

A study on feeding practice of under 6 months infants attending the Nutrition Clinic of a tertiary care hospital of West Bengal, India

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ABSTRACT

BACKGROUND: while breastfeeding is a natural act, it is also a learned behavior. The right technique of feeding in the right position is the key to success of breastfeeding.

METHODS: to assess the feeding practice including positioning, attachment and suckling of infants under 6 months of age, a cross-sectional study was undertaken at R. G. Kar Medical College and Hospital, India, among 99 mothers in 2010.

RESULTS: 59.8% mothers completed feeding from one breast before going to the next breast. 77.3% mothers alternated their breasts during subsequent feeds. 41.2% babies were well attached, 47.4% babies were correctly positioned.

CONCLUSIONS: there is a need to teach the mothers the techniques of correct positioning and attachment, especially, in the post natal period before discharge from the hospital after delivery.

Key words: Breastfeeding; Good attachment; Correct positioning

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DOI: 10.2427/8947

INTRODUCTION

Breast milk is the life line for the newborns. It is the best gift a mother can give to her baby. It contains all the nutrients for normal growth and development of a baby from the time of birth to six months of life in proper proportion and in a form that is easily digested and absorbed. Breast milk helps in sensory and cognitive development, and protects the infants against infectious and chronic diseases. It has long been recognized that

the breast fed infant is better protected against infections and particularly diarrhoeal diseases and has better chance of survival than a bottle fed baby [1]. In India more than 1 million infants have been dying every year because of improper breastfeeding practices [2]. Exclusive breastfeeding compared with not breastfeeding, protects against hospitalization for diarrhea and lower respiratory tract infection [3].

To enable mothers to establish and sustain exclusive breastfeeding for first 6 months, World

Health Organization (WHO) and United Nations Children's Fund (UNICEF) recommend initiation of breast feeding within first hour of life, exclusive breastfeeding, feeding on demand and no use of bottles, teats or pacifiers. India too has a written policy on infant and young child feeding which advocates early initiation of breastfeeding within half an hour, feeding of colostrum, exclusive breastfeeding for 6 months and introduction of complementary feeding at 6 months [4].

While breastfeeding is a natural act, it is also a learned behavior. Mother and other care givers require regular support for establishing and sustaining appropriate breastfeeding practices. WHO and UNICEF launched the 'Baby friendly Hospital Initiative' (BFHI) in 1991 to protect, promote and support breastfeeding. The concept of BFHI came into practice because of malpractice in breastfeeding, which in turn is due to ignorance and also due to hindrance by marketers of infant milk substitutes [2]. The Breastfeeding Promotion Network of India (BFNI) has been working in close liaison with the International Baby Food Action Network (IBFAN) and World Alliance of Breastfeeding Action (WABA) toward promoting and supporting breastfeeding.

Infant feeding practices in the community is strongly influenced by what people know, think and believe about these issues [5]. The art of feeding is a blend of biology and culture and has been shown by several studies to be under strong influence of the socio-cultural milieu, which could be detrimental to the health of both mother and child [6].

The right technique of feeding in the right position of the child is the key to the success of breastfeeding. The sucking reflex in the baby starts when the areola and the nipple are in the mouth and the nipple touches the palate of the baby. In this perspective, as effective breastfeeding need proper positioning of mother and baby and attachment to mother's breast [7], this study was undertaken to assess the feeding practice including positioning, attachment and suckling of infants under 6 months of age and to find out if correct positioning and attachment have any influence on the nutritional status of the babies attending the Nutrition clinic of R. G. Kar Medical College and Hospital, Kolkata, West Bengal, India.

METHODS

An observational, descriptive, cross-sectional study was carried out in the Nutrition clinic of

R. G. Kar Medical College and Hospital, Kolkata, West Bengal, India, between 1st March-15th April, 2010. All the mothers having less than 6 months old infants attending the clinic during the data collection period comprised our study population. The mothers who gave verbal consent for being interviewed and observed for breastfeeding technique were included in the study. In all 99 mothers were studied; complete enumeration method was followed and no sampling was applied. The study tools were pre-designed and pre-tested schedule, checklist to observe proper attachment, positioning, effective suckling, presence of any breast pathology and the new growth chart used by the Integrated Child Development Services (ICDS) based on World Health Organization (WHO) separate for boys and girls. Mothers were interviewed with the help of the schedule and their breastfeeding technique was observed for 5 minutes with the help of the checklist. It was ensured that the mother had not breast fed her baby within the last one hour. Different breast feeding practices were defined by Infant and young child feeding (IYCF) guidelines [4]. The infants were weighed on the infant weighing machine and the weight was plotted on the Integrated Child Development Services - ICDS growth chart. The collected data were compiled in Microsoft excel worksheet; results were expressed in proportions. Association between two attributes (qualitative data) was tested statistically by Pearson's Chi-square test (χ^2) using Epi-info software version 3.2 and P value less than 0.05 was considered as statistically significant.

RESULTS

The age of the mothers ranged from 15 to 36 years. Most of them (i.e. 43.4%) were in the age group of 19-22 years, followed by 26.3% in 23-26 years, and 11.1% each in 15-18 and 27-30 years. About 80.8% belonged to the urban area and 74.8% were Hindu by religion. Majority of the respondents (45.5%) were educated up to middle school level (standard VIII), followed by 15.2% and 13.1% up to secondary (standard X) and primary school (standard IV) level respectively. Almost all the mothers (97.9%) were homemakers. 97.9% of the mothers delivered in a health care institution.

Initiation of breastfeeding within one hour of normal delivery and within 4 hours of caesarean section (timely initiation) and feeding of colostrum (breastfeeding initiated within 72 hours of

delivery) was practiced by 38.4% (38/99) and 94.9% (94/99) of the mothers, respectively; while pre-lacteal feeds in the form of candy water and honey were offered to 23.2% (23) of the babies. At the time of conducting the study, 56.6% (56) of the babies were being exclusively breast fed, while 21.2% (21), 19.2% (19), and 2.0% (2) were predominantly breast fed, mixed fed, and bottle fed respectively, whereas complementary feeding had already been initiated in 1 baby. About 67% of the babies had normal nutritional status; while 29.9% and 3.1% babies were moderately and severely underweight respectively when their weight for age was plotted on the ICDS growth chart (based on the WHO multicentric study).

Apart from 2 infants who were exclusively bottle fed from birth, out of the rest 97 mothers, 59.8% (58/97) completed feeding from one breast before going on to the next breast. About 77.3% (75/97) mothers alternated their breasts during subsequent feeds and 86.6% of the mothers never used pacifiers for their babies. While observing signs of effective suckling, it was noted that 46.4% (45/97) of the baby's cheek were full and not hollow or retracting during sucking and they suckled slowly and paused in between to swallow so that the movement of the throat muscles could be seen and the often the gulping sound could be heard. Regarding adequacy of breast feeding 65.9% (64/97) of the babies were breast fed 8 times or more during 24 hours, 74.2% (72/97) passed urine 6 times or more in 24 hours, and 67% (65/97) had normal nutritional status (Table 1).

Regarding attachment to breast, 41.2% (40/97) of babies were well attached (adhering to all the four important attributes, i.e. chin touching the breast, mouth wide open, lower lip turned outward, and most of the nipple and areola in the mouth with only upper areola visible above the mouth), while 58.8% (57/97) of babies were not well attached to breast (lacking any one or more of the four attributes). Among the 57 babies not good attachment, 84.2% and 82.5% were due to lower lip of the baby being not turned out and mouth being not wide open respectively. With regard to positioning of the infant to the breast, 47.4% of babies were correctly positioned i.e. adhering to all the four attributes (signs) of correct positioning without any twist in the neck like infant's head and body held straight, infant facing the breast with nose opposite the nipple, infant's body turned towards the mother with the baby's abdomen touching mother's abdomen, and infant's whole body

well supported by the mother. Infant's whole body not well supported by mother (92.2%) was found to be one of the principle reasons of incorrect positioning to the breast. Babies who were well attached to the breast, were significantly the higher numbers with normal nutritional status compared to those who were not well attached to the breast (87.5% vs. 52.6%; Pearson's chi-square=12.93, P=0.00). Similarly, 84.8% (39/46) and 50.9% (26/51) of infants who were correctly and incorrectly positioned, respectively, were of normal nutritional status; and this association was also statistically significant (Pearson's chi-square=12.50, P=0.00) (Table 2).

DISCUSSION

In spite of national guidelines on infant and young child feeding (2004) [4] there was a lack in the correct practice of breastfeeding amongst mothers attending the nutrition clinic of the R. G. Kar Medical College and Hospital. Although most of the babies (97.9%) were delivered in the institution, yet timely initiation of breastfeeding was done only in approximately one third (38.4%) of the cases; 23.2% of babies received pre-lacteal feeds in the form of candy water or honey; 5.1% did not receive colostrum as they were put on the breast after 3 days; only 56.6% less than 6 months were being exclusively breast fed. According to data from NFHS-3, in India, 46.3% of children were exclusively breast fed at 6 months of age (National Family and Health Survey -3, 2005-6). Data from Coverage Evaluation Survey, India, 2009, conducted by UNICEF revealed that 33.5% of mothers started breastfeeding within 1 hour of birth and 83.5% fed colostrum; 39.9% of mothers did not feed colostrum due to pressure of their relatives followed by misconceptions (17.1%) about not feeding colostrum for 3 days [8]. Yadav et al in their study in districts of Bihar reported that 29% of mothers started breastfeeding within 24 hours and about 65.7% discarded the colostrum. The main reason for this was the advice of elders and the belief that colostrum was not good for the health of the newborn [9]. Roy et al, in their study, in an urban slum of Kolkata, has reported that 29.16% of children received pre-lacteal feeds in the form of water, infant milk formula, cow's milk and honey. Most of the children (76.6%) received breast milk within 24 hours, 90% were fed colostrum and 28.33% received exclusive breastfeeding for 6 months [10]. There is a need for dissemina-

TABLE 1

DISTRIBUTION OF THE INFANTS LESS THAN 6 MONTHS OLD ACCORDING TO CORRECT BREASTFEEDING PRACTICES, EFFECTIVE SUCKLING AND ADEQUACY OF THE BREAST MILK (N=97*)		
ATTRIBUTES	NUMBER	PERCENTAGE
CORRECT BREAST FEEDING PRACTICES		
Mothers complete feeding from one breast before going to next breast	58	59.8
Mothers alternate their breasts during subsequent feeds	75	77.3
Mothers did not use pacifiers	84	86.6
SIGNS OF EFFECTIVE SUCKLING		
Baby's cheeks are full and not hollow	45	46.4
Baby suckles, pauses and suckles in regular deep sucks	45	46.4
ADEQUACY OF BREAST FEEDING		
Number of babies being breast fed \geq 8 times a day	64	65.9
Number of babies passing urine \geq 6 times a day	72	74.2
Normal nutritional status	65	67.0

* 2 babies were completely bottle fed, thus excluded in this analysis.

tion of correct information during antenatal, intra-natal and post-natal periods to protect, promote and support breastfeeding. Although this hospital is a baby friendly hospital, it seems there is still room for proper implementation of BFHI.

Regarding correct breast feeding practices around 40% of mothers did not complete one breast before going on to the other, 22.7% of mothers did not alternate breast in subsequent feeds and 13.4% used pacifiers. 58.8% of babies were not well attached and 52.6% were not properly positioned to the breast. Studies conducted in North India reveal that there was “good attachment” in 42% mother-infant pairs and infants were held in “correct position” by 60% of mothers [11]. A study in Bangladesh reported correct positioning (74%) and good attachment (72.3%) as assessed by community health workers (CHWs) at late visits (67 days after delivery) [12]. Gupta et al in their study in North India observed that following intervention, a significant number of mothers (82.2%) were keeping the baby close to them and another significant observation (89.7%) was that the baby’s neck was found to be straight or slightly bent backwards while breastfeeding. A significant number of babies were suckling deep

and well in the post-intervention period [13]. Goyal et al in their study in Libya concluded that young (<20 years) primipara mothers need more support and guidance for appropriate breast feeding techniques. All maternal and child health care agencies should highlight and formulate a policy for effective initiation of breastfeeding as part of an integrated neonatal care [14].

Although colostrum feeding, duration of exclusive breastfeeding, complementary feeding and continuation of breastfeeding is well known fact to the mothers and care givers; but information on the criteria of correct positioning and good attachment, that leads to successful breast feeding in due course of time needs to be communicated intensively to the mothers. We endorse the view that there is a need to teach the mothers about the correct practices, especially, in the post natal period before discharge from the hospital after delivery.

SOURCE OF SUPPORT IN THE FORM OF GRANTS, EQUIPMENTS: self funded.
CONFLICT OF INTEREST: none.

TABLE 2

DISTRIBUTION OF THE INFANTS LESS THAN 6 MONTHS OLD ACCORDING TO ATTACHMENT AND POSITIONING TO THE BREAST AND THEIR NUTRITIONAL STATUS			
ATTRIBUTES	NUMBER	NORMAL NUTRITIONAL STATUS	χ^2 TEST P VALUE
ATTACHMENT (N = 97*)			
Well attached	40 (41.2)	35 (87.5)	12.93
Not well attached	57 (58.8)	30 (52.6)	0.00
SIGNS OF NOT WELL ATTACHED (N = 57**)			
Chin not touching the breast	13 (22.8)	-	
Mouth not wide open	47 (82.5)	-	
Lower lip not turned outward	48 (84.2)	-	
More areola not visible above the mouth	45 (78.9)	-	
POSITIONING (N = 97*)			
Correctly positioned	46 (47.4)	39 (84.8)	12.50
Not correctly positioned	51 (52.6)	26 (50.9)	0.00
SIGNS OF NOT CORRECTLY POSITIONED (N = 51***)			
Infant's head and body not held straight	20 (39.2)	-	
Infant not facing the breast with nose opposite the nipple	21 (41.2)	-	
Infant's body not close to the mother's body	21 (41.2)	-	
Infant's whole body not supported	47 (92.2)	-	

* 2 babies were completely bottle fed, thus excluded in this analysis

** 57 babies were not well attached

*** 51 babies were not correctly positioned

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