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Original Article

Comparison of breastfeeding practices among different social groups: Experience from North India

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ABSTRACT

Background: Breastfeeding is one of the most important determinants for neonatal survival, and the prevention of childhood infections. Breastfeeding practices vary among different professional and non-professional working mothers and also among different strata of society. **Objectives:** To assess the comparative prevalence of exclusive breastfeeding in various health professionals (Group 1), other professional women (Group 2), non-working housewives (Group 3), and laborer women (Group 4). **Materials and Methods:** This prospective study was conducted in the form of an interview of all above mentioned four groups of mothers using preplanned questionnaires. The mothers attending to our routine outpatient department and immunization section were randomly interviewed after taking proper informed consent. The study was conducted over a period of 1 year from January 2016 to December 2016. A total of 800 women (200 in each group) who had delivered within the past 1 year were interviewed. **Results:** Breastfeeding was delayed by more than 4 h in only 26% (52/200) in Group 1 (doctors/nurses/other health professionals) in comparison to 47.5%, 54.5%, and 43% of infants in Group 2, Group 3 and Group 4, respectively. Exclusive breastfeeding for ≥6 months as per the WHO recommendation was not given to any of the baby among health professional group (Group 1) where it was given to only 4.5% of Group 2 mothers, 3.5% of mothers in Group 3 and around 34.5% of laborer mothers. All mothers in Group 1 started with top/formula feeds before 6 months in comparison to 95.5%, 76.5%, and 66.5% of infants in Groups 2–4, respectively. **Conclusion:** Despite higher rates of early initiation of breastfeeding among all the groups and particularly in health professionals, awareness of exclusive breastfeeding (EBF), the benefits of EBF was the low depicted biyearly introduction of supplementary feeding. Maternal employment was observed as a major factor for early initiation of supplementary feeding, among health and other professionals whereas hungry baby and excessive crying were major contributory factors in early initiation of supplementary feeding in urban housewives and laborer mothers. This indicates the need to further promote and create awareness about the advantages of EBF and avoid early introduction of complementary foods.

Key words: *Exclusive breastfeeding, Health professional, Urban housewives, Laborer, Neonate*

Since times immemorial, nature in its wisdom has provided for newborn specialized nutrients by way of breast milk. For human babies, human milk is superior and unique to all other milks. It is gold standard for infant feeding and is species-specific [1]. The importance of exclusive breastfeeding (EBF) and immunological and nutritional values of breast milk have been well-demonstrated [2,3]. The beneficial effects of breastfeeding depend on the initiation of breastfeeding, its duration, and the age at which the breastfed child is started on complementary feed [4]. All infants should be fed exclusively on breast milk from birth to 6 months of age, and thereafter, while receiving appropriate and adequate complementary foods, breastfeeding should or up to 2 years of age or beyond [5,6]. Breastfeeding practices vary among different regions and communities. The Fourth National Family Health Survey-4 of India reported that overall 41.6% of the children aged under 3 years were breastfed within 1 h of birth, 54.9% of the children aged 0–6 months were exclusively breastfed, and 42.7% of the children aged 6–8 months received solid or semi-solid food and breast milk [7].

The practice of breastfeeding among Indian mothers is almost universal, but the initiation of breastfeeding is quite late, and the colostrum is usually discarded (our unpublished data). In India, although breastfeeding is still almost universal particularly in rural areas, there are indications that in certain segments of the population, such as educated and urban cities, duration of EBF is declining. Unfortunately, this trend is also slowly trickling down in some disadvantaged urban segments of the population such as slum dwellers [8]. Despite celebration of breastfeeding week (1–7 August) all over the world every year including India since 1992, introduction of baby friendly concept (1992) and feeding bottle and infant food act, 1992 with 2003 amendment which strictly defines complimentary food to be used only after 6 months of age, breastfeeding practices are not picking up. Hence with this objective, this study has been designed as not much data has earlier been published.

MATERIALS AND METHODS

This prospective study was conducted in Department of Pediatrics of Government Medical College, Jammu, over a period of 1 year from January 2016 to December 2016. This study was carried as a survey among different groups of the society (health professionals, other working professionals, nonworking urban housewives of Jammu and laborers) regarding the actual prevalence of EBF in infants <6 months of age. This survey was conducted in the form of interview in all the above mentioned four groups of mothers using preplanned questionnaires. The mothers attending to our routine outpatient department and immunization section were randomly interviewed after taking proper informed consent. The mothers were interviewed at least 2 times or till complete information was available. These interview schedules were planned to coincide with the immunization schedule, so attrition was not a problem. The inclusion for selecting participants was biological mothers who showed interest in participating were recruited. Only mothers with infants between the ages of 1–6 months were included. In terms of exclusion criteria, mothers with babies more than 6 months, mothers who were not breastfeeding at all due to personal choice or medical condition that interferes with breastfeeding such as mastitis were excluded from the study.

The Four Groups Considered in the Society Were

1. Health professionals which included doctors, nurses, and other health professionals (Anganwadi Workers/Auxiliary Nurse Midwife/Multi-Purpose Worker).
2. Other professional included teachers, other government and semi-government employees and private employees.
3. Nonworking urban housewives of Jammu.
4. Laborers: Included local and migrant daily wagers involved in various constructive works such as building construction, painting, and carpentry. A total of 800 women (200 in each group) who had delivered within the past year were interviewed.

Statistical Analysis

Different variables were experienced in percentage.

RESULTS

In our study, 55% mothers of Group 1 were primi, whereas, in laborer group, 80% were experienced mothers who had earlier breastfed their babies as well. The majority had three antenatal check-ups (ANC) during pregnancy. Cesarean-section rate was lowest in the laborers group where home deliveries were still very common among (Table 1). Early marriage in laborers was the reason for early childbirth among laborers mothers. Our study population was a mix of rural and urban population as GMC Jammu is the only tertiary center in whole Jammu province and patients are referred to us from far-flung areas. Therefore, we saw a higher percentage of home deliveries.

Breastfeeding was delayed by more than 4 h in only 26% of the newborns among Group 1 mothers in comparison to 47.5%, 54.5%, and 43% of infants in Groups 2–4, respectively, with $p<0.05$. About 16.5% babies in Group 1 and 7%, 3%, and 3.5% of Groups 2–4 mothers gave colostrum as the first feed during first hour of life. The reason for such a low percentage is that major portions of our patients were referred patients who were born outside and in different parts of Jammu state. The most common reason stated by mothers for discarding colostrum was that they thought colostrum was not good for the child, failure to establish breastfeed after cesarean-section and maternal ignorance (Table 2).

The primary reason for delayed initiation of breastfeeding in neonates beyond 4 h were cultural practices, cesarean section and failure of lactation (36.55%, 34.61%, and 21%) among health professionals as compared to other groups where respective reasons were failure of lactation, cesarean section, unhealthy colostrum, auspicious ceremony, no answer, and other reasons (Table 3).

EBF up to 6 months was given by none of the health professional mothers and was given by highest numbers in laborers (Table 4).

Maternal employment was observed as the major factor for early initiation of supplementary feeding among health and other professionals whereas hungry baby and excessive crying were the major contributory factors in early initiation of supplementary feeding among urban housewives and laborers mothers (Table 5).

DISCUSSION

It has become clear in recent years that breastfeeding in infants need attention than has formerly been devoted to it. Very few studies on breastfeeding practices in health professionals have been conducted where breastfeeding is expected to be higher [9] but most important in our study is the comparative analysis of breastfeeding among three most important and common strata of the society that is professional group (Semi

Table 1: Subject profile of different groups

Parameters	Group 1	Group 2	Group 3	Group 4
Primi (%)	110 (55)	74 (37)	119 (59.5)	80 (40)
Antenatal checkup (%)	194 (97)	163 (81.5)	180 (90)	134 (67)
Cesarean section (%)	45 (22.5)	37 (18.5)	42 (21)	24 (12)
Home delivery (%)	34 (17)	68 (34)	70 (35)	147 (73.5)
Mean age at first child birth (years)	26.2	23.1	22.0	18.8

Table 2: Timing of first feed/initiation of breastfeeding

Timings	Group 1	Group 2	Group 3	Group 4
<4 h	148 (74)	105 (52.5)	93 (46.5)	114 (57)
4–24 h	33 (16.5)	53	43	37 (18.5)
24–48 h	16 (8)	18	31	21 (10.5)
>48 h	03 (1.5)	19	30	28 (14)
No breast milk	0	05	03	00

Table 3: Causes of delayed initiation of breastfeeding

Causes	Group 1	Group 2	Group 3	Group 4
Number of cases	52	95	107	86
Cultural practices	19	15	16	31
Unhealthy colostrums	0	10	08	06
No milk	11	31	32	12
Cesarean-section	18	25	36	19
Milk after baby passes meconium	0	0	3	2
Maternal illness	0	1	0	0
Breast problems	01	01	01	01
Mother wanted rest	02	06	06	02
No answer	01	06	05	13

Table 4: Duration of exclusive breastfeeding

Duration	Group 1	Group 2	Group 3	Group 4
<1 month	32 (16)	44 (22)	50 (25)	10 (5)
1–2 month	38 (17)	68 (34)	44 (22)	3 (1.5)
2–3 months	38 (17)	18 (9)	18 (9)	11 (5.5)
3–4 months	48 (24)	18 (9)	08 (4)	12 (6)
4–5 months	36 (18)	09 (4.5)	31 (15.5)	51 (25.5)
5–6 months	08 (4)	34 (17)	22 (11)	44 (22)
>6 months	0	09 (4.5)	27 (13.5)	69 (34.5)

government employees and teachers), urban housewives and laborers with the most educated and literate strata that is health professionals.

A total of 55% of mothers within the group in our study were primi whereas only 20% were primi among laborers mothers. None of the primi mother in any group practiced EBF for 6 months thereby parity did not influence this practice in our study. More than three ANC were received in only 67% of Group 4 mothers and 81.5% of Group 2 which show that accessibility to health care is still a major concern, especially to poor and laborer strata. Despite three antenatal visits by health professionals, none continued EBF for 6 months showing no relation to this practice as well on breastfeeding practices.

Rate of cesarean section was almost similar among Groups 1-3 (22.5%, 21.5%, and 18.5%), respectively, in comparison to 12% in laborers group which was statistically significant with $p<0.5$. This clearly points that poor, and ignorant strata still continues to have more home deliveries than institutional deliveries. However, none of the babies delivered by cesarean section was given EBF for 6 months. Our results are in contrast to study performed earlier by Sharma and Lahori [10], wherein 74% of the urban and 91% of rural deliveries were home deliveries, which reflects increase awareness of people toward institutional deliveries. A total of 64% of infants belonging to Group 1, 76.5% of infant in Group 2, 61% in Group 3, and 44.5% in Group 4 started variety of substances other than breast milk as inaugural feed which is comparable to that reported by Jain *et al*. [11] in which 66% of the doctors and 36.5% of the nurses started breast milk as the first feed whereas 36% of the unemployed women of upper class started breast milk as the initial feed.

Breastfeeding was delayed for more than 4 h in only 26% of newborns in Group 1 in comparison to 47.5%, 54.5%, and 43% of infants in Groups 2–4, respectively. This observation was consistent with an earlier study conducted by Aggarwal *et al*. [12] in which about 62.7% of the infants of urban women were breastfed within 24 h compared to 68% in our study population.

The primary reason for delayed initiation of breastfeeding in neonates beyond 4 h were cultural practices, cesarean section and failure of lactation (36.55%, 34.61%, and 21%, respectively) among health professionals. In other three main causes were a failure of lactation, cesarean section, unhealthy colostrum, and auspicious ceremony. According to study conducted by Sharma and Lahori [10], 48% of the urban mothers observed auspicious ceremony (cultural practice) before initiating breastfeeding. Lactation failure rates or no milk was observed as a cause of delay in initiation of breastfeeds in 21% of health professionals which is similar to study conducted by Jain *et al*. [11] where it was 8.07% among doctors and 20.31% among nurses. However, Sharma and Lahori [10] reported lactation failure in 50.4% of the urban mothers.

Colostrum was not considered unhealthy by any of health professional mothers, but only 16.5% gave it as first feed. It was considered unhealthy to be given to infants in 10.52% among other professionals, 7.47% of urban housewives and 6.97% of the laborers. This observation is in consistence with study conducted by Rathore and Ramesh [13] where 9% of the women in Delhi had thrown away colostrum, considering it unhealthy. Exclusive breastfeeding as per the WHO recommendation for up to 6 months was given by none of the health professional mothers and was given by 4.5%, 3.5%, and 34.5% of mothers among Groups 2–4, respectively. Similar finding was reported by Jain *et al*. [11]. He observed EBF among 2% of the doctors and 11% of the unemployed women of upper class. Almost 100% of health professional mothers and 95.5% of other professional mothers, 86.6% of urban housewives and 65.5% of the laborers started top feeding before 6 months of age in the form of either cow's milk, buffalo milk, or artificial milk. Artificial milk as supplement was given to 35% of infants in Group 1, 25.13% in Group 2, 24.85% in urban housewives, and 6.87% among laborers. ORG group observed similar findings in Gujarat [14], where 17.15% of infants received artificial milk as supplementary feed.

Table 5: Reasons for early initiation of formula feeding among different groups

Reasons for early initiation	Group 1	Group 2	Group 3	Group 4
Number with early supplementation < 6 months	200/200 (100)	191/200 (95.5)	173/200 (86.5)	131/200 (65.5)
Maternal employment	98 (49)	110 (55)		06 (4.58)
Hungry baby as perceived by mother	22 (11)	34 (17.8)	86 (49.7)	86 (65.64)
Excessive crying	34 (17)	06 (3.14)	37 (21.35)	14 (10.65)
May not take top feed later	14 (7)	14 (7.32)	18 (10.4)	08 (6.10)
No liking for breastfeeding	08 (4)	06 (3.14)	07 (4.04)	03 (2.29)
Regurgitation of breast milk	09 (4.5)	02 (1.04)	06 (3.46)	06 (4.58)
Not gaining weight	09 (4.5)	10 (5.2)	10 (5.78)	01 (0.76)
Remains sleepy	0	0	01 (4.62)	01 (0.76)
Frequent stools	06 (3)	08 (4.71)	08 (4.62)	06 (4.58)
Retracted nipples	0	01 (0.52)	0	0
Total	200	191	173	131

Maternal employment was observed as a major factor for early initiation of top feeding among health professionals (49%) and other professionals (57.5%). This may be due to the fact that most of the resident doctors do not have benefit of maternity leave. Among other professionals despite having an option of 6 months maternity leave, gave top feeds in fear that child may not take bottle feed later when they resume duties. Monga *et al*. reported that local practices are significantly influenced by employment status and observed EBF in 81.9% of non-employed mothers and 49.7% among employed mothers [15].

Hungry baby was a very common reason for top feeding among urban mothers (49.7%) and laborers (64.5%), but the majority were unaware of signs of hunger in neonates and ascribed normal activities to hunger. A total of 17% of health professional mothers (mostly nurses and nursing orderly), 21.38% of urban housewives, 10.68% of laborers and 3.14% of urban housewives felt need to top fed their babies to ward off the cry. Jain *et al*. reported insufficient milk as a cause of early initiation of top feeding in 85.17% of urban housewives [10]. In this study, it was 71.08%. Mothers who are employed in the public and private sectors are less likely to practice breastfeeding as compared to self-employed mothers like laborers in our study. Self-employed mothers have their own schedule of work and have enough time for their babies; hence, the practice of EBF. Field *et al*. showed similar findings in his study of high breastfeeding rate in self-employed women [16]. The early introduction of complementary feeding might pose financial challenges to the mothers due to increased risk of diarrhea and malnutrition and may, in turn, result in increased infant mortality [17,18]. Relatively small sample size and single center experience are the major limitations of our study.

CONCLUSION

Despite the higher rates of early initiation of breastfeeding in the most educated group, EBF could not be given for various reasons denying the benefits of EBF in infants. Therefore, creating awareness about the advantages of EBF will further strengthen and support this common practice in communities like laborers. Furthermore, encouraging and motivating the most educated employed groups as doctors, teachers, and urban housewives to breastfeed at least until the time they are available will help in further strengthening the practice of exclusive breastfeeding.

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