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Nursing Mothers and their Infant Feeding Practices in Udenu Local Government Area of Enugu State

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Abstract

The study assessed the nursing mothers' perceptions of infant feeding practices in Udenu Local government area (LGA) of Enugu State. The population was made up of 282 nursing mothers who had children of 0-2years of age who attended postnatal or immunization services at the primary health centers in the area of the study at the time of this study. Questionnaire and anthropometric measurements were used for data collection. The findings showed six ways mothers perceive breastfeeding, five ways they perceive complimentary infant feeding, nine classes of complimentary food they give to their infants. Anthropometric results indicated the arm circumference, weight and height of the infants. Over half of the infants 62 percent did not fall sick within the one month reviewed. Four recommendations for improving infant feeding practices in the area were made including that Professionals in child development should be involved to handle practical nutrition education on infant feeding practices for mothers at the primary health care service centers.

Key words: Breastfeeding, Infant, Complementary, Feeding, Practices, Mothers.

Introduction

Adequate feeding practices of infants and young children are necessary measures adopted or employed to feed a young child from birth, up to 2 years of age and beyond. Adequate feed is important to ensure that the child gets the right nutrients required to survive and enhance proper growth and development. Adequate nutrition during infancy and early childhood is essential to ensure the growth, health, and development of children to their full potential. Poor nutrition increases the risk of illness, and is responsible, directly or indirectly, for one third of the estimated 9.5 million deaths that occurred in 2006 in children less than 5 years of age (*Nor, Ahlberg., Dohorty,. Zembe, Jackson, Ekstrom, 2012).* Inappropriate nutrition can also lead to childhood obesity which is an increasing public health problem in many countries. The first two years of a child's life are particularly important. The child grows and develops rapidly. If the child is properly fed, he is expected to double his birth weight by the 4th month, and triple it by the first birthday. The brain too requires a lot of nutrients to attain maximum growth during this period. According to Adeyemi (2005) the period birth to 2 years is a "critical window" for the promotion of optimal growth, health and behavioral development. Optimal nutrition during this period lowers morbidity and mortality, reduce the risk of chronic disease and forester better development overall. In fact, optimal breast and

complementary feeding are so critical that they could save about 222, 000 lives per year (World Health Organization (WHO) 2013).

Breast feeding is the feeding of an infant with breast milk directly from female human breasts rather than from a baby bottle or any other container. Breast milk promotes sensory and cognitive development, and protects the infant against infectious and chronic diseases (Okolie, 2012). Breast milk is the best food for babies, providing sufficient nutrients for growth, development and for prevention of both infectious diseases in infancy and chronic (non communicable) diseases later in adult life (Galles – Camus, 2006). It has been postulated that 13% of the current under five children mortality rate could be averted by promoting proper breastfeeding practices (Manjeswori, 2012) which is seemingly the single most cost effective intervention to reduce child mortality in resource-constrained settings such as Nigeria. WHO (2002) recommended exclusive breastfeeding as the ideal practice which ensures that all the child's nutritional needs from birth to about six months of age are met. Exclusive breastfeeding is feeding infants only breast milk, be it directly from breast or expressed, with no addition of any liquid or solids apart from drop or syrups. Evidence shows that not more than 38% of infants worldwide are exclusively breastfed during their first four months of life (WHO, 2013). Nigeria has 20% rate of exclusive breast feeding (Elizabeth, 2008).

It is estimated that non – exclusive breastfeeding in the first six months of life resulted in 1.4 million deaths and 10% of disease in under five. Non exclusive breast feeding also has long term impact, including poor school performance, reduced productivity, and impaired intellectual and social development. It can also increase the risk of dying due to diarrhea and pneumonia among 0 – 5 months old infants by more than two – folds (Tesfaye, Teffer, Mulusew, Kebede and Sibhatu. 2012). Several studies suggest that obesity in later childhood and adolescence is less common among breastfed children, and that there is a dose response effect, with a longer duration of breastfeeding associated with a lower risk (Burke, 2005). The effect may be less clear in populations where some children are undernourished (Grummer-strawn, 2004). A growing body of evidence links artificial feeding with risks to cardiovascular health, including increased blood pressure, altered blood cholesterol levels, and atherosclerosis in later adulthood ((Martin, Gunnel, and Davey Smith, 2005). Though exclusive breastfeeding is widely recognized as the optimal means of feeding for infants during the first few months of life, after six months of age breastfeeding also becomes inadequate for the increased physiological requirements of the infant for energy and specific macro and micro nutrients. Complementary foods should be introduced.

Complementary foods are adult foods other than breast milk given to infants that are modified in colour, texture and flavor, which contains the nutrients required of the child (Felicity and Savage, 2000). Complementary feeding is the gradual introduction of adult or family foods in semi – solid forms (like cereal gruel (pap), mashed potatoes, beans, yam) etc., to babies without stropping breastfeeding (Enyioha, 2005). The transition from exclusive breastfeeding to complementary feeding typically 6 to 24 months of age, is the time malnutrition starts in many

infants. Malnutrition causes many different and serious health problems and illness. Malnutrition during the first 2 years of life causes stunting, leading to the child being several centimeters shorter than his or her potential height (Martorell, Kettel, Schroeder 1994). There is evidence that adults who were malnourished in early childhood have impaired intellectual performance (Martorell *et'al 1994).* They may also have reduced capacity for physical work (Grantham and Cumper 1992). If women were malnourished as children, their reproductive capacity is affected, their infants may have lower birth weight, and they have more complicated deliveries (Martorell *et'al 19947*). When many children in a population are malnourished, it has implications for national development. The overall functional consequences of malnutrition are thus immense.

Many of these problems handicap children for their entire childhood, some lead to death. Diets that do not provide enough food to meet the child's needs, that do not provide adequate variety of food or diets that provide more food than children need, can all lead to malnutrition. Almost 1 million people in the world never get enough food to meet even their minimum energy and nutrient needs, 200 million children less than five years of age suffer from acute or chronic malnutrition. Malnutrition is an important factor in nearly 13 million children under five who die every year from preventable diseases infections such as measles, diarrhea, malaria and pneumonia or some combination of these (UNICEF, 2013) children who are undernourished are not able to lead healthy active and productive lives. They have less energy to carry out normal everyday activities. They are less able to fight infections and they became ill more easily and become more seriously ill, unable to recover adequately from infection or illness. They often need medical care. Children who are undernourished will not grow properly and are often too weak or sickly to attend school or to learn properly. Undernourished children are at risk of slow or inadequate physical and mental growth and development, contributing significantly to high prevalence of malnutrition in children under five years of age world wide (WHO 2004). Majority of children (7 – 24 months) in Nigeria are under – nourished due to introduction of the weaning cereal gruel (pap) to supplement breast milk. Starting complementary feeding too late is dangerous. This is because if the child does not get the extra food needed to fill the energy and nutrient gaps, the child stops growing and the risk of malnutrition and micro nutrients deficiencies increase (WHO, 2000). Giving complementary food too soon is also dangerous. This is because a child does not need those foods and they may displace breast milk the child receives less of the protection from breast milk, so the risk of illness increases (Ujiri, 2004). The food given will only fill up the child's stomach and provide less nutrients because they are usually thin and watery (WHO, 2000).

Purpose of the study

The general purpose of this study was to assess nursing mothers' and their infant feeding practices in Udenu local government area of Enugu State. Specifically, the study determined:

1 Ways mothers perceive and practices of breastfeeding in Udenu LGA of Enugu State.

2 Mothers perceptions and practices of complementary feeding in Udenu LGA of Enugu State.
3 The types of complementary foods used in Udenu LGA of Enugu State.
4 To assess the effect of infant feeding practices adopted on the health status (anthropometric indices) of the infants in Udenu LGA of Enugu State.

Methodology

***Design and Area of the Study*:** The study adopted a descriptive survey design. The study area is Udenu local government area of Enugu State, Nigeria. Udenu LGA is made up of ten communities. These include: - Obollo–Afor, Obollo–Eke, Obollo–Etiti, Amala, Imilike, Orba, Igugu, Umu–Ndu, Ogbodu–Aba and Eziom. Each of these communities has a primary health center. The two major primary health centers are located at Orba and Obollo – Afor the two major commercial towns in the LGA.

***Population of the Study*:** The population of the study consists of 282 nursing mothers who have children birth to 24 months old. Both literate and non literate mothers were involved who had at least a child previously. The mothers were attending post natal or Expanded programme on Immunization at primary health centers Orba and Obollo–Afor at the period of the study.

***Instrument for Data Collection*:** A validated infant feeding practices questionnaire and anthropometric measurements were used to collect data for the study. The infant feeding practices questionnaire was developed through extensive literature review and based on the purposes of the study. The questionnaire is made up of three parts, Part 1 dealt with personal data, part II dealt with breastfeeding perceptions and practices, while part III dealt with complimentary food/feeding perceptions and practices. Non-extensible meter rule graduated in centimeters, a flat clean table, and a scale graduated in kilograms were used to take the Anthropometric measurements of the infants.

***Method of Data Collection and Analysis Technique*:** Two hundred and eighty two copies of the infant feeding practices questionnaires were distributed to the respondents at Orba and Obollo – Afor health centers on three different clinic days. The questionnaires were filled on the spot by the literate mothers while the non – literate mothers were assisted by the researcher and the trained research assistants in filling theirs. The same numbers of questionnaires given to the respondents were retrieved giving a hundred percent returns of the instrument. Anthropometric measurements were carried out by the researcher and two trained assistants. Length/height was measured using a non-extensible meter rule graduated in centimeters with the babies laid flat on a flat clean table. The weight was taken with a scale graduated in kilograms while the babies were naked and laid flat on the scale. Arm circumference was recorded in centimeter while the babies were lying flat. The data obtained was analyzed using frequency distributions and percentages.

Findings of the study

Socio – demographic characteristics of the respondents: Majority (54) % of the mothers were aged 26 – 35 years, 33% were aged 15 – 25 years, and 1% were aged 46 – 55 years. Among the respondents 90% were married, Majority of the respondents (54%) had secondary school education.

About 55% of the respondents were traders. Most of the respondents 83% had between 1 – 4 children. Age of the youngest child of the respondents 77% had babies birth to 6 months. Respondents that attended antenatal clinics during pregnancy was 93%, 95% of the respondents received teachings on infant feeding at the clinic.

Mothers perception of breast milk/feeding

Table 1: Percentage Responses on Mothers' perceptions on breast milk/feeding

S/No	Mothers' perceptions	Yes F (%)	NO F (%)
1	Breast milk is the natural and healthiest food for baby	270(96)	12(4)
2	Breast milk provides protection against most childhood diseases	264(94)	18(6)
3	Breast milk protects the mother against certain diseases	207(73)	75(27)
4	Breastfeeding is economical for the mother, family and the nation	276(98)	6(2)
5	Breastfeeding helps in child spacing	225(80)	57(20)
6	Breast milk alone is enough for babies from birth to 6 months	258(91)	24(9)

Key: - F=frequency, %=percentage

Table 1 shows mothers perceptions about breast milk/feeding. The Table indicates that 96% of mothers knew that breast milk is the natural and healthiest food for babies. Ninety four percent (94%) of the respondents knew that breast milk provides protection against most childhood diseases. Eighty percent (80%) of the respondents knew that breastfeeding helps in child spacing. Majority of the respondents (91%) know that breast milk alone is enough for babies from birth to six months of age.

***Findings on breastfeeding practices of mothers*:** The breast feeding practices of the respondents, reveal that 132(47%) of the respondents initiated breastfeeding within one hour after delivery, while only 48(17%) initiated the next day after delivery. Majority 262(93%) gave their babies colostrums. Over half 150(53%) practiced exclusive breastfeeding. Almost half of the respondents 138(49%) gave their babies coconut water at birth. Most 225(90%) of the mothers breastfed their babies as many times as the baby demanded. Majority 93(33%) terminated breastfeeding at 10 to 12 months and 123(44%) terminated breastfeeding at 13 – 24 months.

Mothers perceptions of complementary foods /feeding

Table 2: Percentage Responses on Mothers perceptions of complementary foods /feeding

S/NO	**Mothers perceptions of complementary foods /feeding**	**Yes F (%)**	**No F (%)**
1	Age at which complementary food is introduced		
	a. Birth-3months	57(20)	225(80)
	b. 4-6 months	99(35)	183(65)

	c. 7 -9 months	102(36)	180(64)
	d. 10 months and above	24(9)	258(91)
2	Meaning of complementary food	255(90)	27(10)
3	Breast milk is continued on complementation	249(88)	33(12)
4	Starting complementary food too late is dangerous	228(81)	54(19)
5	Starting complementary food too early is equally dangerous	228(81)	54(19)

Key: - F=frequency, %=percentage

Table 2 shows nursing mothers perceptions of complementary feeding/foods. 57(20%), 99(35%) and102(36%) of the respondents introduced complementary foods to their babies at the ages of birth – 3 months, 4 – 6 and 7 – 9 months respectively. Most 255(90%) of the respondents knew the meaning of complementary food. Majority 249(88%) of the respondents continued breastfeeding with complementary food. Many of the respondents 288 (81%) knew that starting complementary feeding too late or too early is dangerous.

***Finding on Complimentary Feeding Practices of Mothers*:** findings on complementary feeding practices of mothers reveal that majority 249(89%) of the respondents continued breastfeeding as well as the use complementary food. Over half 177(57%) of the respondents were using feeding bottle. About one third 90(31%) of the respondents wash the utensils with cold water and soap. Over half 171(59%) used both cold and hot water. Two thirds 189(70%) of the respondents feed their babies 3 – 4 times daily. Majority 246(87%) of the respondents prepared the complementary foods by themselves. Almost all 279(99%) of the respondents practiced hand wash before preparing and feeding the children. About two thirds 189(70%) store the prepared baby food in food flask. Almost half 122(43%) of the respondents prepare the baby's food separately always. Drinking water for the babies 138(49%) boiled babies water, while 96(34%) used package water (pure water).

Complimentary Foods Used by Mothers

Table 3: Percentage Responses on the Complimentary Foods Used by Mothers

S/no	complimentary foods	Frequency(%)
A	Complementary foods used	
	Infant formula eg cereal	21(7)
	Pap only	12(4)
	Pap + milk	129(40)
	Pap + soya bean milk	111(35)
	Pap, milk + sugar	6(2)
	Pap + crayfish	12(4)
	Custard + milk	9(3)
	Pap & groundnut	6(2)
	Family food + pap	15(5)
B	Fruits given to babies	
	Orange	150(50)
	Carrot	3(1)
	Mango	3(1)
	Pineapple	42(14)
	Paw-paw	36(12)
	Green leaf vegetable	54(18)
	Apple	15(5)

Key: - F=frequency, %=percentage

Table 3 shows that majority (40% and 35%) of the respondents were complementing breast milk with cereal gruel (pap) + milk

and cereal gruel (pap) and soya bean milk respectively. Half (50%) were complementing with orange. About 18% were used green leafy vegetable.

Anthropometric Indices of the Health Status of Infants

Table 4: Anthropometric distribution of the infants

Anthropometric distribution of the infants	Frequency(%)
Arm circumference (CM)	
13 – 14	84(30)
15 – 16	130(46)
> 16	68(24)
Total	282(100)
Weight (kg)	
< 4.0	24(9)
4.1 – 6.0	99(35)
6.1 – 9.0	129(46)
9.1 – 11	30(11)
11. 1 – above	-
Total	282(100)
Height (cm)	
30 – 60	115(41)
61 – 80	161(57)
> 80	6(2)
Total	282(100)

Table 4 shows anthropometric data of the infants. Almost half (46%) of the babies had arm circumferences of between 15 and 16 cm. About 46% of the infants weighed between 6.1 – 9kg, while about 35% weighed between 4.1 – 6kg. Majority (57%) of the infants studied had a length of between 61– 80cm.

Frequency of Sickness among Infants

Findings on infant health status as measured by frequency of sickness in the past one month, shows that 119(42%) of the babies did not fall sick within the previous month reviewed. While 136(48%) of the babies were sick once within the last one month under review.

Discussion of findings

Demographic characteristics of respondent, two hundred and eighty two nursing mothers participated in the study, comprising of 55% traders, 18% students, 15% civil servants, 9% full time housewives and 3% farmers. About 87% of the respondents were 15 to 35 years old. Over half 54% of the respondents were secondary schools holders, 25% attended tertiary education, the rest had primary education and non-formal education. About 90% of the respondents were married, 9% were single mothers the rest were widowed. Eight two percent had 1 – 4 children, 76% had their youngest child aged birth – 6 months. 93% of the mothers attended antenatal clinics and received teachings on infant feeding practices. This shows that the primary health facility in Enugu state is functional affecting the people positively. This is contrary to the report of Manjeswori (2012), that three quarters of all mothers he studied reported that they did not receive any information on breastfeeding during the antenatal visit

Ninety –six percent (96%) of the respondents had good perceptions about breast feeding/milk; that it is the natural and healthiest food for babies provides protection against most childhood diseases helps in child spacing; it alone is enough food for babies from birth to six months of age. This awareness about breast feeding/milk could be attributed to the educational level of the respondents about 79% of them attended secondary and tertiary education and were literate, over 90% of them attended antenatal clinics during pregnancy and received teachings

on infant feeding practices and a good number of the mothers 82% used for the study had 1 – 4 children already and so are experienced in the act of infant feeding. This awareness is in line with the report by Galles-Camus, (2006) that breast milk is the best food for babies, providing sufficient nutrients for growth, development and for prevention of both infectious diseases in infancy and chronic (non communicable) diseases later in adult life

About 47% of the respondents initiated breastfeeding within one hour after delivery. Majority 93% gave their babies colostrums. These are in line with the recommendation by WHO (2004) that babies should be put on the breast immediately after delivery even before they are cleaned up. It also agrees with the findings of Manjeswori (2012) 295(91%) of mothers gave their babies colostrums and 185 (57%) initiated breastfeeding within one hour of delivery.

Over half of the mothers (53%) practiced exclusive breastfeeding. This could be because most of them were traders; they did not employ the services of childcare givers and were always with their babies. This is in line with the observation of Ford and Labbok (1990) that the demographic characteristics of mothers affect the initiation and duration of breastfeeding and practices. The finding agrees with the campaign to promote breastfeeding for its health benefits by (Okoli, 2012). The finding disagrees with the report by Rasheed (1994) that while a remarkable resurgence of breastfeeding has been observed in the industrialized countries since 1970s, a downward trend in breastfeeding during the last 20 years in developing countries has caused increased concern among the providers of child health and development. Mushaphl, Mbhenyane, Khosa and Amey (2008) reported among their findings that exclusive breastfeeding was practiced by only 6% of the mothers at the time of their study. Also Hofoander (2003) observed that the practice and duration of breastfeeding have declined in many parts of the world for variety of cultural reasons including modernization. Udenu community with its attendant business nature is not reflecting that, almost half of the respondents initiated and continued breastfeeding as recommended by (WHO, 2004). About 90% of the mothers' breastfed their babies on demand. This is in line with the suggestions of Olatunji (2013) for adequate nutritional practices for under five years children. About 77% of the mothers terminated breastfeeding from 10 – 24 month. This practice is not in line with the recommendations of WHO that breast feeding should be continued up to 24 months.

About 92% of the mothers knew the meaning of complementary feeding, 80% of the respondents knew that starting complementary feeding too early or too late is dangerous; This is in line with (Ujiri, 2004) because a child does not need those foods and they may displace breast milk the child receives less of the protection from breast milk, so the risk of illness increases. 55% of the mothers introduced complementary foods to their babies from birth to 6 months, 36% introduced complementary food after 6 months, 88% continued breast feeding with complementary food, these are in line with the WHO recommendations for infant feeding. Over 50% of the respondents prepare the complementary foods by themselves under hygienic conditions. Most the complementary skills displayed by the respondents were gotten from the

various teachings at the pre and post natal clinics. This is in line with the submissions by Olatunji (2013) that majority of the unfortunate deaths of the under five years old are due to preventable causes which could be averted by simple methods such as household hygiene practices, good nutritional practices and health seeking behavior.

Majority of the mothers (75%) complemented with cereal gruel (pap) and milk or soya bean milk as their infant first solid food. These combinations though adequate in energy and nutrients lack variety, about 67% also complemented oranges and green leafy vegetables. These are in line with the recommendations of Michaslsm, Arthur and George (2000) that transitional foods offered to infants should have energy and nutrient densities. Ebrahin (2007) and Eneobong (2001) had shown that cereal when supplemented with legumes provide high quality protein.

46% of the babies had arm circumferences of between 15 and 16 cm, 46% of the infants weighed between 6.1 – 9kg, and 57% of the infants studied had a length of between 61– 80cm.Most of the infants had adequate nutritional status and met the World Health Organization (WHO, 2006) standards for length and weight for ages the values of the babies arm circumference and weight for length also showed no evidence of acute malnutrition. Over half (62%) of the babies did not fall sick within the previous month reviewed. This is in line with finding of Madukwe and Edeh (2012) on the health status of infants in Nsukka local Government Area of Enugu state. This disputes the report of Felicity and Savage (2000) on high prevalence of malnutrition during the complementary feeding period. This disagrees with the findings of Brown (2005) which noted a marked increase in the danger of gastroenteritis in developing countries during complementary feeding period. This must have been because the mother were preparing the food and handling the feeding utensils themselves. It could also be that since most mothers were traders they adopted exclusive breastfeeding for its economical and convenience nature. The infant health status is in agreement with the report of WHO (2004) that breastfed babies are less likely to become sick

Conclusion

Infant feeding practices among nursing Mothers in Udenu LGA of Enugu State has greatly improved over time and is presently adequate resulting in improvement in infant health in the area. These successes are mostly due to the demographic characteristics of the mothers, increased awareness of mothers on infant feeding practices and the primary health facilities and services available to the communities in the LGA.

Recommendation

There is still need for improvement in the infant feeding practices in the area.

1. Professional in the area of child development should be involved to handle practical nutrition education on adequate infant feeding practices for mothers,
2. Mothers should be encouraged to initiate breast feeding immediately the baby is born this will also ensure full utilization of colostrums.
3. Mothers should be encouraged to practice exclusive breastfeeding.
4. Early and late introduction of complimentary foods should be discouraged.

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