Original Article

A population-based cross-sectional study to determine the practices of breastfeeding among the lactating mothers of Patiala city

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Abstract

Introduction: The present study was undertaken to study the breastfeeding practices and the influence of literacy and prevailing cultural factors on different aspects of breastfeeding. **Materials and Methods:** A community-based cross-sectional study was conducted at Badungar, a semi-urban area in Patiala city including a total of 370 mothers. Mothers were interviewed using pre-formed, semi-structured Performa. The participant's demographic information, awareness and practices regarding breastfeeding were recorded by paying house to house visits. Data were analyzed using SPSS ver. 21. **Results:** Only 27.30% of the mothers knew that breastfeeding should be initiated within 1 hour of birth. A total of 51.62% mothers considered prelacteal feed to be the right practice while 55.95% considered colostrum bad for the baby. Only 53.78% of the lactating mothers knew the correct meaning of exclusive breastfeeding. Only 24.86% mothers started breastfeeding within an hour after birth. Colostrum was not given by 57.29% of the lactating mothers while Prelacteal feeds were given by 50.81% mothers. Exclusive breastfeeding till 6 months was given by 45.67% mothers. A significant association was observed in high mother's education, high socio-economic status, nuclear status of family, history of antenatal care registration, and hospital delivery with exclusive breastfeeding ($P < 0.01$). **Conclusion:** Study concluded that breastfeeding practices were not optimum; hence promotion of knowledge regarding the right practices of breastfeeding and focus on the factors affecting them is highly warranted in this area.

Keywords: Awareness, breast feeding, colostrum, complementary feeding, pre-lacteal feeds

Introduction

The initiation of breastfeeding and the timely introduction of adequate, safe and appropriate complementary feeds in conjunction with continued breastfeeding are of prime importance for the growth, development, health and nutrition of infants and children everywhere.[1] It has been found to protect against delay in a child's language and motor skill development.[2] Suboptimal and non-EBF in the first 6 months of life contributes to 1.4 million deaths and 10% of the disease burden in children of age <5 years.[3]

Exclusive breastfeeding is recommended as the optimum method of feeding for the first 6 months of life and after that semi-solid foods are to be introduced (complementary feeding) while breastfeeding should be continued till 2 years, to meet the physiological requirements of the infants.[4,5]

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Although the practice of breastfeeding is common in India, the initiation of early breastfeeding is not always followed. The DLHS-3 survey showed that percentage of infants exclusively breastfed drops from 63% for <2 months to 49% under 3 months and 32% under 5 months.[6] As per the latest District Level Household and Facility Survey – 4 (DLHS-4) data of Punjab, exclusively breastfed children aged 0-5 months were 56.4% (DLHS-3 – 32.4%). Children age 6-9 months receiving solid/semi-solid food and breast milk were 74.4% (DLHS-3 – 68.9%) and children age 12-23 months receiving breastfeeding along with complementary feeding were 59.1%.[7]

The initiation of breastfeeding and the timely introduction of adequate safe and appropriate complementary feeds in conjunction with continued breastfeeding are of prime importance for the growth, development, health and nutrition of infants and children everywhere. The beneficial effects of breastfeeding depend on its initiation, duration, and the age at which it is weaned. Thus, there is a need for promotion and protection of optimal infant feeding practices for improving nutritional status of children. The present study was thus undertaken to study the breastfeeding practices, influence of literacy and prevailing cultural factors on different aspects of breastfeeding. This goes a long way in the practice of primary care, as identifying and bridging the gaps in breastfeeding practices, strengthening the positive influences, curtailing cultural practices adversely affecting breastfeeding need to be acknowledged and appropriate interventions need to be incorporated during primary care delivery.

Material and Methods

A community-based cross-sectional study was conducted at Badungar, a semi-urban area in Patiala. A total of 370 mothers in that area, who were lactating during the study period were interviewed. Houses found locked during the first visit were revisited and excluded if found locked during the second visit.

Mothers were interviewed using pre-formed, semi-structured Performa. The participant's demographic information, awareness and practices regarding breastfeeding were recorded by paying house-to-house visits. Purpose of the study was explained and their informed written consent in English and vernacular language was taken.

All the collected data were entered in Microsoft Excel Sheet 2009. The data were then transferred and analyzed using SPSS ver. 21. Qualitative data were represented in the form of frequency and percentages. Appropriate statistical evaluation was carried out as per the type and distribution of data.

Results

Most of the lactating mothers were between 21 and 30 years (58.38%) of age and were housewives (94.86%). Over half of the lactating mothers (55.95%) were living in nuclear families and majority of them (75.68%) belonged to the Sikh community. Out of the total lactating mothers, 18.11% were illiterate, 21.62% and 32.7% were educated up to primary and secondary level respectively, while 14% were graduates. Most of the lactating women (61.89%) belonged to the lower socio-economic class and 83.78% of the mothers were antenatal care (ANC) registered.

Only 27.30% of the mothers knew that breastfeeding should be initiated within 1 hour of child birth [Figure 1]. A total of 51.62% mothers considered prelacteal feed to be the right practice while 55.95% considered colostrum bad for the baby. Only 53.78% of the lactating mothers knew the correct meaning of exclusive breastfeeding [Figure 2] and out of the total mothers half 48.90% of the lactating mothers knew that exclusive breastfeeding should be given till 6 months. Out of the total mothers, 60% of the mothers knew that complementary feeding should be initiated at 6 months while 27.03% of them had the misconception of it to be initiated before 6 months [Figure 3]. Out of the total 370 lactating mothers only one-third (30.54%) of the mothers knew that breastfeeding should be continued till 24 months or beyond.

Out of total 370 lactating mothers, 24.86% mothers started breastfeeding within an hour after birth while 59.73% started breastfeeding within 1–6 hours of birth [Figure 4]. Most common reasons for the delay in initiating breastfeeding were lack of knowledge which was found in 61.87% mothers [Table 1]. Colostrum was given by 42.71% of the lactating mothers to their babies. Most common reason for not giving colostrum was the misconception of it being bad among 41.51% of mothers [Table 2]. Prelacteal feeds were given to 50.81% of the babies in the study. Most common prelacteal feed given was honey. Exclusive breastfeeding till 6 months was given by 137 (45.67%) out of 300 lactating mothers (70 mothers with infants <6 months of age were excluded). Most common reason for the discontinuation of exclusive breastfeeding was inadequate milk output in 56.44% mothers [Table 3]. In 54.33% babies complementary feeding was started before completing 6 months of age.

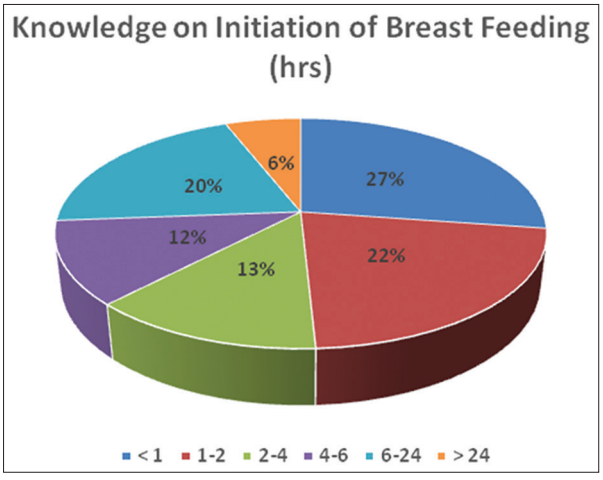

Figure 1: Distribution of lactating mothers based on knowledge regarding initiation of breast feeding

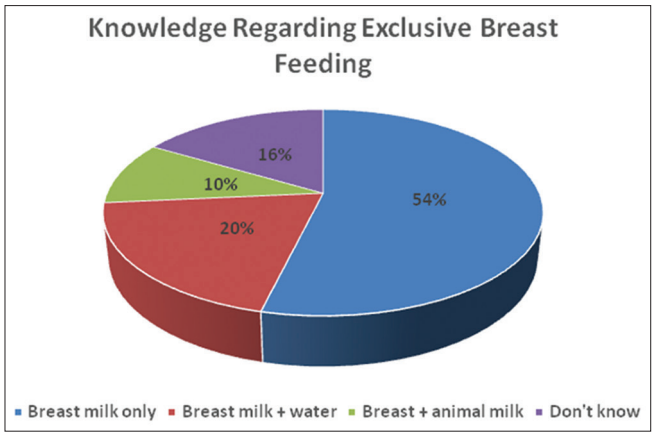

Figure 2: Distribution of lactating mothers based on knowledge regarding exclusive breast feeding

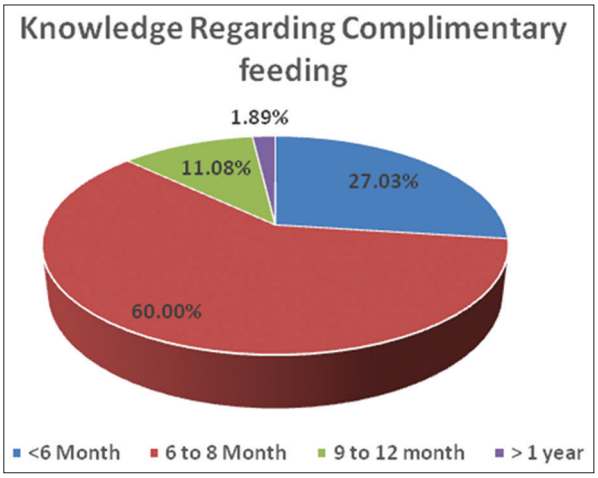

Figure 3: Distribution of lactating mothers regarding complimentary feeding

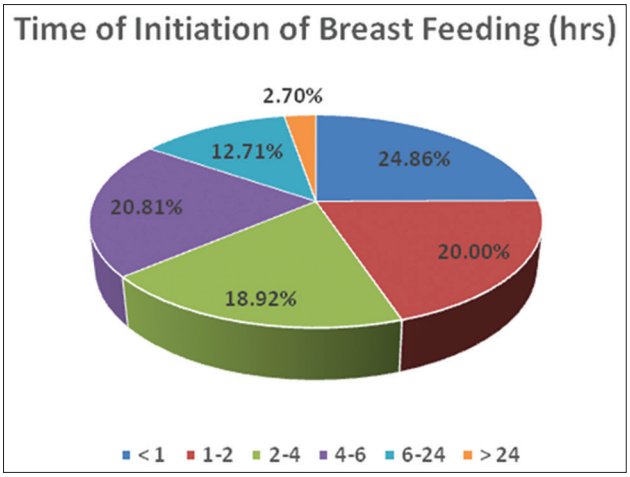

Figure 4: Distribution of lactating mothers as per time of initiation of breast feeding

A significant association was observed between low education and socio-economic status of mother with exclusive breastfeeding practice ($P < 0.01$) while it was positively associated with nuclear status of family, history of ANC registration and hospital delivery ($P < 0.01$). No significant association was observed with the working status of the mother and her religion with practice of exclusive breastfeeding ($P > 0.05$) [Table 4].

Table 1: Distribution of patients as per reasons for delay in initiation of breast feeding

Reasons for delay	Number	Percentage
Lack of knowledge	172	61.87%
Failure of milk let down	55	19.78%
Physical discomfort of mother	34	12.23%
Social misbelieves	10	3.60%
Drowsiness of child	7	2.52%
Total	278	100.00%

Table 2: Distribution of patients as per reasons for discarding Colostrum

Reasons for discarding	Number	Percentage
Not good for health of child	88	41.51%
Social misbelieves	77	36.32%
Elder's advice	41	19.34%
Mother/baby not well	6	2.83%
Total	212	100.00%

Table 3: Distribution of patients as per cause of cessation of exclusive breast feeding

Cause	Number	Percentage
Inadequate milk output	92	56.44%
Maternal illness	36	22.08%
Infant dissatisfied/illness	28	17.17%
Working mother	7	4.29%
Total	163	100.00%

Discussion

Time of initiation and adequate duration of breastfeeding is a very important landmark in the development of the baby. Right after birth the sucking reflex is most active and babies are more alert during the first 60 minutes and if babies are put to mother's breast within this period, chance of exclusive breastfeeding increases.[8] In the present study on assessing knowledge of the lactating mothers regarding breastfeeding practices, it was observed that only about 27.30% of the mothers knew that breastfeeding should be initiated within an hour after birth while majority of them replied that it should be initiated between 1 and 6 hours after birth. Similar results were observed in a study conducted in urban India, Kommula and Kommula[9] from Andhra Pradesh reported the knowledge regarding initiation of breast feeding to be 36.30%. This lack of knowledge can be due to the poor coverage of breastfeeding advice given during antenatal visits of the mother.

In the present study, misconceptions regarding prelacteal feeding and colostrum were brought about, where almost half of the mothers (51.62%) considered giving prelacteal feed to be a correct practice, while 44.05% considered colostrum bad as it was

Table 4: Association of exclusive breast feeding with socio-demographic correlates

Socio-demographic Correlates	Exclusive breast feeding		Total	Chi-square (*P*)
	Yes (*n*-137)	No (*n*-163)		
Illiteracy	8	50	58	56.7 (<0.01)
	13.8%	86.2%	100.0%	
Housewife	130	153	283	0.017 (0.89)
	45.9%	54.1%	100.0%	
Lower SES	72	108	180	11.12
	40.0%	60.0%	100.0%	(<0.05)
Sikh Religion	103	128	231	0.3 (0.586)
	44.6%	55.4%	100.0%	
Nuclear Family	97	80	177	13.64
	54.8%	45.2%	100.0%	(<0.01)
ANC Registration	132	113	245	34.53
	53.9%	46.1%	100.0%	(<0.01)
Hospital Delivery	137	130	267	29.13
	51.3%	48.7%	100.0%	(<0.01)

considered stale milk, difficult to digest, and causing loose stools. Prelacteal feed is considered a good custom in the study area, with the misconception that it cleared the GIT of the newborn. Similar results were seen in a study by Shaili *et al*.[10] in rural areas of Uttarakhand where 82% of the mothers gave prelacteal feeds, while 52% mothers considered colostrum harmful. Choudhary *et al*.[11] in their study in Bhopal reported 67% mothers initiated breastfeeding within an hour of child birth and 82% believed giving colostrum is important. The difference in figures can be due to difference in socio-demographic factors and cultural practices prevalent in these areas.

On assessing further knowledge of these mothers in our study only 53.78% of the subjects knew about the correct meaning of exclusive breastfeeding while about 29.73% had the misconception that water/animal milk should be given along with breast milk. Only 48.92% mothers knew that exclusive breastfeeding should be given till 6 months while 51.08% mothers lacked the correct knowledge regarding the duration of exclusive breastfeeding. Lack of complete knowledge on exclusive breastfeeding indicates poor IEC and BCC activities in the study area. Our findings were in concordance with the findings of Choudhary *et al*.[11] a study done in rural Bhopal, which reported that only 59.1% of mothers knew about the duration of exclusive breastfeeding, and 49.8% knew about its advantages. Unsatisfactory results on knowledge regarding breastfeeding were also seen in a study done by Ekambaram *et al*.[12] in a tertiary care hospital in Puducherry where only 45% subjects knew the right pattern of breastfeeding, only 38% knew the right duration of exclusive breastfeeding and only 56% knew the importance of colostrum feeding.

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 1 hour.[13] Early initiation of breastfeeding and exclusive breastfeeding of children <6 months are considered the most decisive indicators for assessing breastfeeding practices. In the present study, only 24.86% mothers started breastfeeding within an hour after child birth which is lower as per DLHS-4 (2012-2013) data of Punjab which covering 728 villages, revealed early initiation of breastfeeding to be 32% in urban areas and 33.4% in rural areas initiated breastfeeding within an hour of birth.[7] The national average of mothers who initiated breastfeeding within 1 hour after the birth was 23.4% as per NFHS-3.[6]

In the present study, almost 60% mothers started breastfeeding within 1-6 hours of child birth. A total of 2.7% (10 mothers) started breastfeeding after 24 hours of birth. Most common reasons were lack of awareness (61.87%) and failure of milk let down (17.98%). Similar results were seen in a study by Garg *et al*.[14] in rural Punjab where only 23.8% mothers started breastfeeding their babies on the first day of birth, and only 128 (13.50%) respondents put their babies on the breast within 4 hours of birth. Kumar *et al*.[15] found in urban population of Chandigarh showed that only 6.30% of mothers initiated breastfeeding within 1 hour of birth and almost half of the mothers (52.60%) initiated breastfeeding within 1-6 hours of birth. Similar results were seen in a hospital-based study by Vijayalakshmi *et al*.[16] and Wadde *et al*.[17] in a study done in rural Maharashtra respectively. Another recent Indian study by Meshram *et al*.[18] from Madhya Pradesh recorded similarly low prevalence of 26% mothers initiating breastfeeding in the first hour.

In present study, prelacteal feed was given to 50.81% of the babies which is a very high figure in spite of repeated awareness campaigns about its ill effects; honey was the most common prelacteal feed (37.76%), followed by janamghutti, sugar water/ajwain water, and religious water. Regarding prelacteal feed our figures (48.4%) are lower than of NFHS-3[19] which states that 60% newborns received prelacteal feed. Giving prelacteal feed is a deep-rooted custom in India, as is evident in a plethora of studies, different studies have shown varied figures from around the country.[20-22] It is a very common myth that, child imbibes qualities/looks similar to the person who gives prelacteal feed.

Colostrum was being received by 42.71% of the babies in the present study, those who discarded colostrum majority (41.51%) of them had the misconception that it is bad for health of their babies followed by social misbelieves (36.32%). Almost similar findings have been reported by Swetha *et al*.[23] in their study. Divyarani and Patil[24] in their study conducted in Karnataka also reported that 56% of babies received colostrum. Discordant studies in this aspect were by Shaili *et al*.[10] and Thakur *et al*.[25] which reported colostrum feeding to be around 80% in their studies.

In present study, exclusive breastfeeding till 6 months was practiced by almost half the number of mothers (45.67%), which is comparable with 46.30% of NFHS-3[19] but lower than 56.40% exclusive breastfeeding rates of DLHS-4 (Punjab).[7]

Most common reasons for the discontinuation of exclusive breastfeeding was the misconception of inadequate milk output reported by 56.44% mothers, followed by maternal illness (22.08%). Different studies have reported different prevalence in this context as different areas have different levels of education and different levels of motivation among health workers. Results of study by Kommula and Kommula[9] conducted in slum areas of Andhra Pradesh were in concordance with our study. Radhakrishnan *et al*.[26] found it to be 34% in their study in rural Tamil Nadu. Medhi *et al*.[27] in a study on Assam tea garden workers showed the prevalence of exclusive breastfeeding to be 70.30% up to 6 months of age. A meta-analysis by Gupta *et al*.[28] showed that more than half the children (54%) in the age group of 0-3 months were exclusively breastfed, whereas this percentage was much lower (26%) for children in the age group of 4-6 months.

Present study found low rates of timely complementary feeding, which was started within 6-8 months by only 45% mothers, 54.33% started the same before 6 months, while 2 mothers started complementary feeding from 9-12 months. Similar results were seen by Vijyalakshami *et al*.[16] in their study in Bangalore which found low rates of timely complementary feeding. Swetha *et al*.[23] from south India reported that complementary food was started at 6 months for 41.11% of children.

Breastfeeding practices are influenced by many socio-demographic factors, rural and urban residence, cultural, socio-economic factors, psychological status, religious value and literacy especially low level of mother's education, mother's employment and these practices vary among different regions and communities. In present study significant association was observed between educational status of mother and pattern of breastfeeding, increasing level of education showed increasing pattern of exclusive breastfeeding. Maternal education has been described as one of the strongest determinants of the practice of exclusive breastfeeding in many studies. Shafee *et al*.[29] in their study in South India found exclusive breastfeeding rate of only 36% and also found the knowledge and practice to be significantly associated with level of literacy. These findings were also in concordance with other studies conducted by Srivastava and Awasthi[30] in urban Lucknow and Obbulareddy and Narreddy[31] in Andhra Pradesh where they observed that the neonates of mothers and fathers who had never been to school were significantly less likely to be exclusively breastfed than those whose mothers and fathers had ever been to school.

Economic status of the participants was also seen to be significantly associated with exclusive breastfeeding, with increasing socio-economic level, increasing pattern of exclusive breastfeeding was observed in present study subjects. Similar trends have been observed by Vijayalakshmi *et al*.[16] in their study in Bangalore. They reported that mothers with income higher than INR 2500, had better attitudes than mothers with low income and significant difference was found ($P < 0.01$). In another study conducted by Joshi *et al*.[32] in Nagpur it was seen that socioeconomic status of mothers had significant association with duration of breastfeeding. It was seen that only 11.36% of mothers from lower socioeconomic class were breastfeeding their baby up to 6 months as compared to 50% mothers from upper socioeconomic class. Studies from rural China by Shi *et al*.[33] and Weiqui[34] have also reported similar trends. This can be due to the fact that increased socioeconomic status enhances the overall status and decision making power of women in their families as well as society and it also makes them more positive towards attaining health services as they tend to have greater exposure to accessing relevant information and knowledge and affording capacity and this might also be attributed to early return to their job work by the mothers from lower socioeconomic classes and not able to exclusively breastfed their babies.

We found that nuclear families were more likely to exclusively breastfed their babies than those staying in joint or extended nuclear families. Similar relation has been observed by Radhakrishnan and Balamuruga[26] in their study conducted among mothers of rural Tamil Nadu also observed significant association between nuclear families and exclusive breastfeeding. This can be explained as some family inhibitions were highlighted by some participants of our study, which are likely to be faced more by mothers from non-nuclear families.

A significant positive association between history of ANC registration and hospital delivery with prevalence of exclusive breastfeeding was observed in present study. Similar findings (for infants <6 months of age) have been reported from the India's National Family Health Survey (NFHS-3).[19] Srivastava and Awasthi[30] in their study found that mothers who had three or more ANC visits were significantly more likely to exclusively breastfeed their newborns than the mothers who made fewer ANC visits ($P < 0.001$). Similar trends have also been observed by Choudhary *et al*.,[11] study by Nigam and Sinha,[35] Tiwari *et al*.[36] and Mahmood *et al*.[37] ANC services were found to have a positive impact on breast feeding, resulting in better knowledge and better practices in women who received these services. Thus, there is evidence that ANC was significantly associated with exclusive breast feeding, it is likely that improving ANC and ensuring breast feeding education during ANC could lead to better breast feeding outcomes.

Conclusion

The awareness with regards to breastfeeding issues have not changed significantly with the educational progress and economic independence among Indian women. We observed low prevalence of early initiation of breastfeeding, early initiation of complementary feeding and low exclusive breastfeeding in the study area. Hence promotion of knowledge regarding the right practices of breastfeeding and focus on the factors affecting them is highly warranted in this area.

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Conflicts of interest

There are no conflicts of interest.

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