



RESEARCH ARTICLE

A STUDY ON INFANT FEEDING PRACTICE AMONG MOTHERS OF MUSLIM COMMUNITY OF KOLKATA

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ABSTRACT

Breast feeding is regarded as the first immunisation of child. It should begin immediately after birth. It provides nutritional, immunological, behavioural, and economic benefits. Although breastfeeding is commonly practiced in India, less children are given breastfeeding within one hour of birth. Despite increased awareness on exclusive breastfeeding the prevalence and duration are still at a low level. The primary objective of the study was to assess infant feeding practices among mothers of Muslim community, the specific objective was to (a) measure proportion of mothers-initiated breastfeeding within first hour of birth of the baby with respect to mothers' age group, education level, place of delivery and family income and reasons for delay thereof, (b) measure proportion of mothers conducted pre lacteal feed and (c) proportion of mothers-initiated colostrum breastfeeding. A cross-sectional study with the help of self-administered questionnaire on feeding practices was conducted among 540 Muslim mothers having children up to 1 year of age across 6 Muslim dominated areas of Kolkata during the period 1st Nov.2017 to 31st Dec.2018. The study showed that though all children were breastfed (100%), breastfeeding within first hour of birth was given by only 24.81% of mothers which is quite alarming. Among early initiators of breastfeeding, under various categories majority i.e 43.33% consists of mothers in the age of 15-19 years, 48.48% among illiterates, 38.89% among home deliveries and 39.13% among family having income of <Rs.5000 per month. Main reason for late initiation of breastfeeding majority was Caesarean Section (39.16%). Pre lacteal feeds and colostrum were given to 19.07% and 72.41% of babies, respectively. The study shows that early initiation of breastfeeding is prevalent among few mothers in the community. Practice of early breastfeeding was noticed among young, illiterate, home delivered and low socioeconomic background women. To ensure successful feeding, proper BCC is required in the community.

INTRODUCTION

Breast-feeding is regarded as "Lifeline" for new-born babies; breast-feed should initiate immediately after birth. In our culture many ceremonies are performed, these should be performed at the earliest, and breast-feeding should be commenced immediately after birth without any further delay. Since we all know that breast-feeding is nearly a universal practice in India, very less children are given breast-feeding just after birth (Sunder Lal, 2007). National Family Health Survey, (NFHS)-4 (2015-2016) data provides cardinal information on breast-feeding practices in India. 41.6% of children <3 years breast fed <1hr; 54.9% of new-born<6 months had exclusive breast feeding and 42.7% of children 6-8 months received solid/semisolid diet. NFHS-4 West Bengal

(Urban) data shows initiation of breast feeding <1 hr-48.2%; EBF (Exclusive Breast Feeding)-61.6% and children received solid/semisolid diet between 6-8 months-46.3% (National Family Health Survey, 2016). 36% of women squeezed out the first milk from the breast (discarded colostrum) and then start breast-feeding. Thus, beginning of breast-feeding is delayed and new-born is unduly deprived of most nutritious nourishment and energy (Shalini Kumari, 2018). Breast feeding should be started within an 1st hour of birth instead of delaying for some hours as is often a tradition. It helps to begin early feeding and establish a close mother-child relationship, which is known as "bonding". The first milk which is termed as "Colostrum" is the most appropriate food for the infant during this early period because it has a high concentration of protein and other nutrients the body requires; the milk contains

substantial number of anti-infective factors which gives protection to the baby against diarrhoeal diseases and respiratory infections. The usual supplementary feeds are not necessary (Park's Textbook of Preventive and Social Medicine, 2015). As per Infant & Young Child Guidelines 2016 India, breast feeding should be encouraged as the gold standard feeding preferences. For all normal new-borns, skin to skin contact should be established within 5 minutes so that the infant starts breastfeeding in an hour after birth. This method of 'Breast Crawl' should be adopted at the earliest. EBF should be practiced till end of 6th month. After 6 months is completed, optimal complementary feeding should be initiated and practiced preferably with home-made food which is energy dense. If breast feeding was discontinued temporarily due to an unintended situation re-lactation should be initiated as soon as possible. Supplement Sucking Technique (SST) is initiated for re-lactation in mothers who have Mother's Milk Insufficiency (MMI) or lactation failure. Re-lactation through SST (supplemental suckling technique) drip & drop method has been recommended by WHO as it helps to maintain the infant's interest of suckling at the breast (Infant and Young Child Feeding Guidelines, 2016). The goal of 10th plan (2002-2007) was early commencement of breast feeding (colostrum) from the current status of 15.8% to 50%, promotion of absolute and exclusive breastfeeding rate for children till the age of 6 months from the current rate of 55% to 80% and enhancement of complementary feeding rate at 6 months from the current level of 33.5% to 75% (GOI, 2002). A study in People Republic of Bangladesh, revealed that 37% of mothers breast fed their children exclusively for 6 months; about 67% mothers continued their breastfeeding for 2 years. Gradual complimentary feeding was observed in 75% & homemade food in 83% of mother's respectively (Hasan *et al.*, 2016). Another study in Bangladesh showed prevalence of EBF was 36%. It was further observed that EBF was 35% among older infants (3-6months) and 50% among younger infants(0-2months) (Prakash Chandra Joshi, 2014). Since many KAP (Knowledge, Attitude & Practice) studies have been conducted on breast feeding at different locations and various groups in India, this paper aims to examine breastfeeding practice particularly among Muslim women in Kolkata.

MATERIALS AND METHODS

Study design: Our present study is a descriptive observational study and data was collected with the help of open and closed structured questionnaire.

Study setting: A cross-sectional study was carried out across 6 Muslim dominated localities of Kolkata, namely Motijheel, Bibi Bagan, Tangra and Ripon Street, Chatu Babu lane, and Raja Bazar. 90% of the said areas are covered by Muslims and 10% are Hindus. These areas are selected based on high priority it receives about low socioeconomic condition, low awareness on health in general and infant breastfeeding practices.

Sample size: Two types of sample size were calculated statistically. One for the mothers having child under 6 months was found to be 300 and the other from 6 months to 11 months to be 240. So, the total sample size of mothers was 540.

Study participants: A sample of 540 mothers in the age group 18-45 years were interviewed by house-to-house survey by

random cluster sampling in the above narrated Muslim dominated areas.

Data Characteristics: Information related to appropriate infant feeding practices in the initial first six months, eg. rate of early initiation of breastfeeding and impact of various factors like mothers age groups, educational level, place of delivery, family income, pre lacteal and colostrum feed on the same was collected. The study was done on the basis on data received from Govt. and private hospitals in Kolkata, West Bengal. The definition and terms for infant feeding method and practices were followed as per National Guidelines on infants and young child feeding (Ministry of Human Resource Development, 2004).

Inclusion criteria: Mothers who delivered their baby and those with child under 12 months of age.

Exclusion criteria: Pregnant women or mothers having a child with any kind of malformation. Mothers having child less than 12 months old who could not be interviewed because of some reasons or the other will also be tagged under exclusion criteria.

Data analysis: Data entry was done by Epi Info, statistical software for epidemiology developed by Centres for disease control and prevention (CDC) in Atlanta, Georgia (USA) and validated by double entry. The data was further analysed statistically to come out with observation and realistic conclusion. Approval from Ethics Committee of Kolkata Municipal Corporation was taken for conducting the study.

RESULTS AND DISCUSSION

Study reveals out of 540 children, 256 (47%) were females and 284 (53%) were males. Most of the mothers were in the age group of 20-29 years; 209 (38.70%) within 20-24 years; 217 (40.19%) within 25-29 years Table 1. As regards, educational category, majority, 220 (40.74%) mothers were educated up to primary level; by profession 534 (98.89%) were housewives, by type of families 390 (72.22%) belonged to joint families, Table 2 by parity 315 (58.33%) were multi gravida and out of 381 women admitted for delivery in government hospital, only 116 (30.45%) mothers initiated breastfeeding within 1 hour of childbirth (Table 3). By socioeconomic condition 322 (59.63%) had family income between Rs.5000-10000 per month Table 4. Our study revealed that out of 540 mothers belonging to various age groups only 134 (24.81%) initiated breastfeeding within one hour of birth. Among early initiators of breastfeeding most of the women were in the age group of 20-29 years. Further analysis of initiation of breastfeeding among various age groups of women, the study brings to our notice that early initiation of breastfeeding was delayed with majority of women starting breastfeeding after 1 hour. Out of 134 mothers who initiated breast feeding within one hour of birth as per WHO guideline, 56(41.79%) had primary level education followed by women having no formal, secondary, illiterate, higher secondary, graduate, and postgraduate education. The result was statistically significant. Analysis of initiation of breastfeeding among women under different educational group, revealed that early initiation of breastfeeding was delayed in all groups except among illiterates. The study also revealed that among early breastfeeding initiators majority had delivery in government

institution. Out of 134 women who had delivery in various institutions initiation of early breast feeding was seen in 116 (85.57%) women who had given childbirth in government hospital. But early initiation of breast feeding among women having delivery in government hospital is not encouraging. Out of 381 women admitted for delivery in government hospital, only 116 (30.45%) initiated breastfeeding within 1 hour of childbirth whereas others started breastfeeding after 1 hour. Late initiators of breastfeeding were also seen among women delivered in private hospital and at home. Majority of women 322 out of 540 belonged to family income group of Rs.5000-to 10000 per month. Out of 540 mothers 134 (24.81%) belonging to various family income groups, started breastfeeding within one hour of birth. Out of 134 mothers belonging to various income groups who started breastfeeding within one hour of birth, 86 (64.18%) belonged to the income group Rs.5000-10000; the result was statistically significant. The finding also reveals that in all income groups early initiation of breastfeeding was delayed. Among reasons for late initiation of breastfeeding, Table 6 caesarean section tops the list. Out of 406 women who started breastfeeding late, ie. after one hour of birth, 159 (39.16%) had caesarean delivery. These mothers remain drowsy because of anaesthesia and were unable to breastfeed; as a result, early initiation of breastfeeding was delayed. The study also reveals that out of 540 mothers, 103 (19.07%), gave pre lacteal feed. It is quite evident that pre lacteal feed is still prevalent in the community. It is mandatory that every infant should be fed colostrum, but we find in our study that out of 540 mothers, 391 (72.41%) of mothers had given colostrum to their new-born baby Table 6. Impact of various factors on early initiation of breastfeeding studied by logistic regression technique revealed that early initiation of breastfeeding among women having vaginal delivery was 3.75 times more in comparison to initiation of the same among women belonging to caesarean delivery group. Difference is highly significant (O.R=3.74, p=0.0000). Early initiation of breastfeeding among mothers having complication during delivery was 1/3 compared to those who had no complication. Also highly significant (O.R=0.30, p=0.01). As far education is concerned early initiation of breastfeeding in women delivered in private hospital was 1/5 in comparison to women delivered in govt. hospital, significant (O.R=0.2, p=0.00). The study revealed that Illiterate, nor formal and primary level educated women initiated early breastfeeding in comparison to those having secondary, higher secondary, graduate, and postgraduate level of education Table 7.

DISCUSSION

As per guidelines of IYCF (2006), Government of India clearly states that initiation of breast feeding should start as soon as possible after birth preferably within an hour of childbirth (Ministry of Human Resource Development, 2004). Late commencement of breastfeeding practices is being influenced by various factors like, mother's educational qualification, age, socioeconomic condition, and delivery sites. This indicates that counselling and motivation of mothers for early initiation of breastfeeding were not done during antenatal visits. In comparison to earlier studies, our study reveals that the practice of delayed initiation of breastfeeding (>1hr) still exists among Muslim women of Kolkata. In this study we find that only 24.81% mothers-initiated breastfeeding (<1hr) which is lower in comparison to 48.2% in urban area as per NFHS-4(India) (NFHS, 2015); studies of Ali Mohammed Al-Binali *et*

al, Ashika Mote *et al.* (2013), Madhu *et al.* (2009), Balaji chinnasami *et al.* (2016), revealed initiation of breastfeeding within 1 hr of birth was 31%, 60.6%, 44%, 34.5% respectively. Thus, it is established that in our case the initiation of breastfeeding within 1 hr of birth was lower. The reason for delayed initiation was due to operative obstetrical intervention(caesarean delivery) (Chien and Tai, 2007; Meedya *et al.*, 2010; Seed *et al.*, 2011). We have observed that after the caesarean delivery, mothers and infants remain aloof from each other for a long time due to anaesthesia, baby being kept in nursery, mother being provided sedation for pain or delay in shifting from OT to bed. As a result, mother is unable to feed (Seed, 2011; Rowe, 2002). In our study it has been revealed that 28.45% of women of 15-24 age group initiated breastfeeding <1hr followed by 22.46% among 25-34. This is lower in comparison to study by Farhan Karim *et al.* (2018) where 66.4% and 71.3 % of women were in the age group of 15-24 and 25-34 respectively. The study also reveals that 54.39% and 53.99% of women who initiated breast feeding within 1-24 hrs of birth were in the age groups narrated above. Though not statistically significant, more women are seen initiating breast feeding after 1 hour after childbirth. Among mothers belonging to various educational level, 48.48% of illiterate mothers had early initiation of breastfeeding followed by 32.35% having non-formal education, 24.45% primary, 25% secondary, 16.18% higher Secondary, 12.50% graduation and 9.09% at post graduate level. Chi sq.=39.10, df=18, p=.00. The result is significant. The data reveals that early initiation of breastfeeding is higher among uneducated and goes on decreasing as educational level advances. The result is like the findings of Ariful *et al.* (2019), where early initiation of breast feeding was 57.7% among uneducated, 54% among primary and 50.7% among secondary level. Reasons being illiterate mothers are usually housewives and they replicate habits of their elders whereas educated mothers because of their educational status they enjoy resist to follow breastfeeding practices from their elders. Also educated women prefer to go for caesarean section in comparison to illiterate and less educated mothers who prefer to go for vaginal delivery. As a result, because of caesarean delivery early initiation of breastfeeding is delayed in women belonging to educated class. Educated working mothers from the very beginning avoid breastfeeding. In sharp contrast to our findings, early breast feeding was higher 48.29% among secondary educated and 31.55% among uneducated as per study by Pewan Acharya *et al.* (2015). This study also reveals, that among mothers who had delivery in govt. hospital only 30.45% went for early initiation of breastfeeding while rest 69.55% were late initiators in comparison to delivery in private hospitals only 7.80% were early initiators and rest 92.20% were late initiators of breastfeeding. Among women who had home delivery 38.89% were early initiators of breastfeeding while rest 61.11% were late initiators. So, number of women initiating early breastfeeding having home deliveries were greater than those having institutional deliveries; Chi sq=61.86, df=6, p=0. The result was significant. This contrasts with the study of Belachew, A (2019), where 78.2% and 66.4% of mothers were early initiators of breast feeding in health institution and home deliveries, respectively. As far as family income is concerned, our study shows that 39.13% of women initiated early breast feeding belonged to family income of <Rs.5000 while rest 60.87% were late initiators. The number of early initiators among different income groups decreases with rise in family income. So, lower income group women have more awareness on advantages of early initiation of

Table 1. Age group wise initiation of breast feeding

Age group	<1 hr	1-24 hrs	24-72 hrs	>72 hrs	Total
15-19	13(43.33)	14(46.67)	2(6.67)	1(3.33)	30(100)
20-24	55(26.32)	116(55.50)	34(16.27)	4(1.91)	209(100)
25-29	51(23.50)	114(52.53)	42(19.35)	10(4.61)	217(100)
30-34	11(18.64)	35(59.32)	12(20.34)	1(1.69)	59(100)
35-39	4(16.67)	14(58.33)	4(16.67)	2(8.33)	24(100)
40-44	0(0)	1(100)	0(0)	0(0)	1(100)
Total	134(24.81)	294(54.44)	94(17.41)	18(3.33)	540(100)

Chi sq=15.23, df=15, p=0.435

Table 2. Education level wise initiation of breastfeeding

Level	<1 hr	1-24 hrs	24-72 hrs	>72 hrs	Total
illiterate	16(48.48)	12(36.36)	4(12.12)	1(3.03)	33(100)
Non formal	22(32.35)	35(51.47)	11(16.18)	0(0)	68(100)
primary	56(25.45)	127(57.73)	32(14.55)	5(2.27)	220(100)
Secondary	21(25.00)	47(55.95)	12(14.29)	4(4.76)	84(100)
HS	11(16.18)	31(45.59)	20(29.41)	6(8.82)	68(100)
Graduate	7(12.50)	34(60.71)	13(23.21)	2(3.57)	56(100)
Postgraduate	1(9.09)	8(72.73)	2(18.18)	0(0)	11(100)
Total	134(24.81)	294(54.44)	94(17.41)	18(3.33)	540(100)

Chi sq=39.10, df=18, p=.00

Table 3. Institution level wise initiation of breastfeeding

Level	<1 hr	1-24 hrs	24-72 hrs	>72 hrs	Total
Govt. Hospital	116(30.45)	213(55.91)	43(11.29)	9(2.36)	381(100)
Pvt. Hospital	11(7.80)	72(51.06)	49(34.75)	9(6.38)	141(100)
Home	7(38.89)	9(50.00)	2(11.11)	0(0)	18(100)
Total	134(24.81)	294(54.44)	94(17.41)	18(3.33)	540(100)

Chi sq=61.86, df=6, p=0

Table 4. Family income wise initiation of breastfeeding

Income group	<1 hr	1-24 hrs	24-72 hrs	>72 hrs	Total
<5000	27(39.13)	33(47.83)	8(11.59)	1(1.45)	69(100)
5000-10000	86(26.71)	175(54.35)	51(15.84)	10(3.11)	322(100)
10000-15000	13(15.48)	53(63.10)	17(20.24)	1(1.19)	84(100)
>15000	8(12.31)	33(50.77)	18(27.69)	6(9.23)	65(100)
Total	134(24.81)	294(54.44)	94(17.41)	18(3.33)	540(100)

Chi sq=29.94, df=9, p=0.001

Table 5. Frequency of reasons of late initiation of breastfeeding

Reasons	Freq.	%
Local custom	11	2.71
Delay in shifting to ward	107	26.35
Baby in nursery	55	13.55
Pain	36	8.87
Inadequate Breast milk	38	9.36
Colostrum not good	0	0
Caesar	159	39.16
Total	406	100

Table 6. Distribution according to breast feeding practices (n=540)

Variables	Freq.	%
Pre lacteal feed		
No	437	80.93
Yes	103	19.07
Colostrum feed		
No	149	27.59
Yes	391	72.41

Table 7. Logistic Regression showing factors affecting early initiation of breast feeding

Term	Odds ratio	95%	C.I	Co-eff	SE	Z-Statistic	P-value
Type of birth (Vaginal/Caesar)	3.7476	2.4215	5.799	1.3211	0.2228	5.9288	0.0000
Complication during birth (Yes/No)	0.3049	0.1266	0.7342	-1.1877	0.4483	-2.6493	0.0081
Family income (Rs.5000-Rs.10000/<Rs.5000)	0.5977	0.3430	1.0414	-0.5147	0.2833	-1.8167	0.0693
Family income (Rs.10000-Rs.15000/<Rs.5000)	0.3846	0.1747	0.8466	-0.9556	0.4026	-2.3735	0.0176
Family income (Rs.>15000/<Rs.5000)	0.4629	0.1789	1.1977	-0.7702	0.4850	-1.5881	0.0112
Place of birth (Home/Govt.Hosp)	1.2533	0.4670	3.3867	0.2258	0.5037	0.4483	0.6539
Place of birth (Pvt. Hosp./Govt.Hosp)	0.2241	0.1122	0.4477	-1.4955	0.3530	-4.2363	0.0000
Mother's education (HS/Graduate)	1.3887	0.4973	3.8777	0.3284	0.5239	0.62670	0.5308
Mother's education (Illiterate/Graduate)	6.7134	2.3466	19.2065	1.9041	0.5363	3.5504	0.0004
Mother's education (Madhyam/Graduate)	2.4489	0.9560	6.2732	0.8956	0.4799	1.8662	0.0620
Mother's education Non- formal/Graduate	3.5044	1.3543	9.0681	1.2540	0.4851	2.5852	0.0097
Mother's education (PG/Graduate)	0.7327	0.0806	6.6603	-0.3110	1.1261	-0.2761	0.7824
Mother's education Primary/graduate	2.5021	1.0599	5.9066	0.9171	0.4383	2.0927	0.0364

breastfeeding than higher income group. $\chi^2=29.94$, $df=9$, $p=0.001$. Though the findings are statistically significant, but it stands in contrast to the study done by Aznia Syam *et al.* (2017) where higher income group is 1.6 times more successful in initiating early breastfeeding than lower income group.

Conclusion

The study is concluded on the early initiation of breast feeding is low among Muslim mothers. Despite higher number of institutional deliveries early initiation of breast feeding is still low than home deliveries reason being caesarean section. EIBF (Early initiation of breast feeding) is more prevalent among uneducated women because educated women enjoy special status in the society and shun from the responsibility of breast feeding. Lastly low-income group mothers are early initiators of breast feeding than high income groups because their inability to buy tinned food. The only remedy is to provide prenatal education to mothers and strengthen public health education to promote breast feeding.

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