

Original Research Article

**A Study of Feeding Practices in the babies of urban educated mothers attending well baby clinic of a tertiary care maternity hospital.**

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**Abstract**

**Background:** Ideal food for the young infant is human milk which has the specific characteristics that matches the growing infant's nutritional requirement. It is the nature's first food for babies. It provides all the energy and nutrients that the infant needs in early months. **Methods:** Total of 100 healthy mothers and their healthy newborns in between the age of 15-30 days were taken in study group during September 2015 to July 2016 of tertiary care maternity hospital of Rajasthan. All the mothers were interviewed as per standardized proforma regarding the feeding practices of their newborn. The information thus obtained were compiled, tabulated and analyzed statistically to draw out observations. **Results:** Kuppaswamy's socioeconomic scale showed that 10% mothers belonged to class-1(upper), 25% belonged to class-2 (upper middle) and rest of 65% mothers belonged to class-3 (lower middle). In the present study it was found that 68% mothers initiated breastfeeding within one hour and 88% mothers were aware regarding usefulness of colostrum. Study revealed that 35% mothers were giving feed to their babies by fixed schedule and 65% babies received on demand. On demand feed was more common in working mothers, upper middle class and postgraduate mothers (84%). **Conclusion:** Knowledge regarding exclusive breast feeding was more in nuclear, upper middle class and higher educated working mothers but for 100% achievement of initiation of breastfeeding practices the study recommends that there is necessity to promote knowledge of the mothers about breast feeding

**Key words:** Breast Feeding, Colostrum, Top Feeding, Complementary feeding, Infant Feeding practices

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**INTRODUCTION:**

Ideal food for the young infant is human milk which has the specific characteristics that matches the growing infants' nutritional requirement. It is the nature's first food for babies. It provides all the energy and nutrients that the infant needs in early months [1]. Despite the demonstrated benefits of breast feeding, the prevalence and duration in many countries are still lower than the international recommendation of exclusive breast feeding for the first six months of life [2]. Beneficial effects of

breastfeeding depend on the time of breast feeding initiation, its duration and the age at which breastfed child is weaned [3]. Breastfeeding has declined worldwide in recent years, as a result of urbanization, marketing of infant milk formula and maternal employment outside the home. Studies in India have also shown a decline in breastfeeding trends, especially in urban areas [4]. The United Nations Children's Fund (UNICEF) has estimated that exclusive breastfeeding in the first six months of life can reduce under five mortality rates in developing countries by 13% [5].

It has been observed that infants aged 0-5 months who are not breast fed have seven fold and fivefold increased risk of death from diarrhea and pneumonia. Breast feeding practices vary among the different regions and communities in India. Frequent monitoring of changing trends in these practices is therefore necessary in societies in highly dynamic states of development. Hence the objectives of present study were to assess the breast feeding practices and its socio-demographic deterrents in babies of urban educated mothers.

### **MATERIAL AND METHODS:**

The present descriptive type of observational study was conducted in 100 consecutive healthy mothers and their healthy newborns between ages of 15-30 days who attended well baby clinic during study period from September 2015 to July 2015 at Mahila Chikitsalya, Jaipur (Rajasthan) after discharge from postnatal wards. A sample size of 100 was determined at 95% confidence level assuming 50% appropriate feeding practices and absolute allowable error of 10%. All consecutive mothers were enrolled. No sampling technique was required as sampling frame was notional. Babies of HIV seropositive mothers, congenital malformation, any medical or surgical condition in mothers and history of admission in NICU were excluded from study. A verbal and written consent was taken from the respondents before collecting the information. All the mothers were interviewed as per standardized proforma regarding the feeding practices of their newborns. Though proforma was made in English but questions were asked in their best understanding local language. General information regarding education, occupation, income of family and type of family were taken. Socioeconomic status was given to family according to Kuppuswamy's socioeconomic scale [6]. Mothers were divided into four groups: 1.Exclusive breast feeding, 2. Breastfeeding +Homemade remedies/multivitamin/Calcium, 3.Breastfeeding + Top feeding, 4.Only Top feeding.

**Statistical analysis:** All data were entered in Microsoft excel and subjected for statistical analysis. Continuous variables were summarized as mean and standard deviation whereas nominal/categorical

variables as proportions / percentages. Pearson Chi Square test was used for analysis of nominal/categorical variables. P value < 0.05 was taken as significant. SPSS 20.0 version software was used for all statistical calculations.

### **RESULTS :**

Of the total 38% were female and 62% were male child. 93% of babies were full-term and 7% babies were preterm. 72% were delivered normally and 28% by cesarean. Maximum number of newborns had birth weight < 2.5 kg. (75%). In the present study it was found that 68% mothers initiated breastfeeding within one hour. Study showed breastfeeding within one hour was initiated only in 38% of the newborns where as 41% received between 1-4 hrs and delayed by more than 4 hours in case of 21% newborns. In our study, 88% of mothers were aware of the usefulness of colostrum. Study revealed that 33% babies received top feed (only formula milk) in the hospital. Most of the babies who received top feed were cesarean deliveries (25%). Others were due to other obstetric complications. Top feed was more common in the hospital in upper class (60%). (Table-)

Study revealed that 35% mothers were giving feed to their baby by fixed schedule and 65% babies received on demand. On demand feed was more common in working mothers, upper middle class and postgraduate mothers (84%). This association was statistically significant (P <0.05). Out of Total 15 mothers using top feed, 10 (67%) were using formula milk, 5(33%) were using animal milk. Top feeding was more in cesarean delivery. Out of 15, 60% mothers fed by wati spoon and 40% fed by bottle feeding.(Table-2). Unfortunately in our study 60% mothers initiated Top feed by medical advice and 40% initiated self. Working mothers were more in favour of bottle feeding but statistical association was not significant (P>0.05). Study showed that 71% mothers were aware of latching on.

Study showed that exclusive breast feeding was practiced at the time of interview by 19% mothers and 66% were supplementing with calcium and multivitamin. 15% mothers were giving top feed and breast feeding. Exclusive breast feeding was more in

upper middle class (32%). 40% of mothers of upper class were giving top feed and breast feed. This association was significant between socioeconomic status and feeding status ( $P < 0.05$ ). (Table-2).

**Table 1: Feeding Practices among Study Subjects (N= 100)**

FEEDING PRACTICES	NUMBER	PERCENTAGE
Present Feeding Status		
Breastfeeding Remedies/Multivitamin/Calcium	66	66.00%
Breastfeeding +Top Feeding	15	15.00%
Exclusive Breastfeeding	19	19.00%
1st Feed Offered		
<1 hr.	68	68.00%
>= 1 hr.	32	32.00%
Awareness of Colostrum		
Yes	81	81.00%
No	19	19.00%
Feeding Schedule		
Demand	65	65.00%
Fixed	35	35.00%
Top Feed Type		
Animal	5	5.00%
Formula	10	10.00%
No top feed	85	85.00%
Top Feed Method		
Bottle	6	40.00%
Wati-spoon	9	60.00%

And 84% mothers fed their babies around 9-12 times, 9% fed < 8 times and 7% fed more than 12 times. 86% of mothers were aware of burping. Higher educated mothers were more aware of burping. As the education increased, awareness of burping increased. This association was statistically significant ( $P < 0.05$ ). Only 59% mothers knew that breast feeding should be continued for 2 yrs and above. 65% mothers had the knowledge that initiation of complementary feeding should be at 6 months of age. In our study no mother discontinued breastfeeding in between 15 to 30 days. Only 35% babies received exclusive breast feed by 6 months of

age. In our study exclusive breast feeding rate was more in nuclear family. This was statistically significant association ( $P < 0.05$ ).

**Table 2: Association of Various Demographic Factor with Present Feeding Status (N=100)**

Demographic Factor		Present Feeding Status			Total
		B/F+Remedies/MV/Ca	B/F+Top Feed	Exclusive B/F	
		No.(%)	No.(%)	No.(%)	
Socio Economic Status	Lower Middle	48 (73.9)	6 (9.2)	11 (16.9)	65 (100)
	Upper Middle	12 (48.0)	5 (20.0)	8 (32.0)	25 (100)
	Upper	6 (60.0)	4 (40.0)	0 (0.0)	10 (100)
Education Status	1 to 5 <sup>th</sup> std	5 (71.4)	1 (14.3)	1 (14.3)	7 (100)
	6 to 10 <sup>th</sup> std	18 (60.0)	6 (20.0)	6 (20.0)	30 (100)
	Graduate	40 (71.4)	6 (10.7)	10 (17.9)	56 (100)
	Post Graduate	3 (42.8)	2 (28.6)	2 (28.6)	7 (100)
Type of Family	Joint	49 (65.3)	15 (20.0)	11 (14.7)	75 (100)
	Nuclear	17 (68.0)	0 (0.0)	8 (32.0)	25 (100)

B/F – Breast feeding, MV – Multivitamin, Ca – Calcium, std - Standard

## **DISCUSSION:**

The socioeconomic status of the 100 mothers according to Kuppuswamy's socioeconomic scale showed that 10% mothers belonged to class-1 (upper), 25% belonged to class-2 (upper middle) and rest of 65% mothers belonged to class-3 (lower middle). No mother was found in class – 4 (upper lower) and class – 5 (lower) category. Maximum number of mothers was house makers (72%) as compared to employed (28%). 75% of mothers were living in a joint family and 25% in a nuclear family. Study showed that exclusive breast feeding was practiced at the time of interview by 19% and 66% of mothers were supplementing with calcium and multivitamin. 15% mothers were giving top feed and breast feeding. Exclusive breast feeding was more in upper middle class (32%). 40% of mothers of upper class were giving top feed and breast feed. This association was significant between socioeconomic

status and feeding status ( $P < 0.05$ ). Most of general characteristics of the study subjects and newborns were comparable to study done by Sanjay V Wagh et al [7].

In the present study it was found that 68% the mothers initiated breastfeeding within one hour. This figure was comparable with the study done in Uttarakhand conducted in department of women empowerment and child development by Breastfeeding Promotion Network of India (BPNI) which showed breastfeeding within one hour was initiated only in 38% of the newborns where as 41% received between 1-4 hrs., and delayed by more than 4 hours in case of 21% newborns [8]. Study done by Mridula Bandyopadhyay showed that only 16.5% initiated breastfeeding within one hour of giving birth. About half did not start breastfeeding until at least 24 hrs. After birth [9].

Existing status according the National Family health Survey-3 (NFHS) document revealed that percentage of babies breastfeeding within one hour of birth was 15.8% [10]. Similar results were reported by Vyas Shaili et al [8], Kar et al [11] and Takalkar et al [12]. The high figure in our study was due to cumulative efforts of nursing staff, neonatologists and concerning obstetrician. Remaining 28% were late due to LSCS delivery and other obstetric complications. In contrast to our findings breast feeding within one hour and 24 hour was lower in study by Kumar D et al [13] and Chatterjee et al [14] where breast feeding within one hour was only 6.3% and 14.54% and 32.6% within 24 hours. These differences may be due to the timings when study was conducted, regional differences and sampling techniques.

Higher rate of initiation of breast feeding within one hour was presented by K. Madhu et al (92%) [15] and Sanjay V Wagh et al (80.48%) [7]. this difference may be due to local culture beliefs and practices that existed in particular regions. In our study, 88% of mothers were aware of the usefulness of colostrum. Study done in P.G.I. Chandigarh by Kishore MSS et al revealed that 39% of mothers had satisfactory breast feeding knowledge [16]. Study done by Bandyopadhyay in West Bengal showed that major reason of delayed breast feeding (49%) was due to belief that colostrum was harmful to the baby [17]. The high percentage in our study may be

due to educated mothers and regular antenatal checkups.

Our study revealed that 35% mothers were giving feed to their babies by fixed schedule and 65% babies received on demand. On demand feed was more common in working mothers, upper middle class and postgraduate mothers (84%). This association was statistically significant ( $P < 0.05$ ). Retrospective study done in West Bengal by Mridula Bandyopadhyay showed that (84.1%) babies received breast feed on demand [9]. A descriptive cross sectional study done by K. Madhu showed that total of 84% mothers followed on demand feeding practices [15].

Out of total 15 mothers using top feed, 10 (67%) were using formula milk, 5(33%) were using animal milk. Top feeding was more in cesarean delivery and often delayed early initiation of breast feeding, infant mother bonding and development of prolactin reflex. Out of 15, 60% mothers fed by wati spoon and 40% fed by bottle. Unfortunately in our study 60% mothers initiated top feed by medical advice and 40% initiated self. Working mothers were more in favour of bottle feeding but statistically association was not significant ( $P > 0.05$ ). Existing bottle feeding rate by NFHS – 1, 2 and 3 were 14%, 15.8% and 14.8%. Our study showed that 71% mothers were aware of latching on. Study done by KishoreMSS et al showed that good attachment was 42% [16]. The high figure in our study may be due to knowledge given by pediatrician and nursing staff. Appropriate latching on will lead to appropriate frequency of breast feeding. 86% of mothers were aware of burping. Higher educated mothers were more aware of burping. As the education increased, awareness of burping was increased. This association was statistically significant ( $P < 0.05$ ).

Only 59% mothers knew that breast feeding should be continued for 2 yrs and above. NFHS 1, 2 and 3 data showed existing breast feeding continuation rate for 2 yrs were 73.1% in 1992, 75.3% in 1998 and 73.1% in 2005. This low figure in comparison to NFHS survey may be due to urban area, high education status and working mothers. Study in Uttarakhand by BPNI showed 67% of mothers responded it to be 18-24 months, 19% by 2 yrs. and 14% mothers said it was less than 18 months. In our

study breast feeding continuation rate was more in joint family (65.3%) in comparison to nuclear family (60%) but difference was not statistically significant ( $P > 0.05$ ). 65% mothers had the knowledge that initiation of complementary feeding should be at 6 months of age. Existing status according to NFHS were only 35% in 1998 and 56.7% in 2005. Study done by Mridula Bandyopadhyay showed that majority of babies received supplementary food within 6 months of age [9]. In our study working and higher educated mothers were more aware of initiation of complementary feeding at 6 months.

In our study no mother discontinued breastfeeding in between 15 to 30 days. Only 35% babies received exclusive breast feed by 6 months of age. Study done by Kumar D et al in PGI Chandigarh showed that 30% and 10% exclusive breast feed rate was there for 4 and 6 months of age [13]. In our study exclusive breast feed rate was more in nuclear family. This was statistically significant association ( $P < 0.05$ ). A prospective study done by Dr. Rajesh Chudasama, breast feeding prevalence and its determinants in first 6 months of life reported the exclusive breast feeding at 3 months was 97% which declined to 62% by 6 months of age. There was no significant association between socioeconomic, demographic, maternal and infant characteristics [18].

**CONCLUSION:** In our study it was found that exclusive breast feeding was more in nuclear, upper middle class and higher educated working mothers. Awareness of continuation of breast feeding was more in joint family. Awareness of feeding on demand was more in working educated mothers. Overall knowledge of breast feeding was good but for 100% achievement of initiation of breastfeeding practices the study recommends that promotion of mothers knowledge about breast feeding is needed.

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**Conflict of Interest:** None

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