Indian J.Sci.Res.3(1) : 21-29, 2012

EVALUATION OF INFANT FEEDING AND CARE PRACTICES AMONG MOTHERS IN NASSARAWA EGGON LOCAL GOVERNMENT AREA OF NASARAWA STATE

M.D. AWOGBENJA[a] [1] AND J. NDIFE[b]

[a]Department of Home Science & Management, Nasarawa State University, Keffi, Lafia, Nigeria.
E-mail: amdehinde@yahoo.com
[b]Department of Food Technology, Kaduna Polytechnic, Kaduna, Nigeria.
E-mail: jothel2000@yahoo.com

ABSTRACT

A cross sectional survey was carried out among 200 mothers with infant/child aged between 6-24 months purposively selected from two communities in Nasarawa Eggon,to examined breastfeeding and care practices of mothers in Nasarawa Eggon, LGA. Data were collected using a pretested structured questionnaire. Data collected were analyzed using frequency count and percentages. The results showed that only 2.0% of the respondents did not have any form of education. Seventy six percent (76.0%) of mothers were breast feeding at the time of the study. Seventy three (73.0%) of the respondents gave colostrums (yellow milk) to their babies Majority of mothers (85.0%) have good knowledge on the benefits of breast feeding. Sixty-nine percent (69.0%) of the mothers introduced complementary food before the age of six month. The common complementary foods used were pap only (19%) and infant formula (21.0%).The main sources of drinking water for majority (40.0%) was river/stream. Most respondents (84.0%) did not boil their drinking water. The findings revealed that breastfeeding is universal, also water management and hygiene practices were found to be poor in the two communities under study. The study shows the need for not only nutrition education but also the need to educate the mothers on the importance of proper sanitation and hygiene practices to the growth and development of a child.

KEY WORDS: Breastfeeding, care, colostrums, complementary and breast feeding

The goal of the Global Strategy for Infant and Young Child Feeding is to improve the survival, growth and development of all children during the first three years of life through protection, promotion and support of optimal infant and young child feeding and related maternal support. Good or adequate nutrition for proper growth starts in pregnancy through infancy (Mallum and Kembe, 2003). During infancy period, feeding should supply all the essential nutrients to meet up with the fast growth requirement at this stage. According to the World Health Organization inadequate nutrition during infancy and early childhood may results in irreversible faltering in linear growth and cognitive deficit (WHO, 2002). The immediate consequences of this include mortality, delayed physical and mental development while the long-term consequences include poor intellectual and increased risk of chronic diseases (Oganah, 2010).

Directly or indirectly, malnutrition has been said to be responsible for 60% of the 10.9 million deaths annually among children under five while more that two-thirds of these deaths, which are often associated with inappropriate feeding practices, occurs during the first year of life (WHO, 2003).

The promotion and practice of breastfeeding has been found to be essential to the achievement of optimal infant and child health, growth and development. Breastfeeding practices, especially Exclusive Breast Feeding (EBF) up to 6 months of age has the single greatest potential impact on child survival, with the potential to prevent 1.4 million under-five deaths in the developing world (Jones et al.,2003). According to research Exclusive Breastfeeding a child for six months reduces under five mortality rate by 13% and a further 6% or close to six hundred thousand under-five deaths can be prevented by ensuring optimal complementary feeding (Jones et al.,2003).

Access to adequate sanitation is a key mechanism for improving the health and well-being of the most vulnerable individuals and the poorest countries in the world. Exposure to human faecal waste increases the likelihood of contracting certain diseases. A recent report by the WHO (2008) estimated that almost 10% of the global burden of illness is related to water, through contaminated drinking water, inadequate or non-existent sanitation and hygiene, and poor water management. Globally, 1.5 million children die annually as a result. It is estimated that nearly 1.2 billion people (or almost 1 in 5) practice open defecation, either by necessity or by preference. The

[1]**Corresponding author**

transition to improved sanitation is accompanied by more than a 30% reduction in child mortality while sanitation reduces morbidity by almost 37%. An estimated 50% of cases of malnutrition are associated with repeated diarrhoea and intestinal infections as a result of unsafe water, inadequate sanitation or insufficient hygiene. This accounts for 860,000 preventable child deaths per year (WHO, 2008). Ideal sanitation facilities can be define as those that promote safe treatment of human waste for health and for the environment; limit human exposure to faecal matter; avoid contamination of water and food sources; provide secure spaces for men, women and children to defecate, each with their unique needs and encourage hygienic practices including hand washing.

The survival risks of early childhood in Nigeria remain considerable. A newborn Nigeria baby has a 30 times higher chance of dying before the age of five years than a baby born in the developed, industrialized countries. Available data on the regional prevalence of diarrhea, under nutrition and under-five mortality in Nigeria showed that each of them are far more prevalent in northern part than in the southern part of Nigeria (UNICEF ,2001). According to National Demographic and Health Survey (NDHS) (2008), infants and under-five mortality rates in Nigeria are 86 per 100 and 138 per 1000 respectively. Also, 41% and 25.4% of children under-five in Nigeria and Nasarawa State respectively are stunted. In addition, 14% and 3.2% of children under-five are wasted in Nigeria and Nasarawa State respectively while 23% and 5.7% of children under-five are under weight in Nigeria and Nasarawa State respectively, hence there is a silent emergency.

The main objective of this study is to evaluate the infant feeding and care practices of mothers in Nassarawa Eggon Local Government Area of Nasarawa state in North central of Nigeria.

METHODOLOGY

Study Design

A cross-sectional research design method was adopted for this study. The study was conducted between September 2009 and November 2009.

Study Area

The area of the study was Nassarawa Eggon town and Ashneata Communities of Nassarawa Eggon Local Government Area. The communities are semi-urban , inhabited by the Eggons. The major pre-occupation of the people is farming and trading.

Study Population and Sampling Techniques

The population of the study was drawn from mothers with children between the age of 6 months and 24 months. A total of two hundred (200) mothers infant pairs were purposively selected from the two communities. Characteristics used in the selection were: Mother having an infant/child aged between 6-24 months, and mothers willing and available to participate in the study.

Data Collection and Statistical Analysis

The tool that was used to collect information was through questionnaire and in-depth interviews. The questionnaire was pretested on a small sample of selected households in setting similar to that of the study area. The mothers of the children were interviewed in their homes. The questionnaires were administered by two trained undergraduate students together with the researcher to individual mothers in each community. Those who could not write were assisted by the undergraduate students to complete the questionnaire.

Data Analysis and Statistical Analysis

The data were analyzed using Statistical package for Social Scientist software (SPSS 16 version).

RESULTS

Socio-Demographic Characteristics of Respondents

Table 1 show the demographic characteristics of the 200 respondents studied, most of the respondents (44%) were between the age of 31-40 years, 35% age were between 21-30 years while the least (15%) were between 41-50 years. Majority (82%) of the respondents were married, 11% widowed and 7% divorced. The majority (98%) of the mothers had one form of education , with 50% of the mothers having secondary education and only 12 % obtained post secondary education while only 2% had no any form of education. On the occupation status of the mothers,90% were involved in income-generating activities such as farming, artisan petty trading/Business with the most (34%) of them been farmer while only 13% of the mothers were civil servants.

Table 1: Socio-Demographic characteristics of mother and child

Characteristics	Frequency	Percentage
Mother's age (years)		
< 20	12	6.0
21 – 30	70	35.0
31 – 40	88	44.0
41 – 50	80	15.0
TOTAL	**200**	**100**
Marital Status of Mother		
Married	164	82.0
Divorced	14	7.0
Widow	22	11.0
TOTAL	**200**	**100**
Education Level		
Never been to school	4	2.0
Quranic/Adult education	10	5.0
Primary School	60	30.0
Secondary School	102	51.0
Post Secondary School	24	12.0
T0TAL	**200**	**100**
Occupation		
Housewife (Does nothing)	20	10.0
Farming	68	34.0
Artesan	44	22.0
Trading/Business	42	21.0
Civil Servant	26	13.0
TOTAL	**200**	**100**
Child's Age (Months)		
6 – 8	82	41.0
9 – 11	28	14.0
12 – 14	28	14.0
15 – 17	22	11.0
18 – 20	16	8.0
21 -24	10	5.0
TOTAL	**200**	**100**

Table 2:Sources of Water/Food Management Practices

Characteristics	Frequency	Percentage
Source of drinking water		
River/Stream	80	40.0
Open well	46	23.0
Protected well	30	15.0
Pipe-borne water	44	22.0
TOTAL	**200**	**100**
Storage of Drinking water		
Plastic container	82	41.0
Aluminium container	6	3.0
Claypot	112	56.0
TOTAL	**200**	**100**
Storage of food		
No means of storage	150	75.0
Refrigeration/cool storage	50	25.0
TOTAL	**200**	**100**

Water Management Practices

Access to adequate sanitation is a key mechanism for improving the health and well-being of the most vulnerable individuals and the poorest countries in the world. Exposure to human faecal waste increases the likelihood of contracting certain diseases.

The result of water management practices of the respondents is illustrated in table 2 and the study revealed that, the main source of drinking water of the respondents was river/stream (40%), followed by open well and pipe-borne water with 23% and 22% respectively. Clay pots (56%) were their main means of storing water, and 41% stored their water in plastic containers. On food storage the result shows that 75% of the respondents had no specific means of storing food while the remaining 25% said they stored their foods in refrigerator.

Table 3: Hygiene practices of the Respondents

Characteristics	Frequency	Percentage
Boiling of water		
Every time	12	6.0
Some time	20	10.0
None	168	84.0
TOTAL	**200**	**100**
Utensils used in feeding baby		
Feeding bottle	42	21.0
Spoon	4	2.0
Cup	16	8.0
All of the above	138	69.0
TOTAL	**200**	**100**
Sterilization of feeding utensils		
Every time	16	8.0
Some time	48	24.0
None	136	68.0
TOTAL	**200**	**100**
Washing of hands before preparing baby's food		
Every time	48	24.0
Some time	136	68.0
None	16	8.0
TOTAL	**200**	**100**

The result obtained on the hygienic practices of the respondents (Table- 4) shows that majority (84%) of the respondents did not boil their water before drinking, 10% sometimes while only 6% boiled their water every time. Sixty-nine percent of the respondents used either spoon, feeding bottle or cup in feeding their child while 21 % said they use only feeding bottle. Most (68%) mothers did not sterilize their feeding utensils, with 24% sterilizing feeding utensils some time and the remaining (8%) every time. Majority (68%) of mothers washed their hands some time before preparing baby's food with only 24% washing hands all the time.

Table 4: Breastfeeding Awareness and practices of the respondents

Characteristics	Frequency	Percentage
Breastfeed baby at the time		
Yes	152	76.0
No	48	24.0
TOTAL	**200**	**100**
Ever breastfed the baby		
Yes	48	100.0
No	0	0
TOTAL	**48**	**100**
Reason for stopping		
Weaned the baby	24	50.0
Health problem	10	20.8
No milk production	14	29.2
TOTAL	**48**	**100**
Interval of giving breast milk (hours)		
On demand	100	50.0
1 – 2	22	11.0
3 – 4	36	18.0
5 – 6	42	21.0
TOTAL	**200**	**100**
Gave colostrums to baby		
Yes	146	73.0
No	54	27.0
TOTAL	**200**	**100**
Time of initiation of Breastfeeding (hour)		
0 – 1	124	61.7
2 – 4	33	16.4
5 – 10	8	4.1
11 – 20	22	11.0
After 24	13	6.8
TOTAL	**200**	**100**
Reason for not given colostrums		
Baby refuse to suck	44	22.2
It causes diarrhea to baby	30	14.8
It is not good for the baby	15	7.4
No milk production	74	37.1
Nothing	37	18.5
TOTAL	**200**	**100**
Knowledge of exclusive breastfeeding		
Know	188	94.0
Don't know	12	6.0
TOTAL	**200**	**100**
Time for it (months)		
< 4	9	4.3
4	127	63.9
5	17	8.5
6	36	18.1
Don't know	11	5.3
TOTAL	**200**	**100**
Importance of breastfeeding		
Know	170	85.0
Don't know	30	15.0
TOTAL	**200**	**100**

Infant Feeding Practices

The results on breastfeeding practices and knowledge in Table- 5 shows that, most (76%) of the respondents were breastfeeding at the time of the study while 24% were not breastfeeding, however when asked whether they ever breastfeed all answered in the affirmative. On the reason for breastfeeding stoppage, weaning was mentioned by 50%; health problem by 5%, lack of milk production by 7% while others gave no reason. Only 50% of the respondents gave breast milk on demand, 16% claimed to give between 5 to 6 times a day.

This study shows that 61.7% of the babies were

initiated to breast milk within one hour of life (Table 5), 16.4% within four hours, 11% between 10 and 20 hours, and 6.8% after 24 hours of life. On colostrums consumption, 73% of respondents gave colostrums (yellow milk) to the baby while 27% did not. Various reason were given with No milk production (37.1%) having the highest value, baby refused to suck breast (22.2%) and no reason (18.5%) while it is not good for the baby has 7.4% as the least. It was noted that 94% of the respondents claimed they known of exclusive breastfeeding while 6% did not, however on the time frame of exclusive breastfeeding, 18.1% mentioned 6 months, followed by 4 months, 5 months and less that 4 months with 63.8%, 8.5% and 4.3% respectively.

Concerning the breastfeeding awareness, the study found that almost all mothers knew about exclusive breastfeeding with many giving the exact time frame for the practice as well as 85% of mothers gave at least one importance of breastfeeding similar to benefits of breastfeeding listed by Mallum and Kembe (2003)

Table 5: Complementary Feeding practices of the respondents.

Variables	Frequency	Percentage
Other food given to baby		
Water	52	26.0
Pap only	38	19.0
Turnbrown	30	15.0
Kunu	14	7.0
Formula food	42	21.0
Pap and Akara	24	12.0
TOTAL	**200**	**100**
Age other foods were introduced (months)		
1	4	2.0
2	8	4.0
3	38	19.0
4	50	25.0
5	38	19.0
6	62	31.0
TOTAL	**200**	**100**
Reason for introduction before 6 months		
Milk not adequate for the baby	68	49.3
So that others can feed the baby	40	29.0
So the baby can be more strong	30	21.7
TOTAL	**138**	**100**
Preparation of formula food		
Follow producer's instruction	34	81.0
Make it watery for easy swallow	8	19.0
TOTAL	**42**	**100**

Table 6 presents data on complementary feeding practices, the result shows that only 31.0% of respondents introduced complementary foods at 6 months, followed by 25.0% at 4 months and 19.0% for 3 and 5 months each while 4.0% for 2 months and 2.0% for 1 month. On the reason why complementary food was introduced before 6 months, 49.3% said milk was not adequate for the baby, 29.0% said, so that other people can feed the baby in mother's absence while 15% said the child will be stronger. For those that used formula foods, 81% of the respondents followed producer's guidelines for preparation while 19% did not.

DISCUSSION

Generally the prevalence of breastfeeding is high (100%) indicating that breastfeeding is a universal practice among the mothers in the study area, but only one-third could be said to practiced Exclusive Breast Feeding (EBF). The high breast feeding prevalence observed compares with previous community based study in a similar rural community in Ogun state (Oganah, 2010). The EBF rate of 31.0% recorded in this study is higher the national mean of 11.7% (NDHS, 2008). This may be because of the educational and occupational status of the mothers who mostly have nothing less than primary school education and also house wives or self employed and therefore probably more time for breast feeding , studies have reported a positive relationship between education status and occupation of mothers and breast feeding (NDHS,2008; Anigo et al.,2010).

Majority (61.7%) of mothers in this study was found to have initiated breast feeding within one hour of birth which is also higher than the national figure of 38.5% reported by National Demographic and Health Survey (2008). This practice should be commended and encouraged because apart from the fact that early initiation of breast feeding increases chances of breast feeding, lengthens the duration of breast feeding and assist uterus involution thus preventing postpartum hemorrhage, early initiation especially within one hour of death has been found to reduced neonatal mortality (Edmond et al.,2006). Although majority (73.0%) of the mothers gave the yellow milk (colostrums), a reasonable proportion (27.0%) did not give sighting refusal of baby to suck; it causes diarrhea, dirty not well for the baby, no breast milk production as reasons. These reasons may not be unconnected to the culture and traditional beliefs of the people the people which sees the yellow milk as unwholesome and therefore should be expressed or washed out before a baby is put to breast. This further revealed also lack of understanding on the rationale behind given the yellow milk (colostrums). The consequence of this is that babies are not only denied the antibodies and other anti-infective proteins present in the yellow milk which is meant to protects against allergy and infection especially the bacterial infections that are a danger to newborn babies but also Vitamin A which confers immunity on the babies against childhood diseases such as measles.

Findings in this study revealed that 83.3% of mothers continued to breast feed after introduction of complementary foods while 50.0% practiced on demand breastfeeding. On demand breastfeeding practice among the mothers may be attributed to the fact that most of the respondents are either house wives or self employed and therefore constantly with their children. Continue frequent on demand breastfeeding until 2 years of age or more is one of the guiding principles for complementary feeding (WHO, 2003). These practices should be encouraged because on demand breastfeeding allows the child to regulate their intake according to their body needs thus expressing their appetite fully (WHO, 2003).

Out of the 69.0% of the mothers that introduced complementary foods before the age of 6months majority, (25.0%) did so at 4 months. This may be due to the erroneous belief of mothers that EBF is only for 4 months and not 6 months as recommended by the World Health Organization (WHO, 2003). The implication of this is that apart from the fact that complementary foods started too early which raises nutrition and health issues, it also revealed lack of understanding of mothers on the rationale behind guiding principles of nutrition and the benefits of breastfeeding.

Generally pre-lacteal foods are known to interfere with early attachment of the infant to breast. In this study, water was found to be the most common item first given to infants. This can be said to be rooted in culture\ tradition and perception of the people that infants need water is necessary to quench thirst (especially during hot weather) as the breast milk do not contain enough water for the child. This finding is similar to the trend observed by Oganah (2010) among mothers in rural community of Ogun state.

The main complementary food given by majority (21.0%) of the mothers was infant formula and closely followed by pap or ogi (19.0%) and Turn brown (15.0%). This result is at variance with other studies which reported home prepared complementary foods as those been the main complementary giving by mothers (Oganah and Dalmeida, 2008; Oganah, 2010).The reason one may proffer for the use of infant formula by these mothers may

be because since 34.0% of the mothers were employed either as civil servants or traders\ business and maybe have little time for the preparation of home prepared complementary food because of their work schedule and therefore depend on already processed foods which require lesser time for preparation. The consequence of this is that when this is view along the background that majority of the respondents are low income earners, the cost of infant formula and nearly total lack or absence of amenities such as water and energy in our rural areas one cannot be far from the truth by concluding that in order to cut-cost the formula may be over diluted resulting in the child been fed with food that are of low in nutrient density with its attendant consequences and also because the food are usually prepared under hygienic conditions the children are further exposed to infectious diseases which may result in malnutrition and eventually death when not attended to.

Awareness on Exclusive Breast feeding (EBF) was found to be high (94.0%) with only 6.0% been able to give correct description of what EBF meant while 85.0% knew the benefits of EBF. This result may be because the mothers attend ante-natal clinics where they are exposed to current and appropriate information on infant feeding practices especially EBF. The impact of this is seen in the some good practices such as early breast feeding initiation and high rate of colostrums consumption witnessed among the respondents.

Studies have shown that poor drinking water facilities, inadequate sanitary facilities and poor hygiene particularly during food preparation are the main causes of many infections among the young children (WHO, 2008). The best way to ensure that food and water free from contamination is to heat them to a sufficiently high temperature (> 70^0C) immediately prior to serving. Despite this simple recommendation, the inadequacy or non availability of facilities in the household like power distance from the source of water supply, refrigeration and sufficient fuel for cooking often makes this guideline impracticable to many mothers (Black et al., 2003). This study further shows that on all aspect of hygiene practices which the respondents were asked questions ,there was low practice as most (40.0%) mothers get drinking water from river/stream and open well and also most do not have means storing food this is similar to the result obtained by Anigo and co-workers (Anigo et al., 2009). This study also revealed that most (84.0%) mothers do not boil water given to the baby and many washed hand sometime when preparing baby's food. When these poor hygienic practice is coupled with complementary foods which are not only low in quality but are usually insufficient in quantity, the infants are not only exposed to infectious diseases and water borne diseases but are at a higher risk of dying, for it is a known fact that when nutritional and care practices are not optimal, child's survival and protection against infection is compromised. It is therefore not surprising to see Nasarawa state recording poor nutritional indices in all the parameter measured as reported in the National Demographic Health Survey (NDHS, 2008).

REFERENCES

Anigo M.K., Ameh D.A., Ibrahim S. and Danbauchi S.S., 2010. Nutrient composition of complementary food gruels formulated from malted cereals, soybeans and groundnut for use in North-western Nigeria. Afr. J. Fd Sci., **4**(3) : 65-72.

Anigo K.M., Ameh D.A., Ibrahim S. and Danbauchi S., 2009. Infant feeding practices and nutritional status of children in North Western Nigeria. Asian Journal of Chemical Nutrition. **1** (1): 12-22.

Black R.E., Morris S.S. and Bryce J., 2003. Where and why are 10 million children dying every year? Lancet, **361**: 2226-2234.

Edmond K.M., Zandoh C., Quigley M.A., Amenga-Etego S., Owusu-Agyei S., and Kirkwood B.R., 2006. Delayed breastfeeding Initiation Increases Risk of Neonatal Mortality Pediatrics, **117**:380-386.

Jones G., Steketee R., Black R., Bhutta Z.. Moris S. and Bellagio T., 2003 Child Survival Study Group. How many child deaths can we prevent this year? Lancet, **262**: 65-71.

Mallum, J.O. and Kembe E.M., 2003. Introduction of Home and Family Health Care Services. Clestino Press, Jos.

National Demographic and Health Survey (NDHS), 2008. Abuja. National office of statistics.

Oganah B.C, 2010. Infant Feeding and care Practices of Mothers in Igbesa and its Environs, Ogun State, Nigeria . Nig. J. Nutr. Sci.,**31** (2) : 31-35.

Oganah B.C and Dalmeida L.O., 2008. Evaluation of infant feeding practices of low income mothers in Ojo local government area, Lagos state. Nig. J. Nutr. Sci., **29** (1) : 39-50

UNICEF, 2001. Children's and Women are Right in Nigeria: A Wake-up Call. In Situation Assessment and Analysis, Hodges, A. (Ed).National Planning Commission, Abuja and UNICEF, Nigeria.

World Health Organization (WHO), 2002. Promoting proper feeding for infant and young children. Rome.

World Health Organization (WHO), 2003 Global Strategy for Infant and Young child feeding, Rome.

World Health Organization (WHO), 2008. UN Water Global Annual Assessment of Sanitation and Drinking-Water: 2008 Pilot Report Testing a New Reporting Approach. Available from: http://www.who.int/water_sanitation_health/glaas_2008_pilot_finalreport.pdf (Accessed June, 2010)