6 Data collection

A total of eight trained data collectors with expertise in respective local languages and four trained field supervisors were involved in socio-demographic data collection. Using a semi-structured pre-tested questionnaire, household socio-demographic data on IYCF practices were obtained from participants.

2.7 Definition of variables used in the study

2.7.1 Considerable level of Education

Education equivalent or more than the Secondary level of education

2.7.2 Source of income

Caregiver's fiscal ability to afford daily basic home needs including feeding and shelter.

2.7.3 Access to health facility

Easy access to any health facility within a 1km radius for nutritional and other healthcare interventions

2.7.4 Antenatal Care

Healthcare services gotten from professionals during pregnancy

2.7.5 Colostrum

The first milk expressed immediately after delivery.

2.7.6 Exclusive Breastfeeding

Giving only breast milk and nothing else or even water to children aged between 0 – 6 months during the previous day.

2.7.7 Complementary feeding

The introduction of nutritionally adequate and safe foods (solid and semi-solid) at 6 months of age alongside continued breastfeeding up to 2 years of age or beyond.

2.7.8 IYCF support group

A face-to-face scheduled group session where a health worker acts as a figure and moderates meetings with mothers and other caregivers who share their concerns, experiences, and doubts about the core components of IYCF.

3. Results

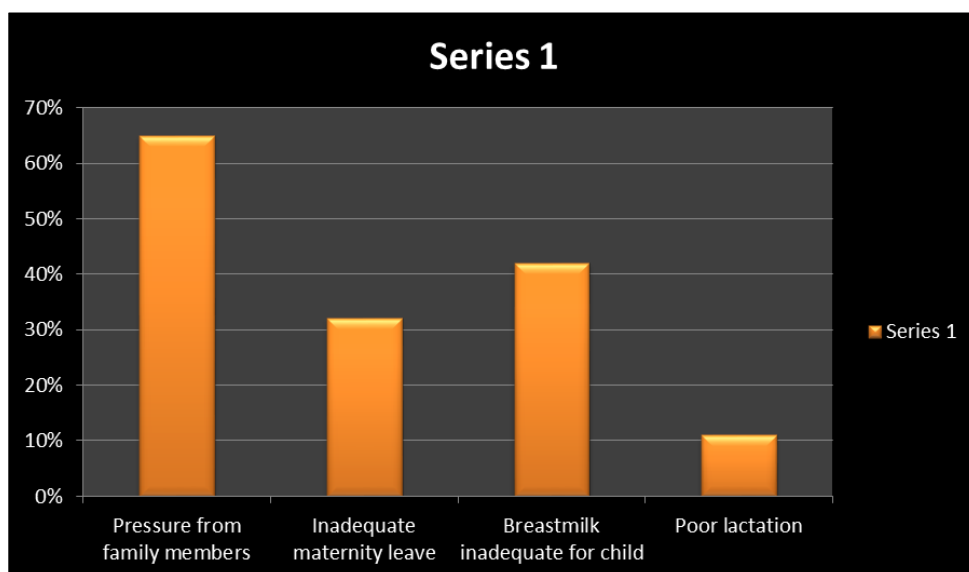


Figure 1 Reasons while mothers defaulted with exclusive breastfeeding

As shown in Table 1, a total of 400 mothers whose ages ranged from 15 to 50 years were interviewed. The majority (69%) of them were aged 15–32 years old. Most of them (70.5%) were educated to Secondary school level and beyond. In spite of the damage caused by floods on farms and other socioeconomic amenities belonging to respondents, slightly

above half (55%) of the participants still had a source(s) of income. A total of 341 (85%) respondents had access to health facilities of which 261 (76.5%) attended antenatal services during pregnancy. More than 54% (218) of mothers gave colostrum to their newborns within 1 hour after birth. Most (52%) of the mothers had introduced their infants to the water alongside breastfeeding during their first 6 months of life, out of which (31%) introduced other solid and semi-solid food to their newborns before 6 months of age. Only a few (43%) of the 69% of mothers who practiced complementary feeding by introducing other solid and semi-solid food after the new-born first six months of life actually adhered strictly to the prescribed complementary feeding practice of giving nutritionally adequate and safe complementary foods alongside breastfeeding at six months till 2 years of age and even beyond. Low compliance with recommended IYCF standards observed among respondents was a direct consequence of the impracticable activities of support groups as only a few (23%) respondents belong to any IYCF support groups.

Table 1 Socio-demographic characteristics influencing exclusive breastfeeding and complementary feeding

Location		ESE	EE	EC	OSW	Total
Age Group of caregiver (years)	15-32	73	66	79	58	276
	33-50	27	34	21	42	124
Considerable level of Education		72	82	69	61	282
Marital status		76	81	83	79	319
Source of income		54	41	59	64	218
Access to health facility		93	89	81	78	341
Attended Antenatal service		72	59	69	61	261
Gave colostrum at birth		51	43	67	57	218
Exclusive Breastfeeding (months)	<6	44	60	37	66	207
	≥6	56	40	63	34	193
Complementary feeding (Months)	<6	32	41	22	29	124
	6-24	68	59	78	71	276
Attends IYCF support group sessions		21	33	24	13	91
Total No of participants		100	100	100	100	400

Key: ESE; Esan South East, EE; Etsako East, EC; Etsako Central, OSW; Ovia South West

4. Discussion

Results from this current study indicate that only about 48% of children in the area surveyed were exclusively breastfed. These finding supersedes the Nigerian National compliance rate of only about 17% [2]. It was also discovered that only about 55% of mothers initiated breastfeeding within 1 hour of birth and gave colostrum. Although, as high as 69% of mothers practiced complementary feeding by introducing their children to other solid and semi-solid food after the new-born first six months of life but less than 45% of these mothers actually adhered strictly to prescribed complementary feeding practice of giving nutritionally adequate and safe complementary foods alongside breastfeeding at six months up till 2 years of age and even beyond. Similar to exclusive breastfeeding, this rate is higher than the Nigerian National compliance rate of 18% [2]. Findings on complementary feeding practice as observed from this study are consistent with that of [9] which discovered that less than 63% of infants were introduced to complementary feeding. These collective findings are in sharp contrast with the core practices of C-IYCF. Several socioeconomic factors have been identified in this current research as negative influencers of implementation of IYCF strategies in communities.

In complete terms, poverty which has been described as low income or a total lack of it was identified in this current study as a determining factor influencing the implementation of IYCF in households. Only about 55% of respondents from this current study have a considerable income sources. Infant mortality and childhood diseases stemming from malnutrition has repeatedly been linked to poverty experienced in households. Due to financial hardship experienced in households as observed in this research, some mothers could not afford adequate-nutritious food for themselves, thereby demotivating them psychologically towards exclusively breastfeeding their newborns or even providing

adequate-nutritious complementary feeding for them. Furthermore, some respondents in this current study complained that they are not financially and morally supported by their partners in implementing exclusive breastfeeding and complementary feeding. Some professionally occupied (employed) mothers as well as those who are not married were discovered to leave their new-borns in the care of other family members while they attend work or go in search of menial jobs to take care of themselves and the child, thus impeding the chances of exclusive breastfeeding their newborns. This finding is consistent with that of [10] which discovered that single mothers were more likely than married mothers to obstruct exclusive breastfeeding and complementary feeding practices. Hence, marital status has been discovered as a determinant of IYCF implementation in communities.

Mother's education is a leading determinant among several socioeconomic impediments of the components of IYCF [11]. This current study discovered that most mothers who defaulted in implementing IYCF guidelines had no formal education. Some mothers reported that pressure from family members who faultily believed that breastfeeding is insufficient in quality and quantity for a child discourages them from furthering with exclusive breastfeeding. Therefore they commence supporting breastfeeding with other semi-solid and solid food. This finding is not unconnected to that of [12] who concluded that women with no formal education have worsening breastfeeding indicators compared to women with at least a secondary education. This is because uneducated mothers are more likely to succumb to family pressure compelling them to derail from recommended IYCF practices. Also, education proved to be a stronger determinant compared to easy access to Health care centers in terms of mothers' willingness to attend antenatal services, where correct information on IYCF is provided. Most respondents in this study who attended antenatal services irrespective of the distance from their homes to health care centers had formal education. Uneducated mothers are more likely to patronize the services of unregulated Traditional Birth Attendants (TBA), thereby, exposing themselves to the jeopardies of adopting several myths demeaning the undisputed importance of breastfeeding [13]. Supportably, [14. 15] recommended formal health education training and IYCF to TBAs, towards the effective improvement of maternal and child health outcomes in underserved communities.

A bunch of misconceptions about colostrum, breastfeeding and complementary feeding were identified among mothers from this current research as in previous study by [16]. One of the more important findings from this study indicates that more than 45% of mothers who did not introduce their newborn babies to breast and give colostrum within the one hour period following birth as prescribed, had misconceptions surrounding breastfeeding and complementary feeding. Most respondents did not give colostrum to their newborns because they erroneously believed that the deep yellowish-orange color characterizing colostrum depicts spoilage hence, it is bad for the child. This finding is supported by [17] which discovered that mothers who do not attend antenatal service, had poor knowledge and attitude towards colostrum, and consequently did not give their children. Furthermore, among the uneducated mothers who managed to breastfeed their less than six months old augmented with water and other semi-solid foods speciously believing that breast milk lacks water and other nutrients needed for child growth and development. Buying infant formulas for under 5 children was seen by some mothers as a way to showcase their fortunate social status among their peers hence, they abandon exclusive breastfeeding prematurely. Surprisingly, over 25% of uneducated married mother interviewed, wrongly believes that breast milk is not meant for children rather it rightly belongs to the father. This particular belief limits the chances of the newborn being effectively breastfed. According to [18] some mothers do breastfeed their partners for reasons ranging from fulfilling a fantasy to perceived health benefits. Breast milk has been opined by [19] to enhance muscle building for men however, research has not been able to substantiate this claim. Nonetheless, breast milk contains some antibodies which adults readily have but limited in infants and required for protection against infections protection (20). The benefits of breast milk to fathers as observed in this study needs to be investigated.

This current research observed that some mothers have the willingness to exclusively breastfeed their newborns and follow through with complementary feeding at the appropriate time but, lack IYCF skills. In spite of the fact that breastfeeding is a natural act, [21] believes that, breastfeeding could be a learned behavior. Support groups exist in communities to offer breastfeeding support to mothers particularly first-time who have concerns, and doubts about the core components of IYCF from personal experiences [8]. Surprisingly, over 75% of mothers were found to not participate in any activities of support groups. This has significantly contributed to low practices of exclusive breastfeeding and complementary feeding thereby hampering IYCF implementation in communities [22]. It was discovered by [8] that infants whose mothers participated in support group activities had increased odds of exclusive breastfeeding and complementary feeding. In a 2022 report by [23], caregivers could not exhaust the benefits of participating in support group activities in Nembe, Bayelsa State. In this current study, mothers defaulting of support group activities complained that apart from the unfavorable time support group sessions are scheduled for, the far distance to the venues worsens their already deplorable financial state. This finding is consistent with that of [8] but, reported the benefits of information and technology (IT) intervention, using social media (Facebook and Whatsapp) in addressing issues relating to the timing and venues of support group meetings in Lagos. Although, the community

studied are mostly rural but have access to IT. This intervention by [8] can also be replicated in subsequent cases relating to that of this current research.

Inconsistent implementation of health promotion activities and household monitoring of IYCF has negatively affected early Initiation of breastfeeding, exclusive breastfeeding, and complementary feeding practices in communities [24]. Access to knowledge about exclusive breastfeeding and complementary feeding is necessarily insufficient enough to promote exclusive breastfeeding but, regular and concentrated efforts from healthcare givers in monitoring the progress of intervention are important to ensure its progress and sustainability. This current study observed the existence of viable and robust coordinating structure for IYCF programs in the various communities with the availability of primary health care centers, manpower, and community development committees. However, the implementation of recommended IYCF interventions is considered poor. This is because; communities are poorly mobilized and sensitized on current IYCF policies leaving support groups and community development committees in a comatose situation [22].

Moreover, synthesized socio-demographic data from respondents from this survey indicate that flooding during the rainy season disrupts the food supply and contaminates the local water supply. This leads to malnutrition and diarrheal illness among children under the age of 5. Moreover, most respondents from this current study rely on agriculture practices such as crop production, fish farming, and chicken production among others as their source of livelihood. And during flooding their crops and livestock production are destroyed thus, putting their household food security in jeopardy. This finding is similar to that of [25] which discovered that flooding increased the likelihood of households plunging into poverty, especially for those relying on farming practices as a source of livelihood. As a consequence, households are forced to cut down on the quantity and quality of food intake in order to cope with their current financial reality.

Poor lactation was also discovered as determinant of poor implementation of IYCF components. Some mothers who failed to continue with exclusive breastfeeding in this current study specified poor lactation as their primary reason. According to the Centers for Disease Control and Prevention [26] poor intake of food by nursing mothers leads to poor lactation and eventuality increases the risk of child malnutrition.

5. Conclusion

Flooding experienced in the areas surveyed was significant in influencing family source of income as a major determinant of maternal and child nutrition. Even without any flooding, childhood malnutrition in the area surveyed required urgent attention owing to educational, financial, and cultural influences on IYCF components among others. Hence, a concerted governmental coordinated intervention is of essence. Families affected by flood can be provided with relief materials among other interventions. Also, retraining health workers in these areas will help to strengthen support groups and improve caregivers' capacities and skills towards implementing IYCF even during environmental disasters such as flooding. State governments should intensify the national discussion on extensive maternity leave.

Compliance with ethical standards

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Disclosure of conflict of interest

We declare no conflict of interests in this research

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

References

- [1] WHO. World leaders urged to make firm commitments at Second Global COVID-19 Summit by ACT-Accelerator agency leads. 2022 report
- [2] UNICEF. Nutrition; The Challenge and solution. 2015

- [3] Herrmann L. Chronic malnutrition puts almost half a billion children at risk. 2012.
- [4] Save the Children. A Life Free From Hunger. Tackling child malnutrition. Save the Children UK. 2011
- [5] Onis, M., Blössner, M., & Borghi, E. Prevalence and trends of stunting among pre-school children, 1990–2020. *Public Health Nutrition*. 2012; 15 142-148.
- [6] Agabiirwe, C.N., Dambach, P., Methula, T.C. et al. Impact of floods on undernutrition among children under five years of age in low- and middle-income countries: a systematic review. *Environ Health*. 2022; 21, 98
- [7] Muttarak, R. and Dimitrova, A. Climate change and seasonal floods: potential long-term nutritional consequences for children in Kerala, *India BMJ Global Health*. 2019; 4:12-15.
- [8] Flax, V.L., Ipadeola, A., Schnefke, C.H., et al. Breastfeeding Interpersonal Communication, Mobile Phone Support, and Mass Media Messaging Increase Exclusive Breastfeeding at 6 and 24 Weeks Among Clients of Private Health Facilities in Lagos, Nigeria. *J Nutr*. 2022; 152(5):1316-1326.
- [9] Esan, D.T., Adegbilero-Iwari, O.E., Hussaini, A. et al. Complementary feeding pattern and its determinants among mothers in selected primary health centers in the urban metropolis of Ekiti State, Nigeria. *Sci Rep*. 2022 12, 6252.
- [10] Newhook. T.J., Newhook, L.A., Midodzi, W.K., et al. Poverty and Breastfeeding: Comparing Determinants of Early Breastfeeding Cessation Incidence in Socioeconomically Marginalized and Privileged Populations in the FiNaL Study. *Health Equity*. 2017; 1(1):96-102.
- [11] Laksono, A.D., Wulandari, R.D., Ibad, M. et al. The effects of mother's education on achieving exclusive breastfeeding in Indonesia. *BMC Public Health*. 2021; 21, 14.
- [12] Neves, P.A.R., Barros, A.J.D., Gatica-Domínguez, G. et al. Maternal education and equity in breastfeeding: trends and patterns in 81 low- and middle-income countries between 2000 and 2019. *Int J Equity Health*. 2021; 20, 20.
- [13] Amutah-Onukagha N, Rodriguez M, Opara I, et al. Progresses and challenges of utilizing traditional birth attendants in maternal and child health in Nigeria. *Int J MCH AIDS*. 2017;6 (2):130-138.
- [14] Bukar M, & Jauro Y.S. Home births and postnatal practices in Madagali, North-Eastern Nigeria. *Nigerian Journal of Clinical Practice*. 2013;16(2):233–245
- [15] Agbo M.A.E. Training of traditional birth attendants: a strategy for reduction of maternal and infant mortality. *West African Journal of Nursing*. 2013:42–52
- [16] Das, N., Chattopadhyay, D., Chakraborty, S., & Dasgupta, A. Infant and Young Child Feeding Perceptions and Practices among Mothers in a Rural Area of West Bengal, India. *Ann Med Health Sci Res*. 2013; 3(3):370-375.
- [17] Mose, A., Dheresa, M., Mengistie, B., Wassihun, B., & Abebe, H. Colostrum avoidance practice and associated factors among mothers of children aged less than six months in Bure District, Amhara Region, North West, Ethiopia: A community-based cross-sectional study. *PLoS One*. 2021;16(1):e0245233. Published 2021 Jan 29. doi:10.1371/journal.pone.0245233
- [18] Murray, D. Breastfeeding Your Husband or Intimate Partner; What to know about breastfeeding with your partner. 2022.
- [19] ETIMES. Shocking! Some men are now drinking breast milk to build muscles. The Times of India
- [20] WHO. Infant and young child feeding. 2021
- [21] Gavine, A., MacGillivray, S., Renfrew, M.J., Siebelt, L., Haggi, H., & McFadden, A. Education and training of healthcare staff in the knowledge, attitudes and skills needed to work effectively with breastfeeding women: a systematic review. *Int Breastfeed J*. 2016;12(1):6
- [22] Lamstein, S., Perez-Escamilla, R., Koniz-Booher, P., Begin, F., Adeyemi, S., Kaligirwa, C., Isokpunwu, C., & Adebisi, B. The Community Infant and Young Child Feeding Counselling Package in Kaduna state, Nigeria: a mixed methods evaluation. Final report. Arlington (VA): Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) project; 2018.
- [23] UNICEF. Mothers' Support Groups fight child malnutrition in Nembe, Bayelsa State, Nigeria. 2022
- [24] Schnefke, C.H., Flax, V.L., Daniel, O. and Boman, C.K. Alive & Thrive Nigeria: baseline qualitative data report. Research Triangle Park (NC): RTI International; 2018.
- [25] Muttarak, R. & Dimitrova, A. Climate change and seasonal floods: potential long-term nutritional consequences for children in Kerala, India. *BMJ Global Health*. 2019;4,12-15.
- [26] CDC. Breastfeeding; Maternal diet. 2022.