

Original research article

## A Cross Sectional Study of Infant Feeding and Rearing Practice Among Multiparous Postnatal Mothers

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### Abstract

**Background:** India is a land of diverse cultures and traditions. Infant feeding and rearing practices vary across communities, depending on social customs, traditional beliefs, literacy and socio-economic status of the family. These practices at times are not of any benefit to the newborn and can be harmful. Despite its rapid economic growth, India's poor ranking in terms of infant mortality can be correlated to these factors influencing child feeding and rearing practices.

**Methods:** The study was conducted in three urban health training centers (UHTCs) which were selected by simple random sampling out of eight in Bhagalpur city. All the multiparous women who were in postnatal period were included in the study till sample size was reached. Data was collected after informed consent using pre-tested semi-structured questionnaire and analyzed in SPSS.

**Results:** Out of 200 mothers, 69% of the mothers had initiated breastfeeding within standard norms and 28.5% had given pre-lacteal feeds to their babies which was significantly associated with religion and type of family of the mothers. Majority of the mothers (95.5%) had given colostrum and its association with type of family was significant. Majority of them (80.1%) had breastfed their baby on demand.

**Conclusion:** In spite of educational messages by health professionals, certain feeding practices are found unsatisfactory and certain harmful rearing practices are still prevalent in the community. This necessitates additional focus by the policy makers towards maternal and child health to ensure the needs to be fulfilled and to impose certain regulations against prevalent harmful practices in the community.

**Keywords:** Breast feeding, Exclusive breastfeeding, Pre-lacteal feeds, First bath.

### Introduction

India is a land of diverse cultures and traditions. Religion along with the socio-economic status of a family influences the child rearing practices in India. Infant feeding and rearing practices vary across communities, depending on social customs, traditional beliefs, literacy and socio-economic status of the family. These practices at times are not of any benefit to the newborn and can be harmful.<sup>1</sup> Thus socio-cultural factors are the larger scale forces within cultures and

societies that affect the thoughts, feelings and the behavior of the individuals, which will influence the feeding pattern of children. The influencing factors include household, income, gender, religion, birth order, attitudes and beliefs, family structure, preference of child, ethnicity, education, employment and occupation. It is estimated that globally each year 4 million newborns die accounting to two thirds of all infant deaths. In India, of the 26 million newborns each year, 1.2 million die in the neonatal period.<sup>3</sup> According to the world bank data 2015, current infant mortality rate of India is 38 per 1000 live births. Despite of its rapid economic growth, India's poor ranking in terms of infant mortality can be correlated to the beliefs, social customs and cultural differences in child feeding and rearing practices in various parts of the country. WHO recommends exclusive breastfeeding until the age of 6 months. According to an analysis, breastfeeding was identified as the single most effective intervention, which could prevent 13-16% of all childhood deaths in India. But unfortunately only 35% of infants world-wide are exclusively breastfed during the first four months of life and complementary feeding begins either too early or too late with foods which are often nutritionally inadequate and unsafe. India is ranked at 25 out of 33 countries in parameters like early initiation of breastfeeding, Exclusive Breast Feeding (EBF) for the first six months, complementary feeding and bottle feeding rates. Beliefs like the first milk is not good or there is no secretion of milk in first three days result in practices like discarding colostrum and promoting pre lacteal feeds respectively, and such practices increase the risk of infections and deprive the valuable benefit of colostrum feeding to the vulnerable neonates. The beneficial effects of breastfeeding depend on breastfeeding initiation, its duration, and the age at which the breast-fed child is weaned. The pattern of supplementary feeding during the first 2 years of life is increasingly recognized as important determinants of malnutrition. Malnutrition is often associated with inappropriate feeding practices occurring during the first year of life. Apart from the feeding practices, there are certain other rearing practices like oil massaging the baby, application of oil into eyes and ears of infants, burping the baby, application of kajal to the eyes which also influence the health of infants and these are associated with deep rooted cultural beliefs and practices with regard to neonatal care. Overall, infant morbidity and mortality is attributed to improper infant feeding practices and harmful cultural practices which depend on the knowledge, attitude and practice of the community in addition to other factors like socio-economic status, availability and accessibility of medical services. Thus to incorporate the changes in behaviour of people, one must understand the prevalent social customs, beliefs and cultural practices in that particular area.

### **Objectives**

To study infant feeding and rearing practices among multiparous postnatal mothers, To study the associated socio-cultural factors which influence the feeding and rearing practices.

### **Review of Literature**

Historically, the evolution of feeding for infants includes wet nursing, the feeding bottles, and formula feeds. Earlier, during 2000 BC wet nursing was the most common alternative to breastfeeding before the invention of bottles and formula. Use of a wet nurse "woman who feeds another child" was practised during mother's illness or death of the mother at the time of delivery or in other conditions. Gradually it became a well established profession with contracts and legislations were developed to regulate its practice. Later on advancements with the feeding bottles and the availability of animal's milk, gradually substituted artificial feeding for wet nursing. Later in 1940s and 1950s, Introduction of infant formula feeds was very influential on thoughts of mothers who were breastfeeding infants especially in developing countries and there was a steady decline in breast feeding rates till 1970s resulting in serious health issues like atopy, diabetes mellitus, and childhood obesity. Research suggested that

formula-feeding is linked with development of health problems in infants. This evidence confirms breastfeeding is still the best source of infant nutrition and the safest method of infant feeding. In order to improve infant and young child nutrition, WHO and UNICEF promoted a new “Baby Friendly Hospital Initiative” in 1992 and the Initiative successful was highly successful in encouraging proper infant feeding practices, starting at birth. Baby Friendly Hospitals in India are also expected to adopt and practice guidelines on other interventions critical for child survival including antenatal care, clean delivery practices, essential newborn care, immunization and ORT. Furthermore WHO and UNICEF recommended National Breastfeeding Committees (NBCs) to protect, promote and support breastfeeding. Breast milk contains almost all the nutrients required for an infant and also antimicrobial factors which prevent infections and also malnutrition. Breastfeeding, especially six months of exclusive breastfeeding, has a significant effect in the reduction of mortality from the two biggest contributors to infant deaths: diarrhoea and pneumonia, as well as on all-causes of mortality. A study by Chaturvedi M in Agra district showed that out of 540 mothers, only 18.3% practiced exclusive breastfeeding at birth, only 3% initiated breastfeeding within 1 hour of the birth. Majority of the mothers (81.7%) provided pre-lacteal feeds to the babies. 73% of the mothers started giving water to their children since birth. Only 20% children had received complementary feeds at the right age (at six months). A study conducted by Kishore M S in a rural population of North India showed that out of the 77 mothers, 30% and 10% exclusively breastfed their infants till 4 and 6 months of age, respectively. There was ‘good attachment’ in 42% mother- infant pairs and infants were held in ‘correct position’ by 60% mothers. Thirty-nine percent of the mothers had ‘satisfactory’ breastfeeding knowledge. Infant feeding practices include both the breastfeeding as well as complementary feeding and they have major role in determining the nutritional status of the child. Home Based Newborn Care (HBNC) is aimed at improving newborn survival under which ASHA supports EBF by teaching the mother proper positioning and attachment for initiating and maintaining breast-feeding, diagnoses and counsels in case of problems with breast-feeding, promotes hand washing, provides skin, cord and eye care. She also promotes and counsels mothers and families on key messages on newborn care which includes discouraging unhealthy practices such as early bathing, and bottle feeding.

### Material and methods

The study was conducted in three urban health centres of Bhagalpur city located in Bhagalpur City, Bihar. region with a total population of 3,22,428 (Census 2011), sex ratio of 998 (males/1000 females), literacy rate of 87.79%. It consists of total 28 primary health centres (PHCs), 6 community health centres (CHCs) and city there are total eight urban health centres. Study design- It is a community based, cross-sectional study. Study period Oct 2018 to Feb 2020. Study population, The study population composed of multiparous women who were in postnatal period in areas which come under selected. The Sample size was calculated using the formula  $n = \frac{4pq}{d^2} \times 5$  considering the prevalence of exclusive breastfeeding (EBF) to be  $p = 87.5\%$ <sup>69</sup> (according to DLHS-4),  $q = (1-p) = 12.5\%$ , Confidence level =  $100(1-\alpha) = 95\%$  and absolute precision ( $d$ ) = 5% With above formula, overall the sample size was calculated to be 175 which was approximated to 200.

### Inclusion criteria

Multiparous women who were in postnatal period.

### Exclusion criteria

Mothers who did not give consent to participate in the study Mothers who were not available even after two visits.

House to house visits were conducted subsequently in all three areas in first 5 days of every month. Data was collected through personal interviews using a pre- tested, semi-structured questionnaire. Informed written consent was obtained from the mothers. Data which was collected, consisted of variables like age of the mother, religion, education of the mother, occupation of the mother, age at marriage, type of family, socio-economic status, type of delivery, birth order of the baby, initiation of breast feeding, EBF, pre-lacteal feeds, complementary feeds, immunization and socio-cultural factors influencing feeding and rearing practices of infants. Mothers were interviewed till the sample size was reached. Mothers not available even after two visits were excluded from the study. Home-made **foods**: Preparations include rice and ragi malts, rice and dal, kheer, biscuits, fruits and smashed vegetables. Commercial formula foods: a food which purports to be or is represented for special dietary use solely as a food for infants by reason of its simulation of human milk or its suitability as a complete or partial substitute for humanmilk" and available in powder, liquid concentrate, and ready-to-feed forms like cerelac etc.

### Results

A total of 200 multiparous postnatal mothers were included in the study. Out of 200, majority of the mothers (77%) were in the age group of 21 to 30 years. About 53.5% were married between 21 to 25 years. Only 9% mothers were illiterates and 92.5% were housewives. About 78.5% of the mothers belonged to lower socio-economic status. Majority of the mothers were hindus (69.5%). Around 55.5% of the mothers were from joint family whereas 44.5% were from nuclear family. About 81.5% mothers had more than 2 children. Feeding practices among multiparous postnatal mothers

#### Practice of giving colostrum to the infants among study subjects (n=200)

Variable		Frequency (No.)	Percentage (%)
Colostrum given	Yes	191	95.5
	No	9	4.5

Colostrum was given by 95.5% mothers to their babies whereas 4.5% discarded it.

#### Practice of giving pre-lacteal feeds to the infants among study subjects.(n=200)

Variable		Frequency	Percentage (%)
Pre-lacteal feeds given	Yes	57	28.5
	No	143	71.5

In the present study, 28.5% mothers had given pre-lacteal feeds to their infants. Among mothers who had given pre-lacteal feeds, 86% of the mothers gave honey, 5.3% mothers gave holy water and 3.5% gripe water and 5.2% mothers had given other substances. About 69% of the mothers had initiated breast feeding within one of delivery. Among mothers, the reasons for late initiation of breast feeding were (a) no secretion of breast milk(22.6%), (b) baby was in NICU (30.6%), (c) LSCS (25.8%),(d) mother was ill (8.1%), (d) traditional practice (8.1%) and (d) baby was not taking feeds (4.8%) Mothers were observed for breast feeding technique and it was proper in 62.8% of the mothers and improper among 37.2% mothers. During mother's illness, majority of them breastfed their baby (84.2%), whereas 15.8% mothers didn't do so.

During baby's illness 93.4% mothers breastfed their baby whereas 6.6% mothers did not feed their baby. Majority of the mothers (94%) practiced burping after feeding their baby.

#### **Avoidance of food items by mothers during breast feeding period.**

<b>Practice</b>		<b>Frequency(n=196)</b>	<b>Percentage (%)</b>
<b>Avoidance of food items</b>	<b>Yes</b>	54	27.6
	<b>No</b>	142	72.4

About 27.6% of the mothers avoided certain food items during breast feeding period. Among mothers who had avoided food items, 79.7% mothers avoided certain fruits (banana, papaya, pomegranate, guava, musk melon and water melon) and vegetables (brinjal, cucumber and bottle guard), 9.2% avoided oily and spicy foods and 11.1% avoided curds and other cold items. Among different variables, age of the mother had shown significant association with practice of giving first bath within 24 hours of birth. It was observed that 11.2% of the mothers who were married between 21-25 years of age had given first bath to their baby before 24 hours of birth compared to only 2.9% of mothers who were married between 15-20 years. In this study, 100% of the mothers who had children more than two, did not apply any kind of substance to the umbilical cord when compared to 87.1% of the mothers with only two children. This association of increasing parity and not applying any kind of substance to the umbilical cord found to be statistically significant.

#### **Discussion**

Even though infant feeding and rearing practices have been improved all over the country, they are yet not satisfactory and differ in various regions. Other studies have shown that various socio-cultural factors like religion, socio-economic status of the family and family rituals influence the nurturing ways of infants. A study conducted by Asim M titled Perception and Practices of Mothers about Feeding Practices of Newborn Babies in Faisalabad, Pakistan showed that avoiding colostrum and giving some pre-lacteal feed and bottle feeding are contributory factors for preventable diseases which ultimately lead to high infant mortality. Breast feeding is a nature's way of nurturing the baby by mother. According to Infant and Young Child Feeding (IYCF) 2006 guidelines, Government of India recommends that initiation of breastfeeding should begin immediately after birth; preferably within one hour. Early initiation of Breast feeding in turn helps in early secretion of breast milk through stimulation of oxytocin reflexes and milk reflexes. In our study, More than half of the mothers (69%) initiated breast feeding within standard norms (within one of delivery) which is similar to other studies conducted by Vijayalakshmi S (65%), Deshapande J (63%), Sunil N (70%). The reasons among the mothers who initiated breast feeding outside the standard norms were baby kept in NICU. In our study none of the variables showed significant association with practice of initiation of breastfeeding. Colostrum is the foremilk that is secreted in first 3-4 days which is rich in various vitamins, minerals, fat and some immunoglobulins. So it is very much nutritious and thus offers protection to the infant against infections. But, many of the mothers are not aware of its importance and still there is a practice of discarding it in various communities because of misconception that it is harmful to the baby. In the present study, 80.1% of the postnatal mothers breastfed their babies on demand which is consistent with findings of other studies conducted by Shaili V (89%), Deshapande J (84.7%). It was noticed

that most of the mothers from lower socio-economic class (83.2%) had breastfed their infant on demand compared to upper socio-economic class (78%) and this was statistically significant. WHO has recommended that no infant should be breastfed <18 months<sup>5</sup>. In the present study, 78% of the study subjects had breastfed their previous child for >18 months which is in contrary to the study done by Cacodjar J (12.87%) and it was observed that mothers who were educated had practised breast feeding for longer duration (81.9%). This implies that literacy status highly influences the practice of breast feeding for longer duration and it was statistically significant. Similar observation was noticed in the study conducted by Cacodjar J. In our study, age of the mother was also significantly associated with duration of breast feeding. In our study 2% of the mothers tattooed their children as a part of traditional practice. About 12% of the mothers branded their children with metal or glass pieces whenever the child was ill which was similar to the finding of study done by Madhu K (16%) and it was significantly associated with socio-economic status. It was significantly associated with socio-economic status. About 15.3% of the mothers from lower socio-economic status branded their children whereas none of the mothers from upper socio-economic status did so. Majority of them did so with the belief that it cures the disease. Immunization status of children was assessed by interviewing the mother and immunization card was also crosschecked. Around 96% of the mothers had immunized their children completely.

### Conclusion

We conducted a cross-sectional study on infant feeding and rearing practices and socio-cultural factors influencing them among multiparous postnatal mothers in Bhagalpur city. In our study, the practices of giving colostrum, exclusive breast feeding and demand feeding were found better among mothers. Majority of the mothers from nuclear family had given colostrum to their infants compared to joint families.

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