

# Infant And Toddler Feeding Practices In The Baby Friendly Initiative (BFI) Era In Ilesa, Nigeria

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## Abstract

**Background:** Most previous studies focused on feeding practices within the first six months of life with respect to the Baby Friendly Initiative (BFI).

**Objective:** To describe the pattern of infant and toddler feeding practices in the BFI era in Ilesa, Nigeria.

**Methods:** A hospital-based cross-sectional study. Consecutive mothers of children aged 0 to 24 months were studied for their personal data, places of delivery and their infant and toddler feeding practices.

**Results:** A total of 262 mothers were studied; 200 (76.3%) of these had received counselling on breastfeeding according to the BFI. Of these, 158 (60.3%) infants were delivered in health facilities and 184 (70.2%) were still on breast milk. Breastfeeding was commenced within the first hour life among 98 (37.4%) infants, glucose drink was offered to 87 (33.2%) infants at birth while 96 (36.6%) had pre-lacteal feeds. Only 56 (21.4%) infants were exclusively breastfed for the first 6 months.

Supplementary feeding was commenced between 2 and 6 months among 96 (36.6%) children. Bottle feeding was practiced by 79 (30.2%). The use of cow's milk was associated with the use of feeding bottle ( $p = 0.000000$ ), commencement of weaning before 6 months ( $p = 0.00012$ ) and professional mothers ( $p = 0.000000$ ).

**Conclusion:** The quality of breast feeding practices was poor and the duration was mostly short. The use of cow's milk and the tendency to commence supplementary feeding before six months were also prominent. Improved health information and education drives are needed.

## INTRODUCTION

Following the 1990 Innocenti declaration to promote, protect and support breastfeeding, the Baby Friendly Hospital Initiative (BFHI) was launched in Nigeria in 1992. Thus, some tertiary health facilities, including the Wesley Guild Hospital (WGH), Ilesa, were designated "Baby Friendly" for the purpose of influencing mothers who come in contact with them to breastfeed appropriately.

Timely institution of breastfeeding, including exclusive breastfeeding for the first six months of life and subsequent appropriate weaning as well as breastfeeding for two years were the tools earmarked for achieving this study. Several studies have reported the success of the BFI in terms of exclusive breastfeeding over the first 6 months of life<sup>2</sup> apparently justifying the focus on exclusive breastfeeding with very minimal emphasis on subsequent feeding of

infants as very scanty information is available on feeding pattern in the post-six months period.

The WGH, Ilesa, serves the semi-urban population of Ilesa, the surrounding Ijesa and other adjacent communities in Osun, Ondo and Ekiti States of Nigeria. Mothers attending the various Maternal and Child Health Clinics in the hospital and those patronising the hospital's delivery services are routinely counselled on appropriate breastfeeding according to the BFI. Thus, it is expected that the BFI message would spread far and wide in its wide catchments area.

This study aims at describing the pattern of infant and toddler feeding practices in the BFI era in Ilesa, Nigeria.

## PATIENTS AND METHODS

This cross-sectional, descriptive study was prospectively carried out at the General Paediatric Out - Patient Clinic of

the WGH, Ilesa, Nigeria between January and March, 2005.

The study population comprised of consecutive mothers of children aged 0 to 24 months. An open-ended questionnaire designed for the study was administered to the mothers. Socio-demographic information including the ages of the children and mothers, maternal occupation and place of delivery were obtained. The details of breastfeeding, bottle feeding and weaning practices and awareness of the BFI were also recorded.

Mothers were classified into two broad occupational groups: the professionals (teachers, bankers, nurses, administrators) and the non-professionals (traders, farmers, weavers, hair dressers, seamstresses). The places of delivery were also classified into health facilities (which included WGH, General Hospital, Primary Health Centres and Private Clinics) and homes (which included homes, churches and Traditional Birth Homes).

Data was analysed with Statistical Programme for the Social Sciences and Computer Programme for Epidemiologists. Mothers in different groups were also compared vis-à-vis the use of cow's milk and feeding bottles. Odds ratio with 95% Confidence Intervals was used in describing significance. p values less than 0.05 in two-tailed tests were accepted as significant.

## RESULTS

### CHILDREN AND MOTHERS' DETAILS - AGES, OCCUPATION AND PLACES OF DELIVERY

A total of 262 mothers aged between 18 and 43 years were studied with the mean (SD) of 29.3 (5.3) years. Their children, all singleton, were also aged between 1 and 24 months with the mean age (SD) of 11.7 (6.2) months. There were 66 (25.2%), 70 (26.7%), 82 (31.3%) and 44 (16.8%) children in the 1 to 6 months, 7 to 12 months, 13 to 18 months and 19 to 24 months age groups respectively.

Fifty seven (21.8%) mothers were professionals while 205 (78.2%) were non-professionals. One hundred and fifty eight (60.3%) children were delivered in various health facilities while 104 (39.7%) were delivered at places other than formal health facilities (home situation). While 200 (76.3%) mothers had received counselling on breastfeeding according to the BFHI guidelines, 62 (23.7%) had not.

### FEEDING PRACTICES

**Figure 1**

Table 1: Reasons for discontinuation of breastfeeding among 78 children.

Reasons	Frequency (n)	Percentages (%)
Child thought to have matured	21	26.9
Child not eating family diet well	19	24.4
Mother got pregnant	10	12.8
Child eats family diet satisfactorily	10	12.8
Maternal illness	6	7.7
Difficulty coping with work	5	6.4
Child bites the mother's nipples	4	5.1
Child's illness	3	3.9

Of these 262 children, 184 (70.2%) were still on breast milk while 78 (29.8%) had stopped breastfeeding. The age at cessation of breastfeeding ranged from 9 to 20 months with the mean age (SD) of 14.8 (2.5) months. The reasons for stopping breastfeeding before 24 months of age are shown in Table 1.

Breastfeeding was commenced after birth by 98 (37.4%), 183 (69.8%) and 79 (30.2%) mothers within the first hour, within the first 24 hours and after the first 24 hours respectively. Glucose drinks were given to 87 (33.2%) babies at birth while 181 (69.1%) and 33 (12.6%) infants had water and herbal mixtures supplementation respectively at different times before the age of 6 months. In all, 56 (21.4%) infants were exclusively breastfed for the first 6 months of life while 96 (36.6%) had pre-lacteal feeds within the first 72 hours of life i.e before the establishment of lactation. Of the 56 exclusively breast fed infants, 30 (53.6%) were delivered in WGH, 17 (30.3%) in other health facilities and 9 (16.1%) in the homes (personal, churches and traditional birth homes).

Cow's milk was fed to 93 (35.5%) children before the age of 6 months: 14 (5.3%) within the first 3 days of life, 48 (18.3%) between 1 and 3 months of age and 31 (11.8%) between 4 and 6 months of age. All the 14 children who had cow's milk within 3 days of birth were delivered at the WGH. The reasons given for the use of cow's milk included excessive crying (35; 13.4%), the need to resume duty (21; 8.0%), maternal illness (12; 4.6%), delay in establishing lactation (10; 3.8%), poor growth of infant (5; 1.9%) and pressure from friends and family members (3; 6.5%). Seven (2.7%) mothers did not have any specific reason. Feeding bottles were also used by 79 (30.2%) infants.

Children delivered in health facilities formed the majority of those who had and those who did not have cow's milk feeding {58/ 93 (62.4%) Vs 100/ 169 (59.2%); OR = 1.14, 95%CI = 0.66 – 1.99, p = 0.613}. Of the 93 mothers who

offered cow's milk to their infants, 44 (47.1%) were professionals compared to 13 (7.7%) out of the 169 who did not. This difference was statistically significant (OR = 10.78, 95% CI = 5.11 – 23.05,  $p = 0.000000$ ). While 73 (36.5%) mothers out of the 200 who had been counselled on breastfeeding according to the BFHI fed their infants with artificial milk, 20 (32.3%) of the 62 who had not been so counselled also fed their infants the same way (OR = 1.21, 95%CI = 0.63 – 2.31,  $p = 0.542$ ).

A higher proportion of the infants who were commenced on breast feeding after the first 24 hours of life were also fed on cow's milk compared to those who were commenced on breast feeding within the first 24 hours of life {41/ 79 (51.9%) Vs 54/ 183; (29.5%)}. This difference was statistically significant (OR = 2.58, 95%CI = 1.44 – 4.61,  $p = 0.00054$ ). Out of 183 infants who did not use feeding bottles, 37 (20.2%) were fed on cow's milk compared to 56/ 79 (70.9%) of those who used feeding bottles. This difference was highly significant (OR = 0.10, 95%CI = 0.05 – 0.20,  $p = 0.000000$ ).

Supplementary feeding had been commenced among 216 (82.4%) infants. The age at the commencement of supplementary feeding ranged from 2 to 12 months with the mean age (SD) of 5.5 (1.9) months. Supplementary feeding was commenced between 2 and 6 months of age, at 6 months of age and between 6 and 12 months of age among 96 (36.6%), 77 (29.4%) and 43 (16.4%) infants respectively. Out of the 93 children who were on cow's milk, 88 (94.6%) had been commenced on supplementary feeding compared to 128 (75.7%) of the 169 who were not fed on artificial milk. This difference was also highly significant (OR = 0.18, 95%CI = 0.06 – 0.49,  $p = 0.00012$ ).

Among the 216 children on supplementary feeding, the weaning diets included plain maize gruel (46; 21.3%), maize gruel fortified with either powdered cow's milk, cocoa beverages, fish, groundnuts or eggs (104; 48.1%), canned cereals like Nutrend®, Cerelac® and Custard® (36; 16.7%), amala (yam flour gruel) with green leafy vegetables (11; 5.1%) and boiled beans and other beans products like akara and moimoi (19; 8.8%).

Out of 216 infants who were already commenced on supplementary feeds, 96 (44.4%) children ate family diet to the mother's satisfaction while 120 (55.6%) mothers were dissatisfied. One hundred and nineteen (55.1%) and 89 (41.2%) infants had fruits and vegetables either in isolation or as part of their meals in the previous day. However,

biscuits were also offered to 110 (50.9%) infants as snacks in the previous 24 hours.

### **DISCUSSION**

It is noted that over a quarter of the mothers studied had received counselling on appropriate breastfeeding and the BFHI as was found in a recent Pakistani study.<sup>3</sup> The fact that some of these mothers did not have their babies in a Baby Friendly Hospital confirms our expectation that the message of being “baby friendly” has spread into other health facilities in the community not officially designated as “baby friendly”.

However, this level of awareness does not match in detail, the recommended practice of breastfeeding and other infant and toddler feeding practices. Only about a third commenced breastfeeding within an hour of birth compared with 73% reported in Onitsha, Eastern Nigeria. However, the Onitsha study focused on hospital deliveries. The cultural practice of allowing mothers and infants to rest immediately after birth may explain the low rate of breastfeeding within the first hour of birth. This delays the onset of lactation and may also explain the high rate of pre-lacteal feeding.

The prominence of infant formula feeding in this study is disturbing. It was higher than 19% reported nine years ago among the Tiv population of northern Nigeria,<sup>6</sup> as well as 3.1% reported among Pakistani women.<sup>3</sup> The use of infant formula in WGH is strictly a physician prescription. It is used for motherless babies, multiple births and infants whose mothers are seriously ill. The use of cow's milk appears to strongly influence bottle feeding and premature commencement of supplementary feeding which are harmful practices. The use of cow's milk does not seem to be influenced by the mothers' awareness of the BFI principles or by the place of delivery. This may suggest an underlying fundamental problem, probably a misconception, which needs to be addressed. Delayed commencement of breastfeeding was found to be significantly associated with the use of cow's milk feeding and it is capable of setting off a vicious cycle that may result in lactation failure and malnutrition.

Obviously, there is a lot of misunderstanding about the adequacy of breast milk. Mothers need to know that excessively crying infants may not necessarily be hungry. The association of cow's milk feeding with mothers who are professionals in this study is also a reason why public and private employers must be compelled by appropriate legislation to provide facilities for breastfeeding. This is to

prevent the use of infant formula by mothers who must report for official duties. The idea of keeping expressed breast milk for the infant while the mother is away is good but it may be hazardous in this environment where hygiene is poor.

The persistence of the practice of early introduction of supplementary feeds <sup>7</sup> may suggest that there are strong cultural issues attached to it which need to be addressed. Too early introduction of children to supplementary feeds may lead to indigestion and impair their growth. <sup>6</sup> It is commendable that maize gruel, the traditional weaning diet is now commonly fortified with other local food stuffs to make it more energy-dense. The higher rate of fruits and vegetables consumption compared with 30% reported in the northern part of the country <sup>6</sup> should give the children better access to vitamins and other micronutrients the deficiency of which may be related to some childhood diseases. <sup>8</sup>

However, the high consumption of snacks like biscuits may suppress appetite and introduce antigens resulting in atopy.

The various reasons given for premature cessation of breast feeding should be addressed by health education. Mothers need to know that children require a lot of time to master the act of feeding on family diet and taking a child off breast milk prematurely sets the template for starvation, malnutrition and other nutrition-related diseases.

Concerted efforts should be made by child health physicians, public health nurses and social workers to encourage timely commencement of breast feeding and exclusive breastfeeding for the first six months of life. Pre-lacteal feeding, the use of infant formula and feeding bottles should

all be strongly discouraged through mass media campaigns. Ultimately, the sales of cow's milk should be further regulated by advocacy and legislation. One way of promoting the ideals of the BFI may be by promoting the formation and working of local breastfeeding support groups.

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