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COMPLEMENTARY FEEDING PERCEPTION AMONG NURSING MOTHERS IN NIGERIA

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ABSTRACT

Complementary feeding is one of the top measures in Nigeria to reduce malnutrition. However, there is consistent evidence of poor practice in Nigeria. This study aims to evaluate how nursing mothers in Nigeria perceive complementary feeding and understand how their perceptions influence their complementary feeding practices. The study involved four sessions of Focus Group Discussions with a total of 31 participants. The findings revealed that mothers introduced complementary feeding early because they believed that breast milk alone was insufficient before the age of 6 months. Some mothers also perceived that non-infant cereals and milk were better than their infant counterparts, claiming that they aid weight gain. Additionally, some healthy foods were avoided due to myths, and local herbs, commonly known as agbo, were given to some children. To ensure that the World Health Organization guidelines on complementary feeding are accepted in Nigeria, policymakers need to target all those involved in caregiving for the child in the Nigerian setting. This includes health workers, mothers, fathers, and grandmothers.

Keywords: breastfeeding; complementary feeding; nigeria; perception; weaning

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INTRODUCTION

Over 50% of children in Nigeria are given complementary foods before 6 months of age and these foods are often nutritional inadequate (Udoh & Amodu, 2016). Complementary feeding is described as the process that starts when breast milk alone is no longer sufficient to meet infants' nutritional requirements, and thus other foods and liquids are required alongside continued breastfeeding (WHO, 2020). This period is from six months of age to two years of age, and it is the most critical growth period for the child, as nutrition deficiencies may result to chronic long-term health problems such as iron deficiency anaemia, rickets, stroke, cancer, coronary heart disease among others (Haimi & Lerner, 2014). Despite the health implication of poor complementary feeding, its practice still remains low among the Yorubas of South-western Nigeria due to cultural beliefs and family pressure (Agunbiade et al., 2012).

Similarly, a study by Umugwaneza et al., (2021) also stated that mother's belief alongside factors such as socioeconomic status of caregivers, knowledge of complementary feeding guidelines and the influence of postnatal care are associated with complementary feeding practices in low- and middle-income countries. Given the reoccurring mention of mothers' perception as a factor that influence complementary feeding practices, a better understanding of mothers' perception towards complementary feeding will help health practitioners to plan and execute infant feeding education during antenatal and postnatal care. Therefore, the aim of the study was to use focus group discussion to gain insight of the complementary feeding perception of nursing mothers attending the University Health Service, University of Ibadan, Nigeria.

Study Overview and Setting

Complementary feeding is the process starting when breast milk alone can no longer be sufficient to meet the nutritional requirements of infants, and therefore other foods and liquids, are needed along with the breast milk (WHO, 2020). At six months, the energy and nutrients provided by breast milk are no longer sufficient to meet infant's need. Hence, complementary foods are critical to the nutrition, health and development of the infants and young children between 6-24 months of age and should be timely introduced, nutritionally adequate, safe, and appropriately fed. The World Health Organization (WHO) defines "timely" as at six months of age, "adequate" as meeting the child's nutrient requirements, "safe" as hygienically prepared, stored and fed, and "appropriately fed" as fed responsively or fed in a manner that responds to a child's signals of hunger and satiety. As the word complementary implies, the foods are meant to complement breast milk and not displace it (WHO, 2019).

Several studies (Shaker et al., 2012; Inoue & Binns, 2014 & Esan et al., 2022) have shown that the 6 months recommended by the WHO have been poorly practiced. Also, controversies have been raised in recent times regarding this recommendation. A review of feeding guidelines promoted by various national and international organisations has shown inconsistencies in the specific recommendations for feeding infants and young children (Dewey, 2001). The discrepancies in research findings can be attributed to several factors. Methodological variations, such as study design, sample size, and data collection methods, can lead to conflicting results (Samuel & Ibidapo, 2020). Cultural practices and dietary habits also influence research outcomes, as food preferences and availability vary across different populations. Additionally, the evolving nature of scientific understanding and the emergence of new research data contribute to the ongoing inconsistencies.The lack of consensus in the research on complementary feeding can be frustrating for parents and healthcare providers seeking clear guidance.

However, given that WHO is the global governing body for health, its guiding principles for complementary feeding of the breastfed child were used for the purpose of this study, and they are as follows: 1)continue frequent, on-demand breastfeeding until 2 years of age or beyond; 2)practise responsive feeding (for example, feed infants directly and assist older children. Feed slowly and patiently, encourage them to eat but do not force them, talk to the child and maintain eye contact); 3)practise good hygiene and proper food handling; 4)start at 6 months with small amounts of food and increase gradually as the child gets older; 5)gradually increase food consistency and variety; 6)increase the number of times that the child is fed: 2–3 meals per day for infants 6–8 months of age and 3–4 meals per day for infants 9–23 months of age, with 1–2 additional snacks as required; 7)use fortified complementary foods or vitamin-mineral supplements as needed; and 8)during illness, increase fluid intake including more breastfeeding, and offer soft, favourite foods (WHO, 2020).

Timing of Complementary Feeding

Appropriate complementary feeding practices is as important as exclusive breastfeeding practices, but several studies have shown that most complementary feeding practices among mothers are not in line with the World Health Organization (WHO) standard and in most cases displaces breastfeeding practices before 24 months postpartum (Afolabi et al., 2021, Masuke et al., 2021, Esan et al., 2022) In a recent cross-sectional study conducted in selected health centres in Ado Ekiti, the capital city of Ekiti State in Nigeria by Esan et al., (2022) to assess the complementary feeding pattern of mothers of children aged 0-24months. It was revealed that 62.5% of the 135 participants introduced complementary feeding to infants

between 3-5months of age while 43.3% introduced water to their infants at 3 months of age. Similarly, a study conducted by Afolabi et al., (2021) in Osun State, Southwestern Nigeria showed that out of the 193 postpartum mothers recruited for the study, only 28% practiced exclusive breastfeeding which indicated that the remaining participants had introduced complementary feeding before 6 months of age. Nearly forty percent introduced complementary feeding within the first 3 months while 32.1% commenced complementary feeding between the 4th and 5th month. According to retrospective cohort study conducted in Tanzania using the Pasua and Majengo cohorts of mother-child pairs in urban Moshi enrolled from 2002 to 2017 (Masuke et al., 2021). It was revealed that 91.2% of the children were given family food of varying texture before 6 months of age. About forty percent had low meal frequency and 74% had low dietary diversity score. Furthermore, introduction of complementary foods as early as 0-1 months was statistically significant and associated with higher risks of wasting and underweight (ARR 2.9, 95%CI 1.3–6.3; and ARR 2.6, 95% CI 1.3–5.1 respectively) (Masuke et al., 2021). This longitudinal study highlighted the poor complementary feeding practices particularly in timing among nursing mother in low- and middle-income countries and their potential long-term implications on the health of the child.

Energy during Complementary Feeding

Complementary feeding begins at six months when breast milk is no longer sufficient for the child. The foods introduced first are soft gruel in small quantity. Food texture, quantity and frequency are increased as the child grows older (Dewey et al., 2001). The estimated amount of energy a child needs from complementary foods is the difference between total energy required by child and total energy supplied by breast milk. A review from the compilation of twenty-one (21) publications for the Pan American Health Organization reported that weighted mean energy intake from breast milk were 413, 379 and 346 kcal/day for children at between ages 6-8 months, 9-11 months, and 12-23 months respectively. The current estimate of energy needs for children between the ages of 6-8 months, 9-11 months and 12-23 months are 632, 830 and 1029 kcal/day respectively and as such children in the age group discussed above require an estimated energy of 275, 450 and 750 kcal/day in the same order (Dewey et al., 2001).

In another study by Romero-Velarde et al., (2016), it was shown that breastmilk contributed 60%, 47% and 38% of the total energy requirement at ages 6-8months, 9-11months and 12-23months respectively while infant formula contributed 50%, 44% and 39% of the total energy requirement at ages 6-8months, 9-11months and 12-23months respectively. In order to ensure that these estimated energy requirements are met, it is necessary that the foods are prepared with minimally adequate nutrient density and served to child at appropriate number of times each day. Total energy requirement may not be met if the child is not adequately breastfed, as a result the child may need more energy from the complementary foods. Although, caregivers cannot state exactly the quantity of milk a child gets per day, but they are advised to breastfeed regularly and give the appropriate recommended meal frequency depending on the age of the child. The hygiene of foods to be fed to the child should be noted and responsive feeding is advised. Caregivers are to carefully observe the increase in the demand of food by the child and increase the meal frequency.

A systematic review conducted by Vossenaar and Solomons, (2012) suggests that mean metabolizable energy intake in exclusively breast-fed infants at 6 months of 2.2 – 2.4 MJ/d (525-574 kcal/d), and mean energy requirement approximately 2.6 – 2.7 MJ/d (632 – 649 kcal/d), leading to a gap between the energy provided by milk and energy needs by 6 months for many infants. It can be inferred from this that at six months, breast milk meets only 90% of total energy requirement for an adequately breastfed infant. According to the review, breast

milk provides 75%, 50% and 40% of total energy between the ages 7-9months, 10-12 months and 13-24 months respectively. This shows that there is a need to increase the quantity of complementary foods given as the child grows older. The physical activity of child as the child keeps growing and illness should also be considered in estimating total energy requirement of child. Continued breastfeeding is a practice that should continue from 6-24 months and beyond because the complementary food at that point is only supplementing for the insufficiency of the breast milk at that age and it gives a guarantee that where complementary feeding is not properly practiced, the child still has some nutrients from the breast milk. In addition, the period of complementary feeding helps the child to get acquainted with family foods.

The consistency of complementary feeding must be considered during food preparation as the more appropriate the texture of the food is the greater the chances of the child accepting the food. At 6 months, infants can eat soft gruel and pureed food this is because the consistency is similar to breast milk. At 9 months, mashed foods, chopped foods and finger foods can be introduced and by 12 months child can be fully introduced to family foods. The minimum age at which an infant can ingest a particular type of food is mostly determined by neuromuscular development of such infant (Dewey et al., 2001). The infant gradually moves from the newborn and head up infant with a suckling reflex to the supported sitter child who can move head forward to reach spoon when hungry and move head away when full. The consistency for such child is thin pureed foods. The independent sitter learns how to keep thick puree in the mouth and can lean forward while pressing upper lips to draw food from spoon, such a child can drink from a cup as well as transfer food from one hand to the other. Thicker pureed foods can be given at this stage and soft mashed foods without lumps are allowed. (Romero-Velarde et al., 2016).

The crawler can take ground or soft mashed foods with noticeable lumps, foods with soft texture and variety of flavours may be added to child's food. At this stage, the child can move food from side to side in the mouth, can hold spoon and cup independently. Coarsely chopped foods with little pieces, foods with soft to moderate texture, bite-size pieces of food can be given and at this stage, child becomes more skilful in chewing, can drink with straw, hold cup firmly and can take swallow, dip spoon in food rather than scooping. The independent toddler at 24 months can take a variety of foods and texture and can have more controlled bite. In this case, the child is allowed to take family foods. The child can hold spoon with a better coordination and can skilfully drop a cup (Romero-Velarde et al., 2016). The consistency of foods increases as the child gets older and as the consistency increases, breastfeeding must not be neglected from 6 months to 2 years and beyond and the increased consistency will help to reach the increased total energy requirement of the child.

According to Romero-Velarde et al., (2016), as the frequency of meal also increases as the consistency increases. At 6-7months, mashes and porridges are allowed 2 to 3 times a day. At 7-8months, infants can take purees, finely chopped and crushed foods 3 times a day. Finely chopped and diced foods are allowed by 8-12months of age 3 to 4 times a day. Children above 12months are allowed to eat small pieces of foods about 4 to 5 times a day. Caregivers are advised that in meeting child's need, foods that may cause choking (i.e., items that have a shape and/or consistency that may cause them to become lodged in the trachea, such as nuts, grapes, raw carrots) should be avoided. In addition, the nutritive value of the food should not be totally lost while considering the consistency of the food (Romero-Velarde et al., 2016). For example, cereal processing methods have resulted in the loss of nutrients other than protein. In the processing of corn starch from maize, nutrient such as thiamine, niacin and

riboflavin are lost (Gwirtz & Garcia-Casal, 2013). Hence, it is important to fortify foods before giving to the child.

Adequate nutrition during the first 2 years of life is critical to ensure optimal physical and mental development of infants and young children (Taha et al., 2020). The nutrient requirement of infants is often considered at the time when complementary feeding is introduced, and adequate knowledge of the nutrient requirement will help caregivers make healthy choices of food for their infants. As established by Romero-Velarde et al., (2016), breast milk continues to provide a large proportion of infant and young child dietary requirements, as well as immunological protection, through to the age of two years. Protein is very essential in the growth and development of a child. They are major sources of amino acids to the body and its deficiency may cause kwashiorkor in children (Abeshu et al, 2016). The recommended daily intake for protein for infants and young children between the ages of 6-8months, 9-11months and 12-23months are 9.1g, 9.6g and 10.9g respectively. However, breast milk provides a significant proportion of this requirement. Hence, when average breast milk intake is assumed, the protein requirement from complementary foods is 1.9g/day (21%) at 6-8months, 4.0g/day (42%) at 9-11months and 6.2g/day (52%) at 12-23months (Abeshu et al, 2016).

Fat is essential to the health of infants and young children. It provides energy, essential fatty acids, enhances the absorption of fat-soluble vitamins (Vitamin A, D, E and K) and improves the organoleptic property of the child's meal (Abeshu et al, 2016). According to Monte & Giugliani (2004), 50% of the energy from breast milk within the first 6 months of life comes from fat. However, as complementary foods are introduced, carbohydrate becomes the primary source of energy. Uauy and Castillo (2003) recommend that between ages 6 and 36 months, fat intake be gradually reduced from 40 to 60% to 30-35% of energy. Despite this, fat remains an important nutrient in a child's development. There is limited evidence on the adequate fat requirement for infants and young children. However, the fats accounts for 30-45% of daily energy intake. If fat contributes at least 30% of the daily energy intake, then the average amount of fat needed daily for optimal health in infants and young children is dependent on the average daily breast milk intake. For those with minimal breast milk intake, complementary foods should provide dietary fats of about 34% at 6-8months, 38% at 9-11months and 42% at 12-23months. However, with optimal breast milk intake, the complementary foods accounts for 0 g/day (0%) at 6–8 months, 3 g/day (5–8%) at 9–11 months, and 9–13 g/day (15–20%) at 12–23 months (Abeshu et al, 2016).

Micronutrients are essential to the growth and development of young children and breast milk contributes a substantial amount to the total nutrient intake (Abeshu et al, 2016). Breast milk from well-nourished mothers contains adequate amount of folate, iodine, selenium, and vitamins A.B and C. Hence, the amount needed from complementary foods before 12 months of age is zero (Abeshu et al, 2016). However, breast milk is low in certain nutrients. Complementary foods contribute about 30-97% pf the total daily requirement for each micronutrient. For instance, between the ages of 9-11months, complementary food is expected to contribute 72% of calcium, 73% of sodium, 76% of magnesium, 81% of phosphorous, 86% of zinc and 97% of iron. Hence, it is advised that complementary foods be nutrient dense given the minimal gastric capacity of infants and young children (Dewey & Brown, 2003). Infancy and childhood have been discovered to have great effect on adulthood. Hence, adequate nutrition during growing years becomes necessary to ensure growth, health and development of children (Haimi & Lerner, 2014).

According to Govender et al., (2021), poor nutrition increases the risk of illness especially in children due to their low immunity and this is responsible directly or indirectly for malnutrition in under-five children. Child nutrition usually begins with exclusive breastfeeding for six months as recommended by the WHO. Breast milk is a natural food for infants that provide all the nutrient needed in the first six months of life and continues to provide half or more of the child's nutritional needs between 6-24 months. Breastfeeding provides adequate nutrition and reduces the risk of diarrheal, gastrointestinal illness, allergies, acute respiratory infections, childhood asthmas and childhood leukaemia (Quigley et al, 2007). Breastfeeding also enhances cognitive development of the child as well as development a mother-to-child bond which has a positive implication on the physiological development of infants (USAID, 2001). In addition, it helps mothers by increasing the duration of lactational amenorrhea and decrease risk of developing anaemia, urinary tract infections, ovarian cancer as well as menopausal cancer. (Adebayo et al., 2021).

The benefits of breastfeeding are enormous and how it is practiced has a great influence on complementary feeding. Several studies have shown poor exclusive breastfeeding which has led to the early introduction of complementary foods. The implications of early complementary feeding are early increase in the quantity, consistency and frequency of foods which may lead to malnutrition. Suboptimal complementary feeding practice can adversely affect the growth and development of the child and has been associated with delayed motor and cognitive development, respiratory and gastrointestinal infections, stunting and underweight (Taha et al., 2020). In some cases, breastfeeding may be extended to over 6 months leading to overnutrition commonly known as childhood obesity. Several cultures beliefs, personal ideology as well as societal influence has over time influenced the complementary feeding attitude and practice, and these are referred to as perception.

The result of a study on aimed at ascertaining the reason mothers stopped breastfeeding during the first year showed that the perception that their infant was not satisfied by breastmilk alone was cited consistently as one of the top three reasons in the mothers' decision regardless of weaning age (43.5% - 55.6%) and was even more frequent among Hispanic mothers and mothers with annual household incomes of <350% of the federal poverty level. Mothers' concern about lactation and nutrition issues were the most frequently cited reasons for stopping breastfeeding during the first 2 months. Starting from the third month, self-weaning reasons were increasingly cited as important, with the statements, "my baby began to bite" (31.7%), "my baby lost interest in nursing or began to wean himself or herself" (43.7%), and "breast milk alone did not satisfy my baby" cited as top three reasons >/= 9 months of age (Li et al., 2008).

In a recent qualitative study by Afolayan and Olajumoke, (2021) conducted in Southwestern Nigeria to explore mothers' perception of complementary feeding, it was reported that insufficient breast milk was a major reason for initiating family foods. As a result, some of the mothers introduced corn meal (pap), custard, and glucose-infused water to their infants before 6 months of age. The study which utilized focus group discussions for a total of 128 participants also revealed that their perception that the baby needs water influenced their complementary feeding practices. A mother specifically stated that in the Yoruba culture of Southwestern Nigeria, water and herbal mixture (agbo) must be given to infants and these infants are bathed with such mixtures. It was also revealed that some of the mothers' perceptions were influenced by non-medical practitioners such as grandmothers

METHOD

The study was a qualitative cross-sectional descriptive study conducted at the immunization clinic of the University Health Service (UHS), University of Ibadan, Ibadan in Oyo State, Nigeria in 2022. The immunization clinic for children runs on Wednesdays and Thursdays and offers other public health services such as growth monitoring, family planning and HIV counselling and screening. The perception of complementary feeding among the nursing mothers whose children were 3-24months of age were obtained using Focus Group Discussion (FGD). Four sessions of FGDs which had a total of 31 participants were conducted until theoretical saturation was reached. Three of the sessions had 8 participants while one session had 7 participants. Baby friendly feeding bowl and spoon were given to each participant as an incentive. A tape recorder was used to obtain the information which was transcribed and analysed using thematic analysis. Their perception based on breastfeeding and time of weaning, food availability, affordability and choices, food beliefs and attitudes, and food preparation were assessed. For this study, ethical approval was sort and obtained from the Ethical Committee of the University College Hospital, Ibadan and the Director of the University Health Service through the support of the Head of Department of the Human Nutrition Department, University of Ibadan, Nigeria.

RESULT AND DISCUSSION

All mothers who participated in the FGDs breastfed their children which highlights the importance and acceptance of breastfeeding as a cultural norm in a developing country like Nigeria (Akadri and Odelola 2020). This indicates the mothers' awareness of the benefits of breastfeeding, although they were uncertain of the nutritional adequacy of the breast milk. The complementary foods were introduced either before or after 6 months and those who practiced exclusive breastfeeding were very few. Some of the mothers had poor perception due to inadequate information on infant feeding and lack of support from family and healthcare workers. According to a respondent, *"...I introduced other foods at 5 months because breast milk was not sufficient, she was crying and eating a lot which affected me."* Insufficient milk is a common factor cited by mothers when weaning their infants attributed to work-stress and medications taken during exclusive breastfeeding (Okwy-Nweke *et al.*, 2014).

However, further response revealed that as the appetite of the child increases within the first 6 months, mothers formed a perceived notion that breastmilk has become insufficient rather than increasing the number and length of feeds. A mother to a 4-month-old stated that *"...My baby eats a lot [these days] so I had to give other cereals."* The appetite of the child increased with age but was translated by the mother to mean that the child was ready for complementary foods. Oche *et al.*, (2011) gives clarity to this perception where he reported that mothers stopped breastfeeding because they believe their infants were of age and could eat family foods. The knowledge gap of these mothers informed their decision to introduce complementary foods early. The Nigerian Health system is responsible for educating mothers during antenatal. However, there have evidences that health workers shortage and poor delivery of antenatal education and care and has been a huge challenge (Adeloye *et al.*, 2017). For instance, a mother stated that *"...even in the hospital, she [her child] was given water."* This affirmed her believe that water should be given to infants from birth which contradicts the WHO recommendation on infant feeding.

The transition from breastmilk alone to complementary foods is difficult for both mother and child especially the first-time mothers (Walsh *et al.*, 2015). A respondent stated that *"...after exclusive at 6 months it was difficult for my first child to accept family foods, so I decided to start at 4 months for my second child.".* It is not uncommon for infants to refuse

complementary foods within the first month especially when the foods texture does not meet the WHO recommendation. During the introduction of complementary feeding, mothers need family support particularly from grandmothers to guide them on meal preparation for their infants (Flax et al., 2022). Lack of support for mothers forced them to settle for certain food myths and feeding practices that enable them to have some time off their child. A respondent stated that *"...I started at 5 months because breast milk was not sufficient, and pap make her sleep which was a relief for me."* Hence, when this support is not received, these mothers are forced to believe that timely complementary feeding in not achievable. They form the assumption that complementary foods should be introduced earlier to achieve a considerable result at 6 months. It is important that postnatal care at hospitals incorporates infant nutrition education to enable mothers learn the fundamental of child nutrition and also sensitize family members on the need to provide support to nursing mothers.

Food availability, affordability and choices are factors that may affect mothers' perception and ultimately their practice of complementary feeding. One of the respondent's responses was that *"... I give yam flour, ewedu [jute leaf], eggs, rice, beans."* These are staple foods in Southwest Nigeria where the research was conducted (Esan *et al.*, 2022). While another stated that *"... I give all family foods"* Both responses indicates that some mothers have adequate knowledge of complementary food choices. However, it was observed some of the mothers perceived that both infant and non-infant formula and cereals provided same benefits to their infants. A mother to 7months old stated that *"... I buy infant formula but it is expensive. Now I give him my powder milk but I add [non-infant cereal] to make it thick and he likes it."* Her statement was reinforced by another mother who stated that *"...from 6 months I gave infant cereal, but now at 9 months I give other cereals and adult milk to make him chubby. This is how I fed the other two".* Both respondents perceived, based on their experience, that non-infant formula and cereals provided even better benefits to their babies who were less than 12months old. These mothers did not consider the nutritional benefits and health implication of these foods on their child's digestive system.

Two mothers of children aged 8 months and 11 months reaffirmed these through the following responses *"...my baby takes tea and agbo [local herbs] and does not react to it."*, and *"...I do not give infant formula. Adult milk is thicker and richer."* respectively. However, cocoa beverages and adult milk are often high in artificial sugar and do not provide sufficient nutrient for children less than 12 months (Fegan *et al.*, 2015). Also, some of the mothers did not show good attitude in relation to their complementary food choices which may be attributed to lack of support from the fathers and grandmothers (Flax et al., 2022). For example, a mother stated that *"...baby refused to take infant formula but takes pap. So, I give her plain pap"* According to the WHO, complementary food must be adequate and appropriately fed, that is it must meet the nutritional needs of the children and must be fed a manner that is enjoyable to the child. However, evidence from the FDGs revealed that mother introduced infant formula and/or adult milk in place of continued breastfeeding. In a similar study by Hunter-Adams et al., (2016), it was observed that migrant in South Africa had a formula culture before of its perceived benefit in extending a child's sleep and rapid weight gain. In addition, the respondents had certain perception their limited their food choices thereby making their babies susceptible to malnutrition.

Evidence from the FDGs revealed certain beliefs and attitudes of the mothers towards complementary feeding. While a nursing mother believed that *"...whatever I put in my mouth, and it is good for me, it is also good for my baby".* A respondent stated that *"... I stopped giving pounded yam because I was told my baby will not walk early."* Similarly, another respondent stated that *"...orange is preferable to banana at night.".* These perceptions are

common in the traditional Nigerian society where grandmothers pass on age-long food myths to younger women (Schnefke *et al*., 2023). The implication is that it encourages nursing mothers to avoid certain nutrient-rich foods thereby putting their chid at risk of malnutrition. Some respondents did not believe in the benefits of breastfeeding while others believe that by one year, a child should be ready for all non-infant cereals. This may be attributed to poor marketing code in Nigeria with regards to infant formulas. One of the mothers stated that *"…I weaned my second child at 3 months, and she is stronger than my first child whom I weaned at 6 months."* Another stated that *"…one can introduce any cereal to a child at one year because the digestive system is strong enough.*"

According to the WHO, Complementary food must be 'adequate' as meeting the child's nutrient requirements and 'safe' as hygienically prepared (WHO, 2019). Although, evidence from the FDG revealed that mothers fed their infants with noodles, the mothers knew that their child's meal should be fortified to enhance its nutrient. A mother to 16 months old stated that "…*His noodles is prepared with crayfish and onions and made very soft."* While another mother to an 8-month-old stated that *"…blend my child's noodles with sausage."* Some of the responses from the mothers revealed that these mothers avoided certain food ingredients during meal preparation for the safety of their child. *A mother stated that "…give noodles and egg but with little seasoning."* This was reaffirmed by another mother who responded that *"…I give noodles but with little seasoning, it very affordable and easy to prepare."* In addition to reducing the use of seasoning in child's food. A mother stated that *"…I cook with little pepper because of my baby.".* Fortified pap and Fresh juice were mentioned by two mothers who responded that *"…I usually add egg and milk to his pap." and "…she likes juice, so I make fresh ones for her."* respectively. Although, most of the responses revealed that noodles are a common complementary food amongst the mothers, it was evident that the mothers made some consideration in relation to the nutrient fortification and texture to suit that child's age. However, noodles may have been a common choice due to its affordability and convenience as stated by one of the mothers. The role of family members such as the husbands and grandmothers in the practice of complementary cannot be overemphasized. When mothers have adequate support, they will likely invest more time to their complementary food choices and preparation (Flax et al., 2022).

CONCLUSION

The effective measures for reducing mortality in children under-5 are promotion of exclusive breastfeeding and improved complementary feeding at proper age. In Nigeria, breastfeeding after childbirth is the norm but exclusive breastfeeding is not one of the cultural practices, this is because most times water and other local herbs (agbo) are given in the first 6 months. Mothers' perceptions that water and other foods are acceptable before six months of age, breast milk is insufficient before 6 months of age and influence of some grandmothers affected complementary feeding practice among nursing mothers. In addition, lack of support from fathers and inadequate sensitization and care from health workers had strong influence on the perception of the mothers. Therefore, it is important to develop interventions targeting mothers, fathers, grandmothers, health care workers and policy makers aimed at bridging the gap between current breastfeeding and infant feeding practices in Nigeria and the WHO recommendations.

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