Scholars Journal of Arts, Humanities and Social Sciences **ISSN 2347-5374 (Online)**
Sch. J. Arts Humanit. Soc. Sci. 2014; 2(2C):352-358 **ISSN 2347-9493 (Print)**

(An International Publisher for Academic and Scientific Resources) DOI: 10.36347/sjahss.2014.v02i02.036

Feeding Practices of Mothers and the Nutritional Status of their Children (Under 5yrs) in Mamprobi Community- Accra

C K Affram[1], Professor SCD Wright[2], Dr. P.P. Mwini-Nyaledzigbor[3], Dr. S. Atindanbila*[4]
[1]School of Nursing, College of Health Sciences, University of Ghana, Legon
[2]Tshwane University of Technology, South Africa
[3]School of Nursing, College of Health Sciences, University of Ghana, Legon
[4]Department of Psychology, University of Ghana, Legon

***Corresponding Author:**
Dr. S. Atindanbila
Email: atindanbila@email.com

Abstract: Exclusive breastfeeding for 6 months, thereafter complementary feeding with continued breastfeeding up to two years of age and beyond is WHO recommendation. A strategy employed by the Government of Ghana to decrease malnutrition in children was breastfeeding. This was backed by National Breastfeeding Policy. This study was designed to ascertain the feeding practices of mothers of children less than 5 years who delivered at Mamprobi Polyclinic in 2006-2010 and living in Mamprobi community, and the nutritional status of their children. Cross sectional design was used to measure the feeding practices of 300 mothers using structured interview and anthropometric measurement for 400 children living in Mamprobi community. Descriptive statistics was used to analyze the data. The findings show that the mothers belong to low socio demographic class. Mothers (78 %) exhibited high knowledge on the importance of breast milk for the child and (60 %) mentioned that exclusive breastfeeding should be up to six months however (83 %) of the mothers gave water mainly Bottled Voltic mineral water to their children within the six months. They lack knowledge on type of solid food to introduce to children as complementary food. Wasting, and stunting were observed among all age groups increasing with age and mothers did not know rational for their actions. Recommendation was improvement in teaching methodology and strengthening support for feeding practices.
Keywords: Exclusive breast feeding, complementary feeding, Mamprobi Community, nutritional status of mothers, anthropometric measurement, National breast feeding policy.

INTRODUCTION

Exclusive breast feeding for 6 months and appropriate complementary feeding practices for 2 or more years are essential elements for the satisfactory growth and development of infants as well as for the prevention of childhood illness [1]. The appropriate feeding practices during these early stages of life are crucial for optimal development and infant survival. Culture one of the major factors has been found to influence breastfeeding practic. For exampleinitiation of breast feeding was high among lactating mothers in rural Vietnam but complementary foods were introduced very early to the infants as the result of cultural influences [2]. Kumar *et al* [3] also found delayed initiation of breast feeding, deprivation of colostrum and early introduction of complementary feeding. Other factors associated with feeding practices and nutrition in children identified wasunbalanced nutrition and failure to switch to weaning food due to poverty or lack of nutritional knowledge [4].

Socio economic conditions also affect child nutrition. The risk of stunting in rural children was associated with paternal occupation such as subsidiary farming and those of urban areas with fathers with unstable jobs, and low rate of attendance to children welfare programs and activities[5]. Fernadez *et al* identified socio economic political and cultural factors as predisposing children to malnutrition [6]. A lack of awareness of the nutritive value of foods among many resource personnel is also a factor. For example, (70.2%) of home economics teachers in a study in Nigeria acknowledged that breastfeeding prevents malnutrition in babies but only (12.5%) knew about the protective effects of colostrum[7].

These practices arelikely to result in malnutrition, iron deficiency anaemia low body weight in children and are significant risk factors for wasting and stunted growth in children. Malnutrition in infancy is a global problem with many fatal consequences. Children, who have chronic malnutrition, do not achieve their full growth potential [8]. Malnourished

children are at greater risk for childhood diseases, some of which result in long term morbidity and mortality. According to Laurakujawski in New World Bank Report, nearly (60%) of children who die of common diseases like diarrhoea and malaria could have ultimately survived had they not been malnourished in the first place [9]. More than (50%) of deaths in children from low income countries are due to malnutrition and related diseases[10].

Based on Millennium Development goals, by 191 United Nations Member states, a plan of action to create a world fit for children was adopted by 189 member states of the United Nations. The Ghana Government was committed to improving conditions for children. In so doing, efforts were made to tackle problems of malnutrition among others. One such method was promotion of exclusive breastfeeding for 6 months and complementing breastfeeding from 6 months to 2 or more years. In order to enhance the benefits of breastfeeding, a National Breastfeeding Policy[11] was instituted and Ghana passed a breastfeeding promotion regulation 2000, LI 1667 to promote, protect and support breastfeeding nationwide [12]. Health workers and mother support groups were trained to promote exclusive breastfeeding. Hospitals that practised the policy were designated baby friendly institutions. The duties of mother support groups were to work in conjunction with the midwives to support lactating mothers in the communities. This study is about the feeding practices of mothers who delivered at Mamprobi Polyclinic and were supervised by the mother support groups at Mamprobi community and the nutritional status of their children.

MATERIALS AND METHODS

The study was cross-sectional community based designed to assess the feeding practices of mothers with children younger than 5 years who delivered at Mamprobi Polyclinic between 2006-2010, receive breastfeeding education at the polyclinic and were supervised by mother support groups volunteers in the community. More than half (54.3 %) of the mothers were within child bearing age of 21-31 years. Only (29.3 %) of the mothers attained senior secondary school level the rest (70.7 %) had no or low education. The data also show that petty trading were the occupation of the mothers. Ethical clearance for the study was granted by Noguchi Memorial Institute of Medical Research Institutional Review Board (IRB).Permission was also granted by Accra Metropolitan Assembly. Mothers who delivered in Mamprobi Polyclinic with children younger than 5 years and possessed weighing cards were recruited after they had signed consent form and willing to participate. A structured interview technique was chosen to gather data from the mothers to prevent selection bias due to literacy level. In addition, the child or children of the mothers who were younger than 5 years were weighed and the anthropometric measurements were taken. The anthropometric measurements of the children were analysed using WHO anthro. Software [13]. The weight for length z-score, length-for-age z-score, weigth-for-age z-score of the children were obtained.

About 10-15 mothers were interviewed in a day. The interviews were primarily conducted in Twi which was the most common spoken language as well as Ewe or English. The sampling was done within a year period. Three hundred mothers (n = 300) and their children, 400 hundred were recruited.

Data Analysis

Data was analysed using statistical package version 20 (SPSS) and WHO anthropometric software [14].

RESULTS

Demographic Characteristics

The demographic characteristics of the mothers are presented in Table 1. The mothers have low socio economic and educational background.

Table 1: Demographic Characteristics of the Participants

Education	**Number**	**Percentage (%)**
Tertiary	39	13.0
Senior secondary	49	16.3
Junior secondary	106	35.4
Primary	69	23.0
Drop out of primary	21	7.0
No formal education	16	5.3
Marital status		
Married	226	75.3
Single	54	18.0
Co-habituation	12	4.0
Seperated	8	2.7
Occupation		
Petty trading	189	63.0
Unemployed	66	22.0 %
Formal sector	45	15.0%

Knowledge and feeding Practices of mothers

Concerning the knowledge and the feeding practices of the mothers, they were asked to mention the best food for the child younger than 6 months. The majority (87 %) of the mothers responded breast milk. They (60%) were also aware that, they have to breastfeed exclusively for 6 months. Some mothers reported being taught by the midwives to eat well to produce breast milk.

Mothers were asked what they believed was the optimal duration for exclusive breastfeeding. The answers are summarized in Table2. Mothers' response for preparation and feeding their babies after exclusive breastfeeding was as for adult (55 %). They were asked whether they would give their child water within the six months of breastfeeding. Responses ranged from never giving water prior to six months of age to giving water anytime. The majority will give water to their babies under 6 months of age (Table 2). Those who gave water mostly used bottled mineral water.

Table 2: Knowledge and Feeding Practices of the Mothers

Knowledge of best food for a child younger than 6 months	**Number (300)**	**(%**
Breast milk only	261	87.0
Breast milk and porridge	39	13.0
Optimal duration for breastfeeding (0-2 or more years)		
1-2 months	7	2.3
3-6 months	68	22.7
7-12 months	93	31.0
1-2 years	132	44.0
Education related to breastfeeding		
To breastfeed the child	23	7.7
No education	16	5.0
Six months exclusive breastfeeding	180	60.0
Do not remember	13	4.3
Provide growth and health	10	3.3
Clean breast, nipple position properly	2	0.7
Eat well to produce breast milk	57	19.0
Provision of type and duration of water in the first 6 months		
I do not give water	51	17.0
I give water after 2 months	1	0.3
Give to quench thirst	9	3.0
Clean water in clean cup	6	2.0
Bottled mineral water	176	58.7
Between meals	3	1.0
After meals	12	4.0
Given a little at a time	5	1.7
Given in feeding bottle	1	0.3
Given at any time	36	12.0
Preparation and feeding with complementary foods		
Boiled koko and weanimix	58	19.3
Homemade food	62	21.7
Do not give solid foods	14	4.7
Prepare food as for adult foods	166	55.0
Prepare Lactogen in a feeding bottle	1	0.3

Anthropometric findings of the children

The distribution of the nutritional state of children using weight-for-length z-score is shown in table 3.

The findings were as follows:

Approximately (5.5%) of the samples in each age group were severely wasted. The proportion of wasted children increased with age with the highest proportion at 38-48 months (32.3%).Up to 24 months, approximately half of the age group sample was within the normal range with an increase to (67.8 %) for the 25-36 month age group. Of concern is that for both the 37-48 and 49-60 month age group samples the proportion of children in the normal range reduced to a third of the group (35.5 %) and (36.4 %).

Table 3 Weight-for-length z-score for both Genders

		`Weight-for-length		
		Wasting		Normal
Age (months)	N	-3SD	-2SD	±1SD
0-6	75	6.6	6.7	53.3
7-12	156	4.5	7.4	50.8
13-24	96	4.6	10.3	50.6
25-36	41	5.4	15.8	67.6
37- 48	16	6.5	32.3	35.5
49-60	16	7.5	27.3	36.4

Table4Length-for-age z-score for both Genders

		Length-for-age		
		Stunting		Normal
Age (months)	N	-3SD	-2SD	±1SD
0-6	75	17.6	17.4	50.4
7-12	156	14.2	13.6	66.2
13-24	96	10.1	25.8	47.6
25-36	41	13.2	30.5	34.6
37-48	16	14.3	30.7	27.3
49-60	16	18.3	35.9	26.1

The findings were as follows:

Between (10.1 %) and (18.3 %) children in each age group were severely stunted. The proportion of -2 SD at each month age group again increased with age with (35.9 %) at 49-60 month age group. It is clear from Table 4 that though (50.4 %) of the 0-6 month age groups falls within the normal range, the proportion decreases with age with the lowest proportion at 49-60months (26.1 %).

DISCUSSION

Knowledge to make informed decisions was identified as one of the elements to empower a woman to breastfeed [15]. Mother's nutritional knowledge is crucial in improving the nutritional status of the child [9]. The data show that, (87.0 %) of the mothers agreed that the best food for the baby younger than 6 months is breast milk. This is in keeping with the recommendation by WHO (2011) and others [16]. However, mothers were not sure about optimal duration of exclusive breastfeeding as seen by the varying responses given regarding the duration of breastfeeding (Table 2). This suggests that though mothers remembered what exclusive breastfeeding entails they were not sure when the exclusive breastfeeding should end. A mother who does not understand fully the importance of breastfeeding and developed the skills for appropriate child feeding is more likely to listen to the advice of grandmothers, friends and neighbors [17-19]. Yadavannavar and Patil identified mother-in laws and grand mothers' and elderly female members of the family influencing breastfeeding practices of the newly delivered mothers in a rural area in India where all mothers gave pre-lacteal feeds to their children as the result of the influence [20].

For a child to totally derive all nutrients for development from breastfeeding within the first 6 months [21] exclusive breastfeeding must be adhered to. The evidence generated from the study shows that almost all mothers (83 %) gave water to their babies before 6 months. The implication for giving water to the babies may be that adding fluids to breastfeeding will not only reduce the time for which the babies are breastfed but can also reduce the nutritive value of the breast milk as breast milk is 90% water and 10% solid [22]. In addition the water that was given to the babies may be a source of infection. The mothers stated they used bottled mineral water as the main source of water. These products are sold along the road side and there is no guarantee that the water is safe. Allowing the stomach of the child to be full of water also lessens sucking at the breast and hence milk production [23]. Further studies are needed for reasons for mothers giving water especially bottled voltic mineral water to their babies as declared by the mothers.

Mothers' diet has little influence on her milk supply [23]. Some mothers reported that an aspect of midwives' teaching was for them to eat well in order to produce breast milk (Table 2). A lactating mother is able to maintain adequate milk production largely independently of her nutritional status and BMI, and milk production is unaffected by the mothers fluid intake [21]. Mothers need deeper explanation in these areas to understand that eating well when lactating is good to build the mothers own body but has no effect on breast milk production. Maintenance of lactation supply is dependent on response to demand; the more often the baby breastfed, the better will be milk supply [23]. Mothers must therefore be encouraged to do demand feeding for milk production.

Faulty complementary feeding practices are a major contributing factor to infant and young child malnutrition [18]. A major concern from the study was the introduction of Ghanaian adult food to the child when solid food was started. Ghanaian adult food is generally not suitable for a baby. The food is normally bulky, spicy and may lack appropriate nutrients, vitamins and proteins which the child needs at that age for development. Semi solid or pureed foods are not needed until the infant develops more mature coordination of tongue movements and chewing and swallowing. Singh identified adult foods as weaning foods in Kumasi Ghana [24]. Pelto *et al* also identified similar weaning foods for children in Accra, Ghana [25]. They described the family food as usually tea or chocolate drinks with or without bread for breakfast, rice or banku with stew and banku (a meal prepared from maize) and okro soup for supper.

Ghanaian adult diets are also most often over cooked. For instance a bowl of soup may be eaten over one week and since most households do not possess a refrigerator the soup is daily heated and a portion fetched for the day until the soup is finally finished. This means most of the nutrients are destroyed and a growing child eating such meals may lack important nutrients. Children need all the 6 food groups present in their diet at each meal. When children are fed continually on these foods stunting, wasting and underweight in the child are inevitable.

Mothers also lacked considerable knowledge regarding preparation and choice of food for different ages as recommended by WHO (2012) [13]. Education strategies concerning child feeding practices for mothers combined with nutritional counseling is important to enhance positive outcomes regarding the health status of the children.

Attention to hygienic practices during food preparation and feeding is critical for prevention of gastrointestinal illness. The findings indicated that special attention was not paid to the preparation of the child's food. The common answer given by the mothers was the food prepared as for adult. Some of the foods mentioned by the mothers are normally bought from the road side. For instance Kenkey, one of the major adult foods, is often sold in market places and road sides. It is usually mashed and sugar added for the children or eaten with soup. Its preparation may not be hygienic and may be a source of diarrhea. While only one mother mentioned that she started artificial formula as a means of complementary feeding, in Ghana from observation one can notice that it is a common practice for some mothers to start the use of feeding bottle after 6 months of breastfeeding. Some mothers carry water in them for the child, others enlarged the hole in the teat of the feeding bottle to feed child with porridge. The feeding bottle may not be adequately cleaned or sterile and may be a source of diarrhoeal diseases.

WHO Child Growth Standards (WHO, 2005) [14] serve as a standard format for comparing nutritional status of children. The two indicators that were applied to assess the nutritional status of the children in the study were weight-for-length z-scores, and length-for-age z-score.

Evidence of substantial wasting was found among children younger than 6 months (severe wasting in (6.6%) and wasting in (6.7 %). Similar distributions were reported in children of Tibet and West Bengal India respectively [26-27]. In Ghana, Van DePoel *et al* [28] identified protein energy malnutrition in children from birth to 59 months. The children from the mother sample were selected on the basis of possessing a weighing card and one would have expect to have all children younger than 6 months with normal weight-for height. The wasting in the age group of 0-6 months may be due to several factors such as inappropriate feeding practices, the nature of education mothers received from

both antenatal and post natal period. The data also showed that wasting increases with age especially among the age groups of 37-60 months. The nutritional status of children beyond 2 years of age warrants investigation.

Prevalence of stunting and severe stunting was also observed among all age groups of the children of the mother sample. From 0-12 months over (50 %) of the children were within the normal length-for-age. Evidence of stunting increased with age from the age group of 13-24 months up to 49-60 months. This supports the findings of 2008 Ghana Demographic Health survey report [11]. Kumar *et al.* report high level of stunting among 13-24 months age group but there was decline in prevalence with age [3]. Phengxay et al identified stunting, underweight and wasting among children increasing with age from 6-11 months and reaching the highest level in the 12-23 months age groups [18]. This is the period for complementary feeding and, depending on the feeding practices nutritional status of the child can improve or decline. For those children from the study who showed evidence of stunting beyond 24 months their feeding methods must be investigated and strategies developed to intervene. Increasing stunting with age identified from the study might be an indication of persistent deterioration of nutritional level of the child as they grow. It could be due to factors such as mother lacking knowledge in feeding beyond complementary feeding as well as socio-cultural factors. In Ghanaian traditional homes protein intake is often minimal children are often deprived of meat or fish. Fruit and vegetable consumption is also minimal and no particular attention is paid to cooking of the child's food. This supports other findings [29]. Malnutrition in children has many implications. Grigsby reports behavioural changes, impaired cognitive functions and developmental delay [8].

CONCLUSION AND RECOMMENDATIONS

The mothers seemed to exhibit high knowledge regarding exclusive breastfeeding however the level of knowledge did not reflect much in the nutritional status of the children considering the fact that mothers were educated in a baby friendly institution. In addition education must also be intensify in feeding practices beyond complementary feeding to 5 years as wasting and stunting was observed as increasing as the children grow. The general nutritional state of all children must be critically assessed. Education strategies concerning child feeding practices must be developed to curb the situation.

ACKNOWLEDGEMENT

We are thankful to the Accra Metropolitan Assembly of Adabraka for granting us permission to conduct the study at Mamprobi Community. We are also grateful to the participants for granting us the interview and taking measurements of their children.

.

REFERENCES

1. Dewey K; Guiding Principles for complementary feeding of the breastfed, 2001. Available from:http://www.who.int/nutrition/puplications/guiding_principles_compfeeding_breastfed .
2. Duong VD, Colin W, Andy B, Lee H;Breastfeeding initiation and exclusive breastfeeding in rural Vietnam.Public Health Nutrition, 2004; 7(6): 795-799.
3. Kumar D, Goel NK, Mittal PC, Misra P; Influence of infant-feeding practices on nutritional status of under-five children. Indian Journal of Pediatrics, 2006;73:419-425.
4. Sakisaka K, Wakai S, kuroiwaC, Cuadra Flores L, Kai I, Mercedes Arago'n M, Hanada K; Nutritional status and associated factors in children aged 0-23 months in Granada, Nicaragua. Journal of the Royal Institute of Public Health, 2006; 120: 400-411
5. Reyes H, Perez-Cuevas R, Sandoral A, Castullo R, Santos JI, Doubora S, Gutierrez G; Case-Control study Bionvied .central Public Health, 2004; 4:5-7
6. Fernandez IJ, Onis M; Prevalence of nutritional wasting in populations; building explanatory models using secondary data. Bulletin of World Health Organization, 2002;80:282-283
7. Egbuonu I, Ezechukwu CC, Chukwuka JO;Level of awareness of Baby Friendly Initiative among Home Economics Teachers in Nigeria Journal of Tropical Pediatric, 2004;50: 331-333
8. Grigsby DG; Malnutrition eMedicine. 2006. Available from http/www.emedicine.com/ped/ttopic/1360.htm.
9. Laurakujawski L; New World Bank Report examines effect of malnutrition. 2006. Available from http://www.hobotraveler.com/malnutrition/niger.html
10. Newmann CG, Gewa C, Bwibo NO; Child nutrtion in developing countries Pediatric Ann. , 2004;33:658-764
11. Ghana Health Service. 2003. National Breastfeeding Policy. Accra
12. Ghana Health Service . 2000.Breastfeeding Promotion Regulation, 2000. (LI 1667),
13. World Health Organization; Complementary feeding, 2012. Available from: www.who. int/nutrition/topics/complementaryfeeding_feeding/en/
14. World Health Organization; Anthro Beta version Feb 17th, 2006: Software for assessing growth and development ofthe world's children. Geneva: WHO, 2006 (http://www.who.int/childgrowth/software/en/).

15. Kong SF, Lee DTF; Factors influencing decision to breastfeed. Journal of Advanced Nursing, 2004; 46 (4): 369-379
16. Labbok M; What is the definition of breastfeeding La Leche League International, 2007;19(3):19-21
17. Aidam BA, Prez-Escamilla R, Lartey A, Aidam J; Factors associated with exclusive breastfeeding in Accra Ghana, European Journal of Clinical Nutrition, 2005;59:789-96.
18. Phengxay M, Ali M, Yagyu F, Soulivanh P, Kuroiwa C, Ushijima H; Risk factors for protein-energy malnutrition in children under 5 years: Study from Luangprabang province, Laos. Pediatric International, 2007; 49: 260-265
19. Tan AE, Choong WK, Leong PY, Mui Ng W, Yong SL;Knowledge attitude and sources of information on breastfeeding among pregnant mothers, Med & Health , 2008; 3(1): 30-37.
20. Yadavannavar MC, Patil SS; Socio cultural factors affecting breastfeeding practices and decisions in rural women, International Journal of Plant, Animal and Environmental Sciences, 2011; 1(2):46-50
21. Inch S; Infant feeding. In: Diane M. Fraser & Margaret A. Cooper (15th edn). Myles textbook for midwives (pp. 785-816). Edinburgh: Churchill Livingstone, 2009.
22. Nagin MK; Breast milk-content and composition of breast milk. 2008. Available from http:// breastfeeding.about.com/od/breastfeedingbasics/P/ bmcontent.htm
23. Verralls S; Anatomy and physiology applied to obstetrics, (3rd ed.). London: Churchill Livingstone, 2008.
24. Singh B; Knowledge, attitude and practice of breast feeding- A case study European Journal of Scientific Research, 2010; 40(3):404-422
25. Pelto GH, Armar-Klemesu M; Balancing nurturance, cost, and time: Complementary feeding . 2011. Available from http://www.ncbi.nlm.nih.gov/pubmed/21929636
26. Dang S, Yan H, Yamamoto S, Wang X, Zeng L; European Journal of Clinical Nutrition, 2004; 58: 938-946
27. Ray SK, Haldar A, Biswas B, Misra R, Kumar S; Epidemiology of Undernutrition Indian Journal of Pediatrics, 2001; 68(11): 1025-1030
28. Van DePoel E, Hosseinpoor AR, Jehu-Appiah C, Vega J, Speybroeck N; Malnutrition and disproportional burden on the poor: the case of Ghana, 2007;6(21):1-12.le
29. Tessema M, Balachew T, Ersino, Feeding patterns and stunting during early childhood in rural communities of Sidama, South Ethiopia.The Pan African Medical Journal, 2013; 14:75