

Research Article

Feeding practices in infants: ritual factors dominating mother's education - a cross sectional study

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ABSTRACT

Background: The objective was to know the impact of mother education on feeding practices of infants.

Methods: Observational analytic cross sectional study. We used Semi-structured, pre-tested questionnaire to interview 355 mothers of infants, aged one and half to 12 months, who came in OPD of Department of Paediatrics UPRIMS and R, Saifai for immunization or some problem.

Results: Total 267 (75.2 %) out of 355 women had initiated breast feeding within 24 hours of birth. 172 (48.5%) mothers exclusively breast fed their infants. Total 166 (46.8%) practiced Prolactal feed. Out of 166 subjects, 121 (34.1%) practiced for 7 days and 41 (12.7%) beyond the 7 days. There were highly significant relationship found between education level of mothers with type of breast feeding, in the form of exclusive or non-exclusive breast feeding and Prolactal feeding practices ($p < .05$). Relation between education level of mother with time of initiation of breast feeding since birth was not found statistically significant ($p > 0.05$), but an important pattern of initiation of breast feeding was seen at the different level of mothers education.

Conclusion: Ritual and customary factors have much impact than mother's education on breast feeding practices of infants. Apart from education, breast feeding awareness programme should be increased including both literate and illiterate mothers.

Keywords: Exclusive breast feeding, Mother's education, Prolactal feeding, Ritual

INTRODUCTION

Breast feeding: A winning goal - For life! This slogan of World breast feeding week 2014 itself says the importance of breast feeding in life. Exclusive breastfeeding (EBF) and adequate complementary feeding are key interventions for improving child survival, potentially saving about 20% of children under five.¹ Breastfeeding is so much more than food alone. Breastfed infants are much less likely to suffer from caries teeth, diabetes mellitus, obesity, high blood pressure, heart attack and certain cancer during adult life. Breast feeding has been shown to reduce the risk of death due to diarrhoea by 14 times, acute respiratory

infection by 4 times and other infection by 3 times. There is reduced risk of acute otitis media and necrotizing enterocolitis in breast fed babies,² but unfortunately despite of all these proven boons, Indian report card is not very good regarding EBF and initiation of breast feeding. Prevalence of early initiation of breast feeding is only 40.5% while exclusive breast feeding for 6 months is 46.8%.³

There are so many factors like mother's illiteracy, low socioeconomic status, ritual impact etc which are the main hindrance in adoption of healthy breast feeding practices. Being one of the fastest developing country we

are improving in every indicators like female literacy, per capital income etc but breast feeding practices are not so much improving. Female literacy which was 53.7% in 2001 census⁴ reached up to 65.46 %⁵ while EBF for 6 months was 46.3% in NFHS 3 (2005-2006)⁶ remain stagnant and only reached 46.4% in 2008-12.⁷ So here we are trying to asses a relation of mothers education with EBF for 6 months, Early initiation of breast feeding and Pre lacteal feed.

METHODS

This cross sectional study was conducted in OPD of Department of Paediatrics UPRIMS and R, Saifai, Etawah UP, from December 2013 to July 2014 till the targeted sample size 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 (actual calculated sample size was 320) reached. Sample size was calculated for qualitative variables, by using formula, $\{n = 4pq/E^2\}$,⁸ where n is sampel size, p is positive character (we have taken p = prevalence of exclusive breast feeding in India that is 46.4% according to DLHS 3),⁶ q= 1-p and E = allowable error, 10 or 20 %. 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 mothers education, regarding initiation and duration of breast feeding, EBF, 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 (χ^2) was used for evaluating association between Education of mother with 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

We interviewed 355 mothers of aged ranged 19 to 45 years. All of them were married.

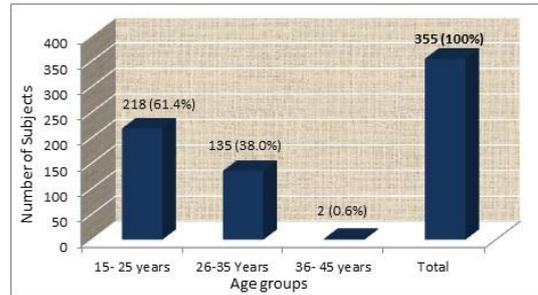


Figure 1: Distribution of subjects in various age groups.

Figure 1 depicts Out of total 355 subjects, there are 218 (61.4%) women of younger age group (15 -25 years) followed by 135 (38%) women of age group (26- 35 years) and only 2 women are in age group (36 -45 years).

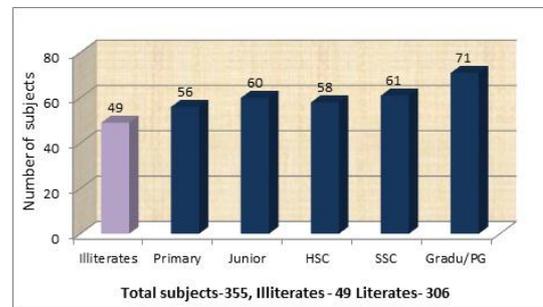


Figure 2: Distribution of subjects by education level.

Figure 2 showing distribution of mothers according to their education status. Out of total 355 subjects, 49 (13.8%) mothers are illiterates and rest 306 (86.2%) are literates, which contains different level of education like primary, junior, HSC, SSC and Graduate and PG. Among the literates, 71 women (20% of total subjects) are graduate or post graduate, 61(17.2%) mothers are 12th standard passed, 58 (16.3%) are high school, 60 (16.9%) are studied till 8th standard and least are of primary level 56 (15.8%).

Breast feeding and education

Exclusive breast feeding (EBF) have been practiced in 172 (48.5%) subjects out of 355 subjects, 183 (51.5%) subjects are practicing non exclusive breast feeding as shown in figure 3.

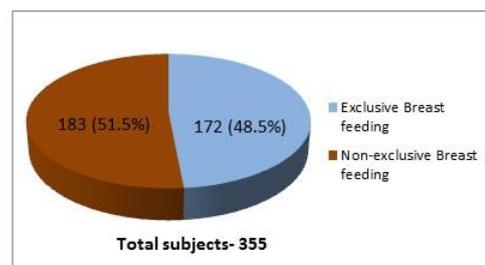


Figure 3: Distribution of subjects according to their feeding pattern.

On application of Pearsons chi square test, highly significant relationship have been found between education level of mother and type of breast feeding, in form of exclusive or non exclusive breast feeding ($\chi^2=27.501$, $df=5$, $p=.000$, that is $<.05$). In illiterate mothers, out of 49 mothers, 26 (53.1%) are exclusively breast feeding their babies while 23 (46.9%) practising non exclusive breast feeding. Out of 306 literate mother only 146 (47.7%) mothers are exclusively breast feeding their babies. As shown in table 1, among the literate mothers, from primary to SSC level as the education level of mother is increasing, percentage of mother who exclusively breast fed their babies has been raised. Better situation of EBF has been seen in mothers who got education between Junior level to SSC Level. In literate group higher and lower level of education (Graduate /PG and primary) showing little bit poor breast feeding practices.

Table 1: Relation between education of mother and type of breast feeding.

Education level	Exclusive breast feeding	Non-Exclusive breast feeding	Total [% of total]
	Count (% within education level of mother) [% of total]		
Illiterate	26 (53.1%) [7.3%]	23 (46.9%) [6.5%]	49 [13.8%]
Primary level	12(21.4%) [3.4%]	44(78.6%) [12.4%]	56 [15.8%]
Junior level	30 (50%) [8.5%]	30(50%) [8.5%]	60 [16.9%]

HSC	34(58.6%) [9.6%]	24(41.4%) [6.8%]	58 [16.3%]
SSC	40(65.6%) [11.3%]	21(36.4%) [5.9%]	61 [17.2%]
Graduate/post graduate	30(42.3%) [8.5%]	41(57.7%) [11.5%]	71 [20%]
Total	172 (48.5%) [48.5%]	183(51.5%) [51.5%]	355 [100%]

$(\chi^2=27.501, df = 5, p=0.000)$

Time of initiation of breast feed

Table 2 depicts that 146 (41.1%) responder out of 355 initiating early breast feeding that is within one hour of birth. 90 (25.4%) mother are feeding their baby first time between 1to 6 hours of birth and total 267 (75.2 %) women have initiated breast feeding within 24 hours of birth.

Table 2: Time for initiation of breast feeding since birth.

Initiation of breastfeeding	No. of Subjects	Percentage (%)
< 1 hrs	146	41.1
< 6hrs	90	25.4
<24 hrs	31	8.7
> 24 hrs	88	24.8
Total	355	100

Table 3: Relation between education level of mother and time of initiation of breast feeding.

Education level	Time of initiation of breast feeding since birth				Total [% of total]
	Count (% within education level of mother) [% of total]				
	< 1hrs	< 6hrs	< 24 hrs	> 24 hrs	
Illiterate	17 (34.7%) [4.8%]	14 (28.6%) [3.9%]	08 (16.3%) [2.3%]	10 (20.4%) [2.8%]	49 [13.8%]
Primary level	23(41.1%) [6.5%]	22(39.3%) [6.2%]	3(5.4%) [0.8%]	8(14.3%) [2.3%]	56 [15.8]
Junior level	27 (45.0%) [7.6%]	10 (16.7%) [2.8%]	06 (10%) [1.7%]	17(28.3%) [4.8%]	60 [16.9%]
HSC	26(44.8%) [7.3%]	12 (20.7%) [3.4%]	01 (1.7%) [0.3%]	19(32.8%) [5.4%]	58 [16.3%]
SSC	28(45.9%) [7.9%]	11(18%) [3.1%]	06(9.8%) [1.7%]	16(26.2%) [4.5%]	61 [17.2%]
Graduate/ pg	25 (35.2%) [7.0%]	21(29.6%) [5.9%]	07(9.9%) [2.0%]	18(25.4%) [5.1%]	71 [20%]
Total	146 (41.1%) [41.1%]	90(25.4%) [25.4%]	31(8.7%) [8.7%]	88 (24.8%) [24.8%]	355 [100%]

$\chi^2 = 22.657, df = 5, p = .092$

As table 3 is showing, 17 (34.7%) out of 49 illiterate mother have started feeding within one hour of birth and if we talk about literate group out of 306 educated mother 129 (42.15%) have practised breast feeding within one hour. Most of the mothers who have initiated early breast feeding are from SSC passed 28(45.9%) group, followed by HSC (44.8%), Junior (45.0%), primary level (41.1%) and Graduate or PG level (35.3%). Although the difference is not statistically significant ($\chi^2 = 22.657$, $df = 5$, $p = 0.092$ that is >0.05) but important thing is that two extreme level (illiterate and graduate and post graduate) showing poor early initiation of breast feeding.

Pre-lacteal feed

Table 4 is showing out of 355 subjects, 166 subjects (46.8%) are practising pre-lacteal feed. We divided them in two groups, pre-lacteal feeds given till 7 days of birth, these women are 121 (34.1%) and pre-lacteal feeds given for more than 7 days after birth, these are only 45 (12.7%).

Table 4: Distribution of pre-lacteal feed.

Pre-lacteal feed	No. of Subjects	Percentage
Not given	189	53.2
Given till less than 7 days	121	34.1
Given more than 7 days	45	12.7
Total	355	100.0

Table 5: Relation between mother's education and pre-lacteal feed practices.

Mothers education level	Pre-lacteal feed			Total [% of total]
	Count (% within education level of mother) [% of total]	Not given	Given for < 7 days	
Illiterate	28(57.1%) [7.9%]	18(36.7%) [5.1%]	3(6.1%) [0.8%]	49 [13.8%]
Primary level	36(64.3) [10.1%]	18(32.1) [5.6%]	2(3.6%) [0.6%]	56 [15.8%]
Junior level	30(50%) [8.5%]	25(41.7%) [7.0%]	05(8.3%) [1.4%]	60 [16.9%]
HSC	25(43.1%) [7.0%]	22(37.9%) [6.2%]	11(19%) [3.1%]	58 [16.3%]
SSC	37(60.7%) [10.4%]	17(27.9%) [4.8%]	07(11.5%) [2%]	61 [17.2%]
Graduate/PG	33 (46.5%) [9.3%]	21 (29.6%) [5.9%]	17(23.9%) [4.8%]	71 [20%]
Total	189(53.2%) [53.2%]	125(34.1%) [34.1]	41(12.7%) [12.7%]	355 [100.0%]

$\chi^2=21.648$, $df= 10$, $p < 0.017$

Unexpected but statistically significant results on application of Pearsons chi square test have been found when we tried to find relation between education level of mother and pre-lacteal feed ($\chi^2=21.648$, $df=10$, $P =0.017$ which is <0.05). As showing in table 5, 28 (57.1%) out of 49 illiterate mother have not given pre-lacteal feed in comparison to 161 (52.61%) out of 306 literate mothers. Out of 71 mothers who are graduate or postgraduate, 38 (53.5%) have given pre-lacteal feed to their babies while only 21 (42.8%) non educated out of 49 women are giving pre-lacteal feeding. If we talk about duration of pre-lacteal feed again higher educated group (Graduate or PG) are leading, 17 (23.9%) women out of 71 have given pre-lacteal feeding for more than 7 days. Mothers who are studied till primary level are doing well and 36 (64.3%) out of 56 have not given pre-lacteal feed to their babies followed by mothers who belongs to SSC group in which 37(60.7%) out of 61 also not using pre lacteal feeding.

DISCUSSION

Factors influencing exclusive breast feeding have been studied by various national and international workers. We are focusing mother's education here because this is one of the important factors which is changing their thinking with time. Female literacy which was 53.7% in 2001 census³ reached up to 65.46 % in 2011⁴ but the result found regarding feeding practices in spite of increasing pattern of female literacy are not encouraging.

We found exclusive breast feeding under 6 month of age was 48.5 % which is similar to national data of exclusive breast feeding under 6 month of age that is 46.4 %.² Other important thing which we noted that when we compared exclusive breast feeding rate within illiterate and literate group separately, rate of exclusive breastfeeding was found higher in illiterates group 26 (53.1 %) out of 49. While out of 306 educated mothers only 146 (47.71%) exclusively breast fed their babies. Out of these 306 educated women 71 were graduate or post graduate and out of these 71 mothers, only 30 (42.3%) were exclusively breast feeding their babies. The possible reason behind lesser rate of exclusive breast feeding in higher educated women is, they are more hesitant and uncomfortable to breast fed their baby when they are out of the home or in public places. Another myth is that if baby will habitual for breast feeding only, he will not accept top feed, if it will be needed for some reason. Our study is supported by another study conducted by Rasanias S K et al⁹ in Delhi where they interrogated 354 mothers where exclusive breast feeding was found only in 26.4%. They also noted that Graduate mothers wanted to supplement more compared to other literate ones. Sachdev and Mehrtra¹⁰ also noted that more educated mother is one of the independent predictor of adverse exclusive breastfeeding. Borade A and Hanumante N¹¹ noted exclusive breast feeding in 48.6 % in Pune, which is same to our finding but they noted 68%

of literate women exclusively breast fed their babies in comparison of 45% of uneducated women so they are different to us in term of relation between education level and exclusive breast feeding possible reason may be that our study is carried out in rural area while their study population belonged to urban area.

When we talk about early initiation of breast feeding that is feeding within first hour of birth, we found early initiation of breast feeding in 146 (41.1%) participant which is very identical to national data where this rate is 40.5%.² Early initiation of breast feeding was lower in illiterates mothers, 17(34.7 %) out of 49 mothers and among the 306 literates early initiation of breast feeding is done in 129 (42.15%) participants. As the education level of mother increases rate of early initiation of breast feeding increases and again there is fall at graduate level. Customs and cultural belief that early milk is not good for baby is most probable reason for delayed initiation of breast feeding. Our study is favoured by study of Victor R et al¹² at Tanzania where a multivariate analysis revealed that the risk of delayed initiation of breastfeeding within 1 hour after birth was significantly higher in uneducated mother along with other factors. Our breast feeding rate within an hour of birth are almost identical to study done by Rawal D et al¹³ where they found early initiation of breast feeding in 38.1% participants but in their study 49.1% literate mothers had started breastfeeding within 1 hour as compare to 14.8% illiterate mothers. The gross difference in rate of early initiation of breast feeding among the illiterate mothers in both studies is because of our larger sample size compared to their sample size of 84. Chatterjee S and Saha S¹⁴ noted that out of 55 participant, 34 literate mother 7 (25.9%) initiated breast feeding within one hour after birth while out of 21 illiterate only 1 (4.76%) initiated feeding within one hour so here also like our study illiterate mothers are poor performer.

In prelacteal feeding practices we found different results from other studies. In our study 166 (46.8%) out of 355 used prelacteal feed. Majority of them, 121 participants given prelacteal feed for 7 days and only 45 given beyond one week. Uncommon to other studies, we found little bit higher percentage of illiterate mothers not practiced prelacteal feed {28(57.1%) out of 49 illiterate} then literate mothers {161 (52.61%) out of 306} literate mothers. The relation between literacy and prelacteal feeding practices was found statistically significant. Our study was compatible with the study done by Roy M P et al¹⁵ in which they found Out of 352 recently delivered women 40.1% of mothers gave prelacteal feeding to their newborn. Unlike our study Chatterjee S and Saha S¹⁴ noted that prelacteal feed was given in 30(54.54%) out of 55 participant which was little higher than our study but they noted marked difference between literate and illiterate in practice of pre-lacteal feeding (47.06% and 66.67% respectively). In an another study Rawal D et al¹³ noted that 52 (61.9%) infants out of 84 had received prelacteal feed. Illiterate mothers (85.2%) practiced more

prelacteal feeding than literate mothers (50.9%). The different results in both study from our study may be due to our study was conducted in rural area where ritual and customs are equally prevalent in both educated and uneducated subjects and not much influenced by educational status and also sample size of our study is much larger from both these studies.

CONCLUSION

This Study shows even educated mothers are not oriented to healthy feeding practices in rural Uttar Pradesh. Ritual and customary factors are overlapping the education in term of feeding practices. Apart from education, breast feeding awareness programme should be increased including both literate and illiterate mothers.

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Ethical approval: Not required

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