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Original Research Article

Infant feeding practices among nursing mothers at rural tertiary care hospital

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ABSTRACT

Background: Breastfeeding (BF) is nature's way of providing nutrition required for healthy growth and development of the young infant. The early child growth needs healthy infant feeding practices including exclusive breastfeeding and timely complementary feeds. The present study was carried out to assess the pattern of infant feeding and its relation to certain care practices of maternity and the newborn, and to assess the knowledge of mothers, who had delivered in the last one year.
Methods: A cross sectional descriptive study was conducted among 202 mothers in the pediatric and obstetrics department of tertiary care hospital. The mothers with children under the age of 1 year were interviewed following which descriptive statistics were obtained.
Results: Out of 202 mothers, majority of the mothers were of age less than 30 years (79.7%) and were Hindus (74.2%). The majority were housewives (98.5%), illiterate (71.7%), multiparous (67.8%). Most of the mothers were belonged to a lower socioeconomic class (95.5%). About 17.8% babies had not received colostrum. Majority of the mothers had initiated breastfeeding (79.2%) within 24 hours of delivery. About 46.5% of the respondents were not aware of the benefits of exclusive breastfeeding. About 25% of the mothers started complementary feeding before the child was six months old. The most common type of complementary food given was semisolid (53.4%). About 14.1% of the mothers had started giving semi-solid foods before the baby was six months of age. A majority of the mothers had no advice on infant feeding.
Conclusions: Knowledge regarding the timely initiation of breast feeding, advantages of exclusive breast feeding and proper weaning practice is less among the mothers of rural area. So, advice about breastfeeding and complementary feeding during antenatal check-ups, postnatal, and during Immunization visits might improve feeding practices.

Keywords: Complementary feeding, Exclusive breast feeding, Infant feeding practices, Rural mothers

INTRODUCTION

The early child growth needs healthy infant feeding practices including exclusive breastfeeding and timely complementary feeds. Breastfeeding (BF) is nature's way of providing nutrition required for healthy growth and development of the young infant. According to WHO, "Breast milk can save more infant lives and prevents morbidity than any other intervention strategy in the world".[1] World Health Organization (WHO) recommends that the infants must be breastfed exclusively for the first six months of life, continue to breastfeed for up to two years or beyond and wait until the second half of the first year to introduce solid foods as per NHMRC.[2] The infant feeding practices generally meet the nutritional and immunological needs of the body at different stages of child growth. Breast milk is vital for the better child survival.[3]

The breastfeeding is the natural and optimal way of providing the appropriate nutrition to the infants. Breast

milk has shown to have many advantages including meeting the nutritional requirements of the infant for optimal growth, reduces the risk of infection, necrotizing enterocolitis and allergies and also shown to have positive effects on cognitive development. The breast milk is complete hygienic food which remains as secure source of macro and micronutrients despite economic and environmental conditions. It has also been shown that the breastfed infants have positive implications in the psychosocial development of an infant.[4,5] The studies have shown that the breastfeeding not only helps the infant, but also the mothers, by increasing the duration of lactational amenorrhea, decreasing the risk of developing anemia, reducing urinary tract infections, ovarian cancer and pre menopausal breast cancer.[6]

The WHO estimates that the under nutrition is estimated to cause 3.1 million child deaths annually or 45% of all child deaths. Infant and young child feeding is a key area to improve the child survival and promote healthy growth and development. The optimal breastfeeding is critical to save about 800, 000 under 5 child lives each year. The WHO and UNICEF advocates that early initiation of breast feeding within 1 hour of birth, exclusive breast feeding for the first 6 months of life and introduction of nutritionally-adequate and safe complementary (solid) food at 6 months together with continued breast feeding up to 2 years of age or beyond.[7]

The Baby Friendly Hospital Initiative (BFHI) was introduced in the year 1991 for further studying of breastfeeding practices. Despite these studies, it has been observed that most mothers attending infant welfare clinics manipulate their infant's milk in the first two weeks after birth and that multiple changes were common.[8]

Weaning or complimentary feeds were initiated earlier than the prescribed age.[8] There were dangers of electrolyte imbalances (e.g. hypernatremia), recurrent infections (recurrent diarrhoeas) and nutritional problems linked to improper usage of complimentary feeds.[8,9] About 35% of babies were not breast-fed even at 48 hours of birth.[7] The bottle feeding rate was 49.4% among infants below 1 year age.[10]

The practice of breastfeeding among Indian mothers is almost universal, but initiation of breastfeeding is quite late and the colostrum is usually discarded. Breastfeeding practices in rural communities are shaped by their beliefs, which are influenced by social, cultural, and economic factors.[11]

Continuous vigilance over infant feeding practices in the community is necessary for timely interventions, to ensure optimal growth and development. This information will be useful to policy makers for the formulation of interventional programs in the future. Therefore, the present study was carried out to assess the pattern of infant feeding and its relation to certain care practices of maternity and the newborn, and to assess the knowledge of mothers, who had delivered in the last one year.

METHODS

A cross sectional descriptive study was conducted in the cases attending pediatric and obg department, which is a tertiary care hospital in the rural part of Karnataka. A total of 202 patients were included as the study sample. The study participants were mothers with infants aged between 0 and 11 months. Clearance from the institutional ethical committee was obtained before the study was started. An informed and written consent was obtained from the mothers. The inclusion and exclusion criteria were as follows,

Inclusion criteria

Mothers receiving ANC, Mothers in Post-natal ward, Mothers and their baby's attending Pediatric OPD and Immunization clinic.

Exclusion criteria

Mothers with any chronic illnesses (like TB, Seizure disorders, GHTN, DM, etc.). Mothers on medications contra-indicated during Lactation, Newborns having any congenital defects (special circumstances babies like Cleft-lip, Cleft-palate etc.), HIV Positive Mothers.

A structured, pretested and predesigned questionnaire was used to collect information on the socio-demographic profile (age, religion, and type of family, parent's education, occupation, and income, and birth order), details on the initiation and duration of breastfeeding, artificial feeding and weaning practices, delivery details (type and place of delivery), antenatal practices (number of antenatal visits), and newborn care practices (the birth weight was measured and explained to mother, child's weight was plotted on the growth chart, and advice on child feeding was given).

The data thus obtained was entered in an excel sheet and transferred to Statistical Package for Social Services (SPSS) for analysis. The categorical data was presented as frequencies and percentage, quantitative data was presented as measures of central tendency. Chi square test was used as test for significance for categorical variables and Student T test was used as test of significance for quantitative variables.

RESULTS

In this study, a majority of the mothers were of age less than 30 years (79.7%) and were Hindus (74.2%). The majority were housewives (98.5%), multiparous (67.8%). About 66.8% of the mothers had birth order ≥ 2 (Table 1). Most of the mothers were illiterate (71.7%) and belonged to a lower socioeconomic class (95.5%).

Majority of the mothers had initiated breastfeeding (79.2%) within 24 hours of delivery. Among these only 22.7% had initiated breast feeding within 1 hr of delivery due to various reasons. About 17.8% babies had not received colostrum.

Table 1: Sociodemographic profile.

Characteristics	No. of subjects (n = 202)
Age	
18-23 years	82 (40.5%)
24-29 years	79 (39.1%)
≥ 30 years	41 (20.2%)
Socioeconomic status	
Middle class	9 (4.4%)
Lower middle class	117 (57.9%)
Lower class	76 (37.6%)
Religion	
Hindu	150 (74.2%)
Muslim	52 (25.7%)
Type of family	
Joint	96 (47.5%)
Nuclear	106(52.4%)
Parity	
Primiparous	65 (32.1%)
Multiparous	137 (67.8%)
Education of women	
Illiterate	145 (71.7%)
Literate	57 (28.21%)
Occupation of women	
Homemaker	199 (98.5%)
Service	3 (1.4%)
Birth order	
< 2	67(33.1%)
≥ 2	135 (66.8%)

The most common reason stated by mothers for discarding colostrum was that they thought colostrum was not good for health of the child due to its consistency and its yellowish colour. About 23.7% of the infants were not exclusively breastfed and were given various prelacteal feed (Table 2). The most common reason for not doing so was inadequacy of milk secretion (73.1%). Sugar water (39.5%), boiled water (22.9%), animal milk (18.7%), Honey (14.5%) and Castor oil (4.1%) were commonly used as pre-lacteal feeds. About 46.5% of the respondents were not aware of the benefits of exclusive breastfeeding. Complementary feeding had started in 23.7% of respondents before the baby was six months old. The most common type of complementary food given was semisolid (53.4%) (Table 3).

About 14.1% of the mothers had started giving semi-solid foods before the baby was six months of age. About half of deliveries had taken place at home and 16.9% of them were attended by untrained 'dais'. The majority (89.4%) of the deliveries were normal. Only a one fourth of the respondents had had three or more antenatal visits during pregnancy. Only 4.9% of the newborn's weight had been plotted on a growth chart and explained to their mothers. Regarding infant feeding practices, a majority of the mothers had no advice on infant feeding.

Table 2: Breastfeeding practices [Total (n = 202)].

Time of initiation of breastfeeding	
Within 1 hour	46(22.7%)
1 - 24 hours	114(56.4%)
>24 hrs	42 (20.7%)
Colostrum given	
Yes	166 (82.1%)
No	36 (17.8%)
Exclusively breastfed	
Yes	154 (76.2%)
No	48 (23.7%)
Prelacteal feed provided	N=48
Sugar water	19 (39.5%)
Boiled water	11 (22.9%)
Honey	7 (14.5%)
Animal milk	9 (18.7%)
Castor oil	2 (4.1%)
Awareness of benefits of exclusive breastfeeding	
Yes	108 (53.4%)
No	94 (46.5%)

Table 3: Complementary feeding practices.

Age of initiation of complementary feeding	
<6 months	48 (23.7%)
6-9 months	95 (47%)
9-12 months	55 (27.2%)
>12 months	4 (1.98%)
Type of complementary food given	
Milk	78 (38.6%)
Infant formula	16 (7.92%)
Semi-solids	108 (53.4%)

DISCUSSION

Nutrition is essential for early child growth. The infant feeding practices including breastfeeding and complementary foods are essential for the child growth. According to WHO recommendation, the infants must be breastfed exclusively for first six months of life and breast feeding should be continued up to two years or beyond. NHMRC recommends the solid foods should be introduced in the second half of first year.[2] The infant feeding practices generally meet the nutritional and immunological needs of the body at different stages of child growth. Breast milk is vital for the better child survival.[3]

Various studies have shown the complications associated with faulty feeding practices which includes early initiation of weaning or complimentary feeds earlier than the prescribed age, which resulted in electrolyte

imbalances, recurrent infections (recurrent diarrheas) and nutritional problems.[8,9] As high as 35% of babies were not breast-fed even at 48 hours of birth.[8] The bottlefeeding rate was 49.4% among infants below 1 year age.[10]

Research has shown that counseling is an important component of policies and program to support breast feeding and provision of safe complimentary foods.[12,13]

Women in rural areas have a very positive attitude toward the initiation of breastfeeding.[14] In our study, only 42.3% mothers knew that BF should be started within 1 h of birth while only 22.7% of mothers could initiate BF within 1 h of birth; these delays were mostly due to shifting the mothers from labor room, caesarean section, and lack of knowledge. The data in various studies across India show that initiation rates vary from 16% to 54.5%.[15]

Most of the mothers initiated breastfeeding (79.2%) within 24 hours of delivery, in our study. Our finding is much higher compared to the (37.1%) reported at the national level.[16] A total of 20.7% of the mothers in our study did not breastfeed even 24 hours after the delivery. Our findings are compatible with those (19.0%) reported by Madhu et al.[17] Breast milk should be initiated within 30 minutes of delivery.[18]

The delay in initiation leads to a delay in the development of oxytocin reflexes, which are very important for the contraction of the uterus and the breast milk reflex. Studies show that the earlier breastfeeding begins the earlier and more effective the consolidation of the process, and therefore, a better impact on the after-birth period, which helps in the earlier initiation of the secretion of breast milk.[19]

On inquiring about the advantages of BF, 95% of the mothers in this study agreed that BF promotes mother-baby bonding. A number of studies have enlightened about the psychological benefits for both the mother and the infant.[20] About 84.2% mothers think BF helps in adequate weight gain of baby. In study done by Mittal et al, 81% were aware of nutritive benefits of breast milk.[21] While a study done by Nigam et al showed that 60% mothers had knowledge regarding nutrition.[22]

About 82.1% of mothers fed colostrum to their child, which is a good practice. Similar observations were reported by Deshpande Jayant et al, in their rural study.[23] Khan et al, also reported similar findings in their study conducted in the urban slum of Aligarh.[24] Colostrum is rich in vitamins, minerals, protein and immunoglobulins that protect the child from infections.[25] The most common reason stated by mothers for discarding colostrum was that they thought colostrum was not good for the child. Similar findings have been reported by Gupta et al in their study conducted in an urban slum of Lucknow.[26] About 23.7% of the infants were not exclusively breastfed. The most common reason found for not doing so was inadequate milk secretion. About one-quarter of the respondents admitted that they gave pre-lacteal feeding to their child. Sugar water, boiled water, animal milk, castor oil, and honey were the commonly used pre-lacteal feeds. Type of pre-lacteal feed given varied from place to place. Sugar water (39.5%) was the most common prelacteal feed followed by boiled water (22.9%) animal milk (18.7%), honey (14.5%), and castor oil (4.1%) given to children in our study. Similar findings (27%) were reported by Deshpande et al, honey and water was commonly used as a pre-lacteal feed in rural West Bengal as reported by Mandal et al.[23,27]

Giving pre-lacteal feed is a deep-rooted custom in India, as is evident in many studies. This difference can be attributed to social customs prevailing in the areas. Pre-lacteal feeds are given because it is believed that they act as laxatives or as a means of clearing the meconium. Unfortunately, the mothers are not aware that the pre-lacteal feeds could be a source of contamination which leads to infection.[23]

Out of total 202 mothers, 48 (23.7%) introduced complementary feed before 6 months of age while 95 (47%) introduced between 6 to 9 months of age and 59 (29.2%) introduced after 9 months of age. Reasons for early feeding were mothers' perception of not having enough milk, not gaining weight, and baby used to cry a lot. Reasons for delayed feeding were regurgitation/vomiting by the child, mother did not know the exact timing of starting the complementary feeding, mother felt her milk was sufficient for the baby and not accepting any other food. Rao et al. study showed that 10% of children were weaned prematurely.[28]

A study from Delhi reported premature weaning in only 5.5% children which is lesser than the present study.[29] Saxena and Kumar reported that 70.1% cases started complementary feeding at 6 month of age.[30] The birth weight of a majority of newborns was also not measured. Advice for child feeding was not given to two-thirds of the mothers. This indicates the need for promoting awareness of correct practices for infant feeding and the care of the newborn.

CONCLUSION

Knowledge regarding the timely intiation of breast feeding, advantages of exclusive breast feeding and proper weaning practice is less among the mothers of rural area. So, advice about breastfeeding and complementary feeding during antenatal checkups, postnatal, and during Immunization visits might improve feeding practices.

There is a need to educate and empower the mothers to continue breast feeding and creating an awareness about the advantages of exclusive breastfeeding will further strengthen and support this common practice in rural communities.

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