

## Breast feeding practices in infants of rural Western Uttar Pradesh region of India

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### ABSTRACT

**Background:** Breastfeeding is one of the most effective ways to ensure child health and survival. But globally only less than 40% of infants under six months of age are exclusively breastfed. Adequate breastfeeding counselling and psychological support are essential for mothers and families to initiate and maintain optimal breastfeeding practices

**Objective:** The study was done to know the prevalence of exclusively breast feeding, early initiation of breast feeding and practices of pre-lacteal feed in rural Uttar Pradesh and their relation with maternal age.

**Material and Methods:** This observational analytic cross sectional study was conducted on 355 mothers of infants aged one and half to 12 months who came in OPD or Indoor of Department of Pediatrics UPRIMS and R, Saifai for immunization or some problem. A semi-structured, pre-tested Performa was used to interview the mothers.

**Results:** Only 48.5 % of subjects were practising Exclusive breast feeding , inadequate milk secretion was major cause of non exclusive breast feeding Early initiation of breast feeding was done in 41.5% of mothers. Pre-lacteal feed was given in 46.8 % of responders. Relation of early initiation of feeding and use of pre-lacteal feed with age of mother was found significant.

**Conclusions:** Despite of so many efforts by Government and NGOs, most of the mothers in Rural Uttar Pradesh are still unaware regarding healthy feeding practices. We need to improve our counselling and motivation regarding exclusive breast feeding.

**Key Words:** Exclusive breast feeding, pre-lacteal feed, immunization, feeding practices, counselling

### Introduction

"The nature has designed to provision that infants be fed upon their mother's milk. They find their food and mother at the same time. It is complete nourishment for them both for their body and soul."<sup>[1]</sup> These lines are extremely true. Like mothers love there is no substitute of mother milk. Breast milk is a complete food it provides all the nutrients a baby need during first 6 month of life. Breastfeeding is one of the most

effective ways to ensure child health and survival. If every child was breastfed within an hour of birth, given only breast milk for their first six months of life, and continued breastfeeding up to the age of two years, about 800 000 child lives would be saved every year. Globally, less than 40% of infants under six months of age are exclusively breastfed. Adequate breastfeeding counselling and psychological support are essential for mothers and

families to initiate and maintain optimal breastfeeding practices.<sup>[2]</sup>

In India Exclusive Breast feeding which was 41.2 % according to NFHS 2 (1998-99) increased to 46.3 % in NFHS 3 (2005-2006) and also DLHS 3 shows stagnation and exclusive breast feeding was only 46.4%. Initiation of breast feeding in 1 hour of birth which was 15.8 % in NFHS 2 (1998-99) becomes 40.2 % in DLHS 3 (2007-2008).<sup>[3]</sup> Despite lot of awareness programs for exclusive breast feeding by government and various NGO Ritual impacts has still deep rooted in society, hindering optimal feeding. Pre-lacteal feeds, animal milk feeding, unacceptance of colostrum are still major problems.

So we need this study to know the breast feeding pattern in this region of country and its relation with age of mother as this will reflect impact of government intervention for the promotion of breast feeding practices and by the outcome we can fill the pitfalls and strengthen the awareness programs for exclusive breast feeding.

### **Material and methods**

This cross sectional study was conducted in OPD and ward of Department of Paediatrics UPRIMS and R, Saifai, Etawah UP, from December 2013 to July 2014 till the targeted sample size of 320 subjects was achieved. All Mothers aged 15 to 45 years with infants aged one and half months to 1 year coming in paediatric OPD for immunization or for any complain were included in the study. Subjects were explained orally about the study and Verbal and written consent was taken. Those who were not willing to participate were excluded from study. Data collection and educational counselling was done by single observer. Pretested questionnaire was

used. All consecutive mother of infant of specified age group coming in OPD were interviewed until the sample size of 355 was reached. Sample size was calculated by using formula:  $4pq/E^2$  Where p is positive character (we have taken p = prevalence of exclusive breast feeding in India that is 46.4% according to DLHS 3), q= 1-p and E = allowable error, 10 or 20 %.<sup>[4]</sup> We have kept allowable error 12 %. At the end of interview mother was given an educational handout about breast feeding.

Pretested questionnaire includes various factors that have potential effect on breast feeding practices. Questionnaire includes various demographic and socioeconomic factors like age, religion, regarding initiation and duration of breast feeding, exclusive breastfeeding, pre-lacteal feeding etc. To validate the questionnaire a pre test run or pilot study was done on 50 mothers to know the various factors influencing the feeding practices.

Further all collected information coded and analyzed using SPSS software (21 version) The output was expressed in percentage. The Pearson's chi-squared test ( $\chi^2$ ) was used for evaluating association between age of mother and Time of initiation of breast feeding, exclusive breast feeding practices and introduction of pre-lacteal feed. P' value < 0.05 was considered statistically significant.

### **Results**

#### **Study Population**

Total 355 mothers were interviewed in the study. Their aged ranged 19 to 45 years. All the subjects were married. Most of the women were younger age group (15 -25 years) 218 (61.4%) followed by 135 (38%) women of age group (26- 35 years). (Table 1) Mostly subjects were Hindu 314 (88.5%) followed by Muslim 41(11.5%) and rest 3.38

% subjects belonged to other religion.

**Table 1: Distribution of subjects in various age groups**

Age Group	Frequency	% age
15- 25 years	218	61.4
26-35 Years	135	38
36- 45 years	2	0.6
<b>Total</b>	<b>355</b>	<b>100</b>

**Table 2: Causes of non exclusive breast feeding**

Causes	Frequency	% age
Any breast problem	13	7.10
Mother illness	14	6.01
Baby illness	18	8.74
Inadequate milk secretion	130	68.85
Any other reason	08	9.84
<b>Total</b>	<b>183</b>	<b>100</b>

In our study we found exclusive breast feeding in 172 (48.5%) subjects out of 355 patients. 183 (51.5%) subjects were practicing non exclusive breast feeding.

Among the causes of non exclusive breastfeeding inadequate milk secretion was most common inadequate milk secretion that was 130 (68.85%) followed by baby illness 18 (8.74%) and mother illness 14(6.01%). (Table2) We did not found any significant correlation between type of feeding and age of mother. Out of 218 women in age group 15 -25 year, only 107 (49.1%) exclusively breast fed their babies while 111 (50.9%) were not. In age group 26- 35 years only 64(46.7%) out of 135 exclusive breast fed their babies while 71 (53.3%) practiced non exclusive breast feeding. ( $\chi^2= 0.096$  df=2, p =0.953)

In our study 146 responder (41.1%) out of

355 initiated early breast feeding that is within one hour of birth. 90(25.4%) mother fed their baby first time between 1 to 6 hours of birth and total 75.2 % women had initiated breast feeding within one day of birth. (Table 3) There was significant relationship found between age of mother and initiation of breast feeding. Pearson chi-square  $\chi^2$  test was found to be significant. (P<0.05) In age group 15 to 25 years total number of mother was 218 out of that 90 patient (41.3%) initiated breast feeding in first hour of birth which was identical to the group of 26 to 35 years in which out 135 only 56 (41.5%) initiated breast feeding in first hour of birth but as the time increases the number of mother who initiated breast feeding decreases in both group but fall was more in age group 26-35 years. ( $\chi^2=15.17$ , df=6, p=0.019) (Table 4)

**Pre- lacteal feed**

Out of 355, Pre-lacteal feed was given in 166 babies (46.8%) while 189 (53.2%) were not fed pre-lacteal feed. Most common food used as pre-lacteal feed in this region were Jaggery 51 babies (30.72%), honey 40 babies(24.10%) and animal milk. (Table 5) There was significant relation found between age of mother and practices of pre-lacteal feeding. In age group 15-25 years, 112 (51.4%) out of 218 gave pre-lacteal feed while in age group 26- 35 years 54(40%) out of 135 had practiced pre-lacteal feed. This data is statistically significant ( $\chi^2=6.101$ , df=2, p=0.047) (Table 6)

**Table 3: Initiation of Breast Feeding**

Initiation of breastfeeding	frequency	%age
< 1 hrs	146	41.1
< 6hrs	90	25.4
<24 hrs	31	8.7
> 24 hrs	88	42.8
Total	355	100

**Table 4: Relation between age of mother with initiation of breast feeding**

Age of Mother		TIME OF INITIATION OF BREAST FEEDING				Total
		<1 hour	<6	<24	>24	
15-25 years	Count	90	44	23	61	218
	% within	41.3%	20.2%	10.6%	28.0%	100.0%
	% of Total	25.4%	12.4%	6.5%	17.2%	61.4%
26-35 Years	Count	56	44	8	27	135
	% within	41.5%	32.6%	5.9%	20.0%	100.0%
	% of Total	15.8%	12.4%	2.3%	7.6%	38.0%
36-45 years	Count	0	2	0	0	2
	% within	0.0%	100.0%	0.0%	0.0%	100.0%
	% of Total	0.0%	0.6%	0.0%	0.0%	0.6%
Total	Count	146	90	31	88	355
	% within	41.1%	25.4%	8.7%	24.8%	100.0%
	% of Total	41.1%	25.4%	8.7%	24.8%	100.0%

( $\chi^2=15.17$ ,  $df=6$ ,  $p=0.019$ )

**Table 5: Food items used in pre-lacteal feed**

TYPE OF PRE- LACTEAL FEED	NUMBER	PERCENTAGES
Jaggery	51	30.72
Honey	40	24.10
Cow milk	35	21.08
Sugar Water	10	6.02
Goat milk	15	9.04
Ghutti	07	4.22
Others	08	4.82
Total	166	100

**Table 6: Relation of age of mother with prelacteal feed practices**

			PRELACTEAL.FEED		Total
			Not given	Given	
AGE.OF.MOTHE R	15-25 years	Count	106	112	218
		% within AGE.OF.MOTHER	48.6%	51.4%	100.0%
		% of Total	29.9%	31.5%	61.4%
	26-35 Years	Count	81	54	135
		% within AGE.OF.MOTHER	60.0%	40.0%	100.0%
		% of Total	22.8%	15.2%	38.0%
	36-45 years	Count	2	0	2
		% within AGE.OF.MOTHER	100.0%	0.0%	100.0%
		% of Total	0.6%	0.0%	0.6%
Total		Count	189	166	355
		% within AGE.OF.MOTHER	53.2%	46.8%	100.0%
		% of Total	53.2%	46.8%	100.0%

( $\chi^2=6.101$ ,  $df=2$ ,  $p=0.047$ )

**Discussion**

**Exclusive breast feeding** - According to WHO exclusive breastfeeding is that infant only receive breast milk without addition of food or drinks not even water till 6 month of age. [5] In India exclusive breast feeding under 6 month of age is 46.4 %, [6] in our study we found exclusive breast feeding under 6 month of age was 48.5 % which is identical to national data. We did not found statistically significant correlation between age of mother and type of feeding. Borad A and Hanumante N [7] noted exclusive breast feeding in 48.6 % in Pune in 150 mothers which is similar to our data. K. Madhu et al [8] in their study found exclusive breast feeding in 40% of cases which is lesser than the data in our study reason may be that study was done 8 years back since then various interventions have been done for

promotion of breast feeding. They had interviewed 100 mothers of infant. Mahmood SE et al [9] found the percentage of mothers who had exclusively breastfed for six months was 77.2%, which was much higher than the 46% at national level. In their study no relation was found between exclusive breast feeding and age of mother by logistic regression analysis. In our study we also did not find significant relation between exclusive breast feeding and maternal age. Most common reason of non exclusive breast feeding was inadequacy of milk in 71.4% cases which was compatible to our study where inadequate milk secretion was cause in 68.85% of non exclusive breast feeding. He had interviewed 123 mothers in Bhojipura block of Bareilly district of Uttar Pradesh. Chudasama R et al [10] found that exclusive

breast feeding rate was 85 % in 480 infants in civil hospital of Surat during July 2008 to sep 2008 Which was much higher than national data and our study reason may be that study group was belong to urban areas also there is significant differences between demographic and social factors in both states. But like our study they also not found any significant relation between maternal age and exclusive breast feeding. A large study in USA by Jhones J R et al <sup>[11]</sup> over 25197 children of 6 months to 5 years of age found that Exclusive breastfeeding was significantly associated with maternal age in the adjusted analysis. Children born to mothers 20 years of age or younger were approximately one-half as likely to have been exclusively breastfed, compared with children born to mothers 30 years of age or older (adjusted OR: 0.53 [95% CI: 0.36–0.76])

**Initiation of Breast Feeding** – Early initiation of breast feeding is initiation of breast feeding in first hour of birth. <sup>[12]</sup> UNICEF statistic shows Indian early initiation of breast feeding was done in only 40.5%.<sup>[6]</sup> in our study early initiation of breast feeding was done in 146 (41.1%) participant out of 355 involved in study which is very near to UNICEF data . If we compare initiation of breast feeding with age of mother we found in age group 15 -25 years more mother initiated feeding within 24 hours in compare to age group 26 to 35 years possible reason may be better education level in younger group. In a study in Tanzania by Victor R et al <sup>[13]</sup> over 3112 children over 0 to 23 months, Multivariate analysis revealed that the risk of delayed initiation of breastfeeding within 1 h after birth was significantly higher among young mothers aged <24 years along with other factors. In our study both age group had

identical number of subject who had initiated breast feeding in one hour of birth. Chudasama et al <sup>[10]</sup> shows in their study that 46.4% initiated breast feeding in first hour of birth which is close to our results. Srivastva A K et al <sup>[14]</sup> in a study in Barabanki found that 41.3 % of mother gave their first milk in first hour of birth which is very similar to our study. Jhones J R et al <sup>[11]</sup> also noted in their study that maternal age was significantly associated with exclusive breastfeeding; however, maternal age was not associated with breastfeeding initiation. In our study also no significant difference between two different age groups was found in early initiation of feeding that is within first hour of birth.

#### **PRELACTEAL FEED PRACTICES-**

Prelacteal feeds are those foods given to newborns before breastfeeding is established or before breast milk "comes in," usually on the first day of life. Pre-lacteals include honey, jaggery (brown sugar from sugar cane) ghee (clarified butter), and ghutti (herbal paste). The choice of pre-lacteals may be specific to a caste or family. In our study we found pre-lacteal feed was given in 166 babies (46.8%) out of 355 babies and Jaggery was most item used in this region of country followed by honey. In our study 51.4 % of women in younger age group given pre-lacteal feed in comparison to 40% in elder age group it may be due to more influences of older family members on younger age group. Our study was compatible with the study done by Roy M P et al <sup>[15]</sup> in which they found Out of 352 recently delivered women 40.1% of mothers gave prelacteal feeding to their newborn. like our study Young aged mother, those belonging to higher castes or SES and who had home deliveries were

found to be more likely to adopt the practice of prelacteal feeding for their children Jagzape T et al<sup>[16]</sup> in Wardha interviewed 214 mothers. Pre-lacteal feed was not given in 56.8% babies. The most common prelacteal feed was honey followed by boiled water, glucose water and sugar water. So the percentage of mother who practised pre-lacteal feed was close to our study. Dawal S et al<sup>[17]</sup> on study of 150 mother of 0 to 1 year of age found age group with highest number of respondent that practiced prelacteal feeding was 21-25 years 59.4%, while the age bracket of respondents with least practice of the prelacteal feed was 35-40 years. However there was no statistically significant association between the age of the mother and the prelacteal feeding practices, in our study also more prelacteal feed was practised in younger age group but our study was statistically significant.

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