

## Original Research Article

# A study on initiation of breastfeeding: are children in India getting the best start?

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## ABSTRACT

**Background:** Giving colostrum to a newborn has been called the “first immunisation” of the child. Colostrum and breast milk have definite anti-infective properties and have shown to have an impact on reducing specific morbidity and mortality rates among infants. The objectives of the study were to determine the level of knowledge about early initiation of breast feeding amongst mothers and to study determinants of initiation of breast feeding.

**Methods:** Cross-sectional analytical study was carried out at a tertiary care hospital of a medical college in Pune. Systematic random sampling method was used.

**Results:** The subjects came predominantly from joint families, urban area, Hindu by religion and Class II Socio economic status (Kuppuswamy classification). Majority of (84.23%) mothers responded that they initiated breast feeding within 1 hour after birth. Most (95.25%) of the mothers agreed for giving colostrums. About half of the mothers interviewed believed that breast milk is more nutritious (49.5%) while 28% mothers said that feeding babies with breast milk protects them against infections.

**Conclusions:** All doctors and paramedical personnel in the Government and private institutions ensure that lactation begins immediately after birth and prelacteal feeds are withheld.

**Keywords:** Breastfeeding, Children

## INTRODUCTION

Breastfeeding is traditional in our country and has been practiced through the centuries.<sup>1</sup> The practice of breast feeding adopted by majority of mothers in developing countries offers the best possible start to newborn. The nutritional value of breast milk is far superior to any other milk. Breast feeding not only provides fundamental nutritional needs of infant, but also provides growth factors, hormones and maternal antibodies. At the same time breast feeding limits an infant's exposure to food borne diseases present with alternative feeding methods.<sup>2</sup> Giving colostrum has been called the “first

immunisation” of the child. Colostrum and breast milk have definite anti infective properties and have shown to have an impact on reducing specific morbidity and mortality rates among infants.<sup>3</sup> There is a marked dose response relationship of increasing risk of neonatal mortality with increasing delay in initiation of breast feeding from one hour to day seven. Over all, late initiation (after day 1) was associated<sup>3</sup> with a 2.4 fold increase in risk. Early initiation of breast feeding results in reduction in neonatal deaths significantly. It has been estimated that initiation of breast feeding within first hour could reduce neonatal deaths by 22% and initiation within 1<sup>st</sup> day can reduce neonatal deaths by 16%.<sup>4,5</sup>

Breast feeding within an hour or two of delivery is associated with establishment of longer, more successful and exclusive breast feeding. The suckling reflex of the newborn is at its height twenty to thirty minutes after birth. If the infant is not fed then the reflex diminishes rapidly only to reappear adequately forty hours later. This may be called “the fourth stage of labour” which includes putting the baby to breast after birth and ensuring the intake of colostrum by the neonate.<sup>6,7</sup>

The exact time of initiation of breastfeeding has been suggested right from birth in the delivery room itself to within one hour after delivery. The effect of skin-to-skin and suckling contact immediately after birth increases the median duration of breastfeeding by 2½ months.<sup>8</sup> Malnutrition, infection and the poor state of immunity form a vicious cycle affecting the health of the child. These in turn have their origins in the economic, socio-cultural and physio-biological environment of the society. Interplay of all these factors influence the breast-feeding practices.<sup>9</sup> Since 1993, WHO’s efforts to improve nutrition of infants and young children have focused on promoting breast feeding. “Baby friendly hospital initiative” (BFHI), promoted by WHO and UNICEF has proved to be of immense value in encouraging proper infant feeding practices, starting at birth. Any hospital must meet ten criteria to be called as a Baby friendly Hospital. Initiation of breast feeding within one hour of delivery is one of the key steps of BFHI.<sup>10</sup> Neonatal deaths contribute 38% of deaths in those younger than 5 years, and are the main barrier to attaining the MDG for child health (MDG-4). According to WHO, in the Global Strategy for Infant and Young Child Feeding 2/3rd of under-five deaths that occur in infancy are mostly related to poor feedings practices. It calls for support to all mothers during the first hour to ensure early initiation of breastfeeding.<sup>8</sup>

## METHODS

Cross-sectional analytical study was carried out at a tertiary care hospital of a medical college in Pune from Apr 2016 to Oct 2016. Only Full Term normal deliveries (FTND) were included in the study. Those who did not give informed consent for participating in the study, premature babies, stillbirth babies and women who underwent caesarean section were excluded. Sample size was determined for estimating Confidence Interval for prevalence of initiation of breast feeding with  $p=50\%$  which came out to be 400. Systematic random sampling method was used. The data of previous years from the same hospital showed that on an average there were 250 deliveries per month and around 3000 per year. The first mother for interview was selected randomly from the labour room register and thereafter every 5<sup>th</sup> women was included in the study till the sample size was achieved. The data was collected and then entered in MS access and analysed using SPSS version 17.0.

## RESULTS

Maximum numbers of mothers were in the age group 20-24 years. The age range was 18 to 40 years and mean age of the mothers included in study was  $23.91\pm 3.72$  years. 94% of mothers studied were literate, majority (87.5%) were not working (housewives). The subjects came predominantly from joint families, urban area, Hindu by religion and class II socio economic status (Kuppuswamy classification). On studying subjects according to parity it was revealed that more than half were primi (55.3%) (Table 1).

**Table 1: Socio demographic characteristics of study population (n=400).**

| Characteristic            | Frequency                | %   |       |
|---------------------------|--------------------------|-----|-------|
| Age                       | <20                      | 28  | 7.00  |
|                           | 20-24                    | 232 | 58.00 |
|                           | 25-29                    | 103 | 25.80 |
|                           | >30                      | 37  | 9.30  |
| Literacy status of mother | Illiterate               | 24  | 6.00  |
|                           | Literate                 | 376 | 94.00 |
| Working Status of mother  | Not working (House wife) | 350 | 87.5  |
|                           | Working                  | 50  | 12.5  |
| Socio economic status     | Class I                  | 10  | 2.5   |
|                           | Class II                 | 359 | 89.75 |
|                           | Class III                | 17  | 4.25  |
|                           | Class IV                 | 12  | 3     |
|                           | Class V                  | 2   | 0.5   |
| Type of family            | Joint                    | 282 | 70.50 |
|                           | Nuclear                  | 118 | 29.50 |
| Place of residence        | Rural                    | 50  | 12.50 |
|                           | Urban                    | 350 | 87.50 |
| Religion                  | Hindu                    | 269 | 67.25 |
|                           | Muslim                   | 87  | 21.75 |
|                           | Christian                | 15  | 3.75  |
|                           | Others                   | 16  | 4.00  |
|                           | Did not answer           | 13  | 3.25  |
| Parity of mother          | Primi                    | 221 | 55.30 |
|                           | Para 2                   | 143 | 35.80 |
|                           | Para 3                   | 29  | 7.30  |
|                           | Para 4                   | 7   | 1.80  |

Majority of (84.23%) mothers responded that they initiated breast feeding within 1 hour after birth. Most (95.25%) mothers agreed to give colostrums. About half of the mothers interviewed believed that breast milk is more nutritious (49.5%) while 28% mothers said that feeding babies with breast milk protects them against infections. About less than half mothers (46.25%) reported that treating physician encouraged breastfeeding while more than one third (36.5%) of mothers were encouraged by family members. The response to practice of pre lacteal feeds was equally divided with one third mothers saying yes, one third saying no while one third were not sure and then did not respond.

**Table 2: Characteristics of breast feeding practices.**

| Item  | Responses                             | Frequency | Percentage (%) |
|---|---------------------------------------|-----------|----------------|
| <b>Initiation of breast feeding</b>           | Within 1 hour                         | 326       | 84.23          |
|   | After 24 hours                        | 53        | 13.68          |
|   | Did not answer                        | 08        | 2.06           |
| <b>Colostrum feeding</b>                      | Yes                                   | 381       | 95.25          |
|   | No                                    | 5         | 1.25           |
|   | Did not answer                        | 14        | 3.50           |
| <b>Practice of prelacteal feeding</b>         | Yes                                   | 127       | 31.80          |
|   | No                                    | 137       | 34.30          |
|   | Did not answer                        | 136       | 33.90          |
| <b>Plan of continuation of breast feeding</b> | Yes                                   | 257       | 64.30          |
|   | No                                    | 3         | 0.80           |
|   | Did not answer                        | 140       | 35.00          |
| <b>Duration of breast feeding</b>             | <6 months                             | 16        | 6.40           |
|   | 6 months to 1 year                    | 57        | 22.17          |
|   | 1 to 2 year                           | 113       | 45.40          |
|   | >2 year                               | 71        | 28.50          |
| <b>Knowledge of benefits of breast milk</b>   | Protection against infection          | 112       | 28.00          |
|   | More nutritious                       | 198       | 49.50          |
|   | Both                                  | 43        | 10.75          |
|   | Did not answer                        | 29        | 7.25           |
|   | Dont know                             | 18        | 4.50           |
| <b>Person who encouraged breast feeding</b>   | Doctor                                | 185       | 46.25          |
|   | Health care workers(ASHA, ANM, NURSE) | 22        | 5.50           |
|   | Mother/home members                   | 146       | 36.50          |
|   | Did not answer                        | 47        | 11.75          |

**Table 3: Relationship of initiation of breast feeding and socio demographic factors.**

| Characteristics              | Initiation of breastfeeding |              | Test value                              |
|------------------------------|-----------------------------|--------------|---|
|                              | Within 1 hour               | After 1 hour |   |
| <b>Socio economic status</b> |                             |              |   |
| Class I                      | 6                           | 4            | Chi Square=7.42:<br>df=4;<br>p=0.115 NS |
| Class II                     | 296                         | 50           |   |
| Class III                    | 13                          | 4            |   |
| Class IV                     | 10                          | 2            |   |
| Class V                      | 1                           | 1            |   |
| <b>Religion</b>              |                             |              |   |
| Hindu                        | 231                         | 38           | Chi Square=2.23:<br>df=3; p=0.526       |
| Muslim                       | 71                          | 16           |   |
| Christian                    | 12                          | 3            |   |
| Others                       | 12                          | 4            |   |
| <b>Type of family</b>        |                             |              |   |
| Joint Family                 | 227                         | 42           | Chi Square=0.01:<br>df=1; p=0.903       |
| Nuclear Family               | 99                          | 19           |   |
| <b>Place of residence</b>    |                             |              |   |
| Urban                        | 286                         | 51           | Chi Square=0.78:<br>df=1; p=0.378       |
| Rural                        | 40                          | 10           |   |
| <b>Parity of mother</b>      |                             |              |   |
| Primi                        | 178                         | 30           | Chi Square=1.01:<br>df=2; p=0.604       |
| Para 2                       | 117                         | 26           |   |
| Para 3 and above             | 31                          | 5            |   |
| <b>Education of mother</b>   |                             |              |   |
| Literate                     | 306                         | 59           | Chi Square=0.34:<br>df=1; p=0.550       |
| Illiterate                   | 20                          | 2            |   |

## DISCUSSION

84.2 percent mothers began breast feeding their child within 1 hour of birth, 8.26 percent of mothers initiating within 1-24 hours and another 5.42 percent initiating after 24 hours. These figures are higher compared to both national data and also studies which were published earlier. This study was undertaken in Baby Friendly Hospital Initiative (BFHI) hospital where mothers are encouraged to initiate breast feeding within half an hour which is one of the ten steps of successful breast feeding. Similar finding was seen in the study undertaken by Nayak et al, about breast feeding practices in urban community of Surat city which revealed that 70% of mothers were able to start breast feeding within first hour of life after normal delivery, 18.9% within 1-24 hours and 10.9% after 24 hours.<sup>11</sup> As per NFHS-3, initiation of breastfeeding within 1 hour was done in only 23.4 Percent, 28.8 percent for urban and 21.5 for rural area. For Maharashtra the NFHS-3 data revealed 51.8 percent mothers initiated breast feeding within 1 hour (50.5 percent for urban and 53 percent in rural area).<sup>12</sup> Coverage evaluation survey (CES) 2009, which was undertaken by UNICEF at the request of Govt of India to assess the impact of NRHM strategies on coverage levels of maternal, newborn and child-health services including immunization among women and children revealed that only 33.5 percent of mothers reported that they started breastfeeding the child within one hour of birth 24.2 percent within 1-2 hours, 15.4 percent within 2-23 hours, 23.9 percent within 24-72 hours and 2.3 percent after 72 hours.<sup>13</sup> Initiation of breast feeding within 1 hour was better among mothers in the age group of 20 to 24 years, Socio economic status class II, urban area, joint family and higher parity. We didn't find any significant association between some of the socio demographic factors studied with initiation of breast feeding.

We found that only negligible percentage of mothers (1.25%) discarded colostrums. Athavale et al, in their study in urban Health Centre of Government Medical College, Nagpur found that around 33 percent of the mothers discarded colostrums and they also found a significant positive association between practice of giving colostrum to the child and timing of early initiation of breast-feeding.<sup>14</sup> One third of mothers (31.8%) initiated prelacteal feeding. Kumar et al, in their study in the urban slums of Chandigarh found that prelacteal feed was given in 40% cases.<sup>15</sup> Jagzape et al, in the similar settings also revealed that 43.2% of mothers gave prelacteal feeding.<sup>16</sup>

## CONCLUSION

Majority of (84.23%) mothers responded that they initiated breast feeding within 1 hour after birth. Most (95.25%) of the mothers agreed for giving colostrums. About half of the mothers interviewed believed that breast milk is more nutritious (49.5%) while 28% mothers said that feeding babies with breast milk protects them against infections.

## Recommendations

All doctors and paramedical personnel in the Government and private institutions must ensure that lactation begins immediately after birth and prelacteal feeds are withheld. In case of a genuine problem (e.g. prematurity) expressed breast milk should be given to the child.

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