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Original Research Article

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Does literacy status of mother influence breast feeding practices: experience from a semi urban location in Tamil Nadu, India

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ABSTRACT

Background: In spite of regular promotion of breast feeding practices at both National and International level, the proportion of children who are exclusively breast fed during the first 6 months of life is very less. The present study was planned to find out the prevalence of correct breast feeding practices among mothers of 12-23 old children enrolled in Integrated Child Development Scheme (ICDS) centers and to find out its relationship with mother's literacy status in a semi urban location of Tamil Nadu.

Methods: A cross sectional study was done in the ICDS centers. Participants: 127 mothers of 12-23 month old children enrolled in various ICDS centers in the field practice area of Saveetha Medical College. Methodology: Semi structured interviews. Proportion and chi-square were used for analysis.

Results: Overall, 19% of the mothers gave pre-lacteal feeds to their babies, 6% of mothers denied colostrums, 12% started complementary feeding before 6 months. Overall literacy status of the mother was associated with better breast feeding practices; however literacy had a complex relation with different aspects of breast feeding.

Conclusions: The breast feeding practices were relatively better than reported by other studies in the country. However, still there was a significant gap in correct practices of breast feeding.

Keywords: Pre-lacteal feeds, Colostrum, Exclusive breast feeding, Complementary feeding, Feeding on demand, Mother literacy

INTRODUCTION

Worldwide 10.9 million deaths are reported annually among less than 5 years children, 60% of which are directly or indirectly related to malnutrition. Two-third of these deaths, which are often associated with inappropriate feeding practices, occurs during the first year of life.1

Early and exclusive breastfeeding is accepted as one of the most effective interventions for child survival particularly to address morbidity and mortality related to

three major conditions i.e. neonatal infections, diarrhea and pneumonia. Scientific evidence shows that early initiation of breastfeeding can reduce neonatal mortality significantly. Exclusive breast feeding up to 6 months can prevent up to 13% of the estimated under-five deaths.² Breast feeding is not only essential for child's survival, health and wellbeing but is also equally important to augment the brain development and learning ability.³

WHO in late 1970s realized the seriousness of declining trend of breast feeding and introduced the international code of promoting breast feeding in 1981. India adopted the National code of promotion of breastfeeding in 1983.³

In spite of regular promotion of breast feeding practices at both National and International level, the proportion of children who are exclusively breast fed during the first 6 months of life is very less. At present only one third of infants worldwide are exclusively breastfed during the first four months of life. Complementary feeding frequently begins too early or too late, and foods are often nutritionally insufficient and unsafe. In India, according to NFHS- 3(2005-6) only 23.4% children were breast fed within 1 hr of birth, 46.3% of children are exclusively breast fed till 6 months of age, complementary feeding started in 55.8% children between 6-9 months of age. ⁴ Malnourished children who survive are more frequently sick and suffer the life-long consequences of impaired development. ¹

Taking into consideration the overall poor status of breast feeding practices in the country the present study was planned to find out the prevalence of correct breast feeding practices among mothers of 12-23 old children enrolled in integrated child development scheme (ICDS) centers and to find out its relationship with mother's literacy status in a semi urban location of Tamil Nadu.

METHODS

The study was conducted among the mothers of 12-23 month old children enrolled in eight ICDS centers in field practice area of Urban Health Training Center (UHTC) Saveetha Medical College (Thirumazhisai, Thiruvalluvar District, Tamil Nadu). The location of all the 8 ICDS centers is a semi urban location which comes within the limits of Chennai Metropolitan Development Association (CMDA). All the Anganwadi workers were informed about the study on the prior visit and were asked to inform the mothers to come to the ICDS center on a fixed day.

All the mothers present were interviewed regarding the practices of correct breast feeding with the help of pretested and pre-structured questionnaire. Any queries at that time were clarified and the questionnaires were filled up. The data was tabulated in the MS Excel followed by statistical analysis of the data using SPSS software. Proportion and chi-square were used for analysis. The results of the study were shared with the anganwadi workers, followed by refresher training on the subject.

Study period

July 2014 to October 2014.

RESULTS

Demographic profile of mothers

A total of 127 mothers were interviewed. All the mothers belonged to the same state and followed the prevalent local culture. 8% of the participant mothers were under the age of 20 years, 57% were between 21 and 25 years

of age and 35% were aged above 25 years. Only 9% of the mothers were illiterates, 22% had studied up to primary, 50% secondary level and 17% were graduates and post graduates. Majority of the women, 61% were housewives.

Table 1: Distribution of the mothers according to their age and literacy status.

Variables	Number (%)					
Age of the mothers						
Less than 20 years	10 (8)					
21-25 years	72 (57)					
Above 25 years	45 (35)					
Literacy status of the mothers						
Illiterate	11 (8.6)					
Primary	31 (22.4)					
Secondary	64 (50.3)					
Graduate and postgraduate	21 (16.5)					
Total	127					

Knowledge and practices regards breast feeding

All the mothers had knowledge that breast milk is important for their baby. 76% of the mothers had knowledge that breast feeding should be initiated within half an hour of delivery; however in practice only 67% initiated breast feeding immediately and 87% initiated in less than 4 hrs (Table 2).

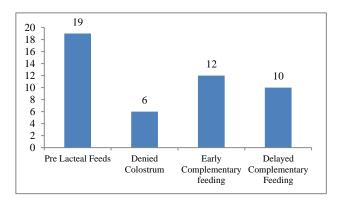


Figure 1: Breast feeding practices.

16% of the mothers expressed that pre-lacteal feeds should be given to the baby. In practice, 19% of the mothers gave pre-lacteal feeds to their babies. Half the mothers gave pre-lacteal feeds out of social custom and another half believed that it helps the babies. Practice of giving pre-lacteal feeds was significantly higher in illiterate mothers (55%) than the literate mothers (16%) (Table 3).

In the present study 13% of the mothers lacked knowledge that colostrums is essential for the baby, they opined that it is bad milk hence should be discarded. In practice 95% of the mothers gave colostrum to their babies and among 5% of mothers who denied colostrum

to the baby, 85% neglected it due to religious issues. Practice of giving colostrums was found to significantly

more among literate mothers and the practice increased with increase in literacy status of mother (Table 3).

Table 2: Association of mother's literacy status on the practice of early initiation of breast feeding and complete feeding on one breast.

Literacy status of mother		Illiterate	Literate	Total	
Initiation of breast milk	Less than 4 hrs	7 (63.6)	103 (88.7)	110 (86.6)	$x^2 = 5.484$
	More than 4 hrs	4 (36.4)	13 (11.3)	17 (13.4)	p=0.019
Complete feeding on one breast	Yes	2 (18.2)	89 (76.7)	91 (71.7)	$x^2 = 16.953$
	No	9 (81.8)	27 (23.3)	36 (28.3)	p=0.000
Total		11	116	127	

Table 3: Association of mother's literacy status with the practice of giving pre-lacteal feeds colostrums to the baby and breast feeding on demand.

Educational status		Illiterate	Primary- middle school	High school- intermediate	Graduate and post graduate	Total	
Pre-lacteal feeds	Yes	6 (54.5)	6 (19.4)	10 (15.6)	2 (9.5)	24 (18.9)	$x^2 = 10.776$
	No	5 (45.5)	25 (80.6)	54 (84.4)	19 (90.5)	103 (81.1)	p=0.013
Colostrums	Yes	8 (72.7)	29 (93.5)	62 (96.9)	21 (100)	120 (94.5)	$x^2 = 11.979$
	No	3 (27.3)	2 (6.5)	2 (3.1)	0 (0)	7 (5.5)	p=0.018
Breastfeeding on	Yes	7 (63.6)	19 (61.2)	32 (50)	8 (38.1)	66 (52)	$x^2 = 3.398$
demand	No	4 (36.4)	12 (38.8)	32 (50)	13 (61.9)	61(48)	p=0.334
Total		11	31	64	21	127	

Table 4: Association of mother's literacy status on the practice of duration of exclusive breast feeding and continuation of breast feeding.

Educational status		Illiterate	Primary middle school	High school- intermediate	Graduate and post graduate	Total	
Exclusive breast feeding	Less than 6 months	3 (27.3)	7 (22.6)	11 (17.2)	4 (19.1)	25 (19.7)	$x^2 = 3.434$
duration	6 months	8 (72.7)	24 (77.4)	53 (82.8)	17 (80.9)	102 (80.3)	p=0.329
Continuation of	Less than 1 yr	2 (18.2)	11 (35.5)	12 (15.9)	1 (4.8)	26 (20.5)	$x^2 = 19.877$
breast feeding	More than 1 yr	9 (81.8)	20 (64.5)	52 (84.1)	20 (95.2)	101 (79.5)	p=0.000
Total		11	31	64	21	127	

Table 5: Association of mother's literacy status on the practice of alternating breast during subsequent feeds and starting complementary feed.

Educational statu	IS	Illiterate	Primary- middle school	High school- intermediate	Graduate and post graduate	Total	
Alternating	Yes	11 (100)	28 (90.3)	52 (81.2)	18 (85.7)	109 (85.8)	$x^2 = 3.434$
breast	No	0 (0)	3 (9.7)	12 (18.8)	3 (14.2)	18 (14.2)	p=0.329
Complementary feeding	<6 months	1 (9.1)	4 (12.9)	9 (14.1)	1 (4.8)	15 (11.8)	$x^2=3.309$ p=0.914
	6-9 months	10 (90.9)	23 (74.1)	48 (75)	18 (85.7)	99 (78)	
	> 9 months	0 (0)	4 (12.9)	7 (10.9)	2 (9.5)	13 (10.2)	p=0.914
Total		11	31	64	21	127	

More than half of the mothers (56%) had knowledge that breast feeding should be done on demand (whenever baby cry), and in practice 52% were breast feeding on demand. Literacy had apparently no influence on this practice.

88% of the mothers had knowledge that the baby should be breast fed exclusively for 6 months while in practice. 20% of the mothers discontinued breast feeding before 6 months. The lesser the literacy status, the more likely the mothers were to discontinue the breast feeding before 6 months, however this relation was not statistically significant. 80% of the mothers continued breast feeding for more than 1 year. The higher the literacy status, the more likely the mothers were to continue breast feeding beyond one year, though the relation was not statistically significant (Table 4).

In present study, 86% mothers were alternating breast during subsequent feeds, practice was found to be 100% in illiterate mothers (Table 5). 70% of the mothers had the knowledge to completely feed the child on one breast and then change to other breast. Their reasons being- to give full nourishment to the baby and doctor's advice given by 73% and 30% of the mothers respectively. In practice majority of the mothers (86%) gave feed to the baby on one breast completely and then changed to other breast. Practice of completely feeding on one breast was found to be significantly more in literate mothers (Table 2).

48% of the mothers knew that the baby had received enough milk when the baby stops sucking milk and moved the mouth away from the breast and 52% of the mothers knew the same when the baby had slept.

Almost 80% of mothers had knowledge to start complementary feeds after 6 months and in practice 78% mothers started complementary feeds between 6-9 months.

Three fourths of the mothers (75.59%) in our study acknowledged Doctors and Anganwadi workers for providing them the information on breast feeding while rest received it from mass media, their mothers, relatives and friends.

DISCUSSION

Beneficial effects of early and exclusive breast feeding for first 6 months on the growth, development, nutrition and health status of the infant has been proved by various studies since early 1990's. Exclusive breast feeding not only prevents infections like diarrhoea but also prevents anemia in children as breast milk has the best bioavailable iron. WHO recommends exclusive breastfeeding for the first six months of life followed by complementary feeding after 6 months.

In our study all the participants knew about the importance of breast feeding and all were practicing breast feeding. 76% mothers had knowledge that breast feeding should be initiated within half an hour of delivery but only 67% could initiate breast feeding immediately. Shetty, Shetty and Maheshwari et al also reported the mismatch between the knowledge (58.7% and 92%) and practice (48% and 36%) in initiation of breast feeding. 6,7 Cesarean delivery and some complications during delivery leads to this delay. NFHS-3 reported 55.3% children were breast fed within 1 hr of birth in Tamil Nadu while all India average is only 23.4%. The reported prevalence of initiation of breast feeding within

one hour of delivery varies from 80-21%. [Wagh et al (80.48%), Dandekar et al (41.6%), Raval et al (38%), Shaili et al (21%) mothers initiated breastfeeding within one hour of delivery in Maharashtra, rural Tamil Nadu (Perumbulur), slums of Gujarat and rural Uttrakhand]. Srivastava et al reported only 0.5% of the mothers breast fed their babies within 6 hours and nearly 50% started after 48 hours. ¹²

In the present study 16% mothers gave pre-lacteal feeds to their babies. Practice of giving pre-lacteal feeds was found to be significantly more in illiterate mothers and similar association was also reported by Devang et al and Bhattacharjya et al in their study in Slums of Gujarat and rural West Tripura respectively. 10,13 Prevalence of prelacteal feeds was found to be much less than that reported by other researchers, Ahmed et al (77%), Shaili et al (61.8%), Devang et al (61.9%), Dandekar et al (28%), Madhu et al (19%) and Wagh (15.85%) in their study in rural Bangladesh, Uttrakhand, Slums in Gujarat, Tamil Nadu, Karnataka and Maharashtra respectively. 8-11,14,15 This shows that the practice of giving pre-lacteal feeds is prevalent across the nation. Percentages may vary in accordance to social beliefs and variation in the literacy status of the community.

Scientific literature indicates colostrums is rich in proteins and immunoglobulin but in many cultures and societies it is discarded as bad milk, or old milk. In our study 13% of the mothers lacked knowledge that colostrums is essential for the baby, this was much less than reported by Garg et al (35.6%) in rural Punjab. 16 In our study 94.5% of the mothers gave colostrum to the baby and among (5.5%) those who denied colostrum to the baby majority (85%) neglected it due to religious issues. Significant association is found between the educational status of the mother and practice of giving colostrum to the baby. Similar association was also reported by Bhattachrjya et al. 13 Practice of giving colostrums was found to be higher than reported by many researchers in various parts of country, Shaili et al (81.6%), Dandekar et al (77.6%), Devang et al (36.9%) and Shrivastava et al (17.1%). Shetty, Shetty and Maheshwari et al reported that 82% and 56% of the participants believed that they should give colostrums to the newborn.6,

In present study 52% mothers breast fed on demand, this practice was found to be higher in illiterate mothers and mothers educated till middle school. Harnagle and Chawla in their study on lactating women in Jabalpur cantonment reported that 32.78% mothers breast fed on demand. Shaili et al reported in rural Uttrakhand 89% babies were breastfed on demand.

In the our study 48% of the mothers knew that the baby had received enough milk when the baby has stopped sucking milk and moved the mouth away from the breast and 52% of the mothers knew the same when the baby had slept. Shaili reported that 72% of the mothers use to

feed their babies till the baby sleeps or leaves on its own. 11

Exclusive breastfeeding for first 6 months of life is the key component for health of the baby, still the knowledge and practice is low. In the present study exclusive breastfeeding was carried out by 80.3% of mothers for 6 months. This practice was found to be higher in literate mothers than in illiterate mothers. Prevalence of exclusive breast feeding was found to be higher than other studies by Dandekar et al (64%), Madhu et al (40%), Shaili et al (5.13%) in rural Tamil Nadu, Karnataka and Uttrakhand respectively. 9,14,11 NFHS-3 reported 46.3% children were exclusively breast fed for 1st 6 months in India, while in Tamil Nadu only 33.3% were exclusively breast fed.

WHO recommends complementary feeding should only be initiated after 6 months of life. Early initiation of complementary feeding subjects the child to risk of infections and late initiation of complementary feeding leads to malnutrition and anemia. In the present study 77.95% mothers started complementary feeds between 6-9 months. This practice was found to be higher in illiterate mothers than the literate mothers. This is found to be similar to NFHS-3 data for Tamil Nadu (77.9%) and is much higher than the national average of 55.8%. Dandekar et al and Madhu et al reported only 52.04% and 53% mothers started weaning their children at 6 months of age in their study in rural Tamil Nadu and Karnataka respectively. 9,15

CONCLUSION

The knowledge and practice of breast feeding practices have improved in the recent times. In the present study, even though the mothers were enrolled under ICDS, still there were few important gaps in the knowledge and practices with regards breast feeding. Among the study participants, 16% of mothers still gave pre lacteal feeds to their babies and 5.5% of the mothers neglected colostrums. Also 10% of mothers started complementary feeding only after 9 months and another 12% started before 6 months. Relatively higher proportion of Illiterate mothers gave pre-lacteal feeds, denied colostrums, initiated breast milk after 4 hrs of delivery and did not completely feed on one breast before switching to other breast. Literacy improved some of the breast feeding practices such as exclusive breast feeding for 6 months, breast feeding on demand, starting complementary feeding after 6 months of life and continuing breast feeding beyond 1 year. In order to improve breast feeding practices further there is a need for strengthening health education programmes to create more awareness about correct breast feeding practices in the community. ICDS centers can play a major role in this initiative.

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Institutional Ethics Committee

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