

## Research Article

# Study of breastfeeding practices in coastal region of South India: a cross sectional study

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## ABSTRACT

**Background:** Breastfeeding has many health and developmental advantages for infants and mothers. Breast feeding promotion is a significant child survival strategy. Interventions to improve early and correct infant feeding practices can result in considerable reduction in infant morbidity and mortality. Objectives of current study were: 1) To study the breast feeding practices. 2) To determine the factors affecting the breast feeding practices.

**Methods:** A cross sectional study was conducted in Vijayawada city, one of the major city in coastal Andhra Pradesh from a period of June 2010 to May 2011. Among 109 slums and 59 wards, 10 slums and 10 wards were selected randomly by lottery method. Mothers of child less than 24 months were included in the study.

**Results:** Among 304 babies 58.22% received pre lacteal feeds. Sugar water (33.33%) and Honey (32.78%) were the most common type of pre lacteal feed given. Only 40.46% of the mothers initiated breast feeding within one hour of the delivery. Maternal surgery was the most common reason for delay in initiation in 27.62% of the mothers. Colostrum was discarded by 28.29% of the mothers and 62.33% of the mothers practiced exclusive breast feeding. Almost 30.26% of the mothers had given artificial feeding. Insufficient milk was the major reason for starting artificial feeding in 44.57% of mothers.

**Conclusion:** Present study showed better indicators compared to national level data but still, needs increased efforts to improve the infant feeding practices to attain millennium development goals.

**Keywords:** Prelacteal feeds, Breastfeeding, Colostrum

## INTRODUCTION

Breast feeding is the first fundamental right of the child. It provides a unique biological & emotional basis for the health development of the children. It offers infants & young children complete nutrition, early protection against illness and promote growth & development of the baby. Early initiation of breast feeding lowers the mother's risk of postpartum hemorrhage and anemia. Boosts mother's immune system and reduces the incidence of diabetes and cancers.<sup>1,2</sup> Exclusive

breastfeeding for the first four to six months of life and timely introduction of weaning foods are important for laying down proper foundations of growth in later childhood.<sup>3</sup> This is due to the fact that by five to six months of age babies need additional food besides breast milk, which supplies energy, protein and other nutrients. Since this forms one of the most sensitive periods, the combined effects of inadequate and unhygienically prepared supplemented food that is prone to infections may ultimately lead to increased risk of growth retardation.<sup>4</sup>

The beneficial effect of breastfeeding depends on breastfeeding initiation, its duration, and age at which the breast-fed child is weaned. Breastfeeding practices vary among different regions and communities. In India breastfeeding practices are influenced by rural and urban residence, cultural, socio-economic factors, psychological status, religious value and literacy especially low level of mother's education, mother's employment.<sup>5-8</sup> In rural areas, feeding was started only after a ritual performed on the third day after childbirth. A common belief was that only after second or third day mother was capable of secreting sufficient quantity of milk to feed the baby. Such practice made the mother more vulnerable to postpartum hemorrhage.<sup>5</sup> There was a common belief in rural area that the first milk (colostrum) has some unusual constituents in it, which could be hazardous for the newborn infant and the breast needs to be squeezed free of this. Thus the baby was put to the breast only after 3 days and most of the times first feed to the infant had been other than breast milk.<sup>5</sup> Hence the study with these relationships helps in orienting the breastfeeding promotional activities and for preventing a decline in initiation and duration of breastfeeding practices.<sup>6</sup>

Breast-feeding has declined worldwide in recent years as a result of urbanization, socio-economic reasons, changes in living patterns, advertisements, marketing of infant milk formulae and maternal employment outside the home.<sup>9,10</sup> Since there is inadequate information regarding breast feeding practices in coastal Andhra Pradesh the present study was undertaken to understand the prevailing breast feeding practices.

## METHODS

A cross study was conducted in Vijayawada city which is one of the major city in coastal Andhra Pradesh. Study was conducted from a period of June 2010 to May 2011. Vijayawada city had total population of 8.45 lakh according to census 2001, in which slum population was 2.6 lakh. According to Municipal Corporation, Vijayawada city has 109 slums and 59 wards. Permission was taken from the chief medical officer of Municipal Corporation to conduct the study. Among 109 slums and 59 wards, 10 slums and 10 wards were selected randomly by lottery method. Population of each ward and slum ranged from 5000 to 25000. Definition of slum was according to census 2001 and non-slum area was defined as the area which had proper housing condition, proper sanitation and water supply with availability of social and health services

After reaching each slum or non-slum area, all the lanes were numbered and out of them one lane was selected randomly. Within the selected lane all the houses were numbered. The first household was selected randomly from this house subsequent houses were visited following right hand rule. Mothers of child less than 24 months were included in the study. Mothers with known chronic

illness like tuberculosis, diabetes, hypertension and HIV and those who refused to participate in the study were excluded from the study. The same procedure was followed till desired Sample of 15 mothers in each ward and slum was obtained. Sample of 16 was collected from last 2 wards and slums to get complete sample of 152. The purpose of study was explained and consent was taken from each participant. Data collection was done by interviewing the mothers of children aged less than 24 months by house to house visit. The information regarding the study variables were recorded on pre-tested structured questionnaire. Ethical clearance was obtained from the institution.

Data analysis was done by using MS excel spread sheet. Chi-square test was applied to test the significance. Statistical significance was accepted at  $P < 0.05$ .

## RESULTS

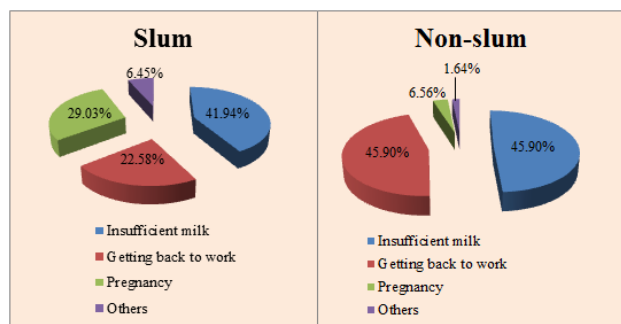
Among 304 babies 177 (58.22%) had received pre lacteal feeds, 93 (52.54%) children in slum areas and 84 (47.46%) children in non-slum areas had received prelacteal feeds. There was no significant difference between both the areas. Sugar water (33.33%) and honey (32.78%) were the most common type of pre lacteal feed given, animal milk, tinned milk and castor oil were other prelacteal feeds given. Significantly higher number of mothers who underwent caesarian section had given prelacteal feeds in slum ( $P = 0.00127$ ) and non-slum area ( $P = 0.0006$ ). Only 40.46% of the mothers initiated breast feeding within one hour of the delivery. Almost 29.60% of the mothers initiated breast feeding within 1-4 hours, 15.46% of them initiated between 5-24 hours. Only 14.47% initiated after one day. There was no difference in Initiation in slum and non-slum areas ( $P = 0.1287$ ). Maternal surgery was the most common reason for delay in initiation in 27.62% of the mothers, lack of milk secretion (21.55%), religious belief (18.23%), difficulty in sucking (17.13%), and lack of awareness (15.47%) were other reasons. Significantly higher number of literates initiated breast feeding on appropriate time compared to illiterates ( $P = 0.00041$ ). Initiation was delayed among mothers who underwent caesarian section compared to mothers who has normal vaginal delivery in both slum ( $P = 0.00092$ ) and non-slum area ( $P = 0.000095$ ). There was no significant association between the gender and the initiation of breast milk.

Colostrum was discarded by 28.29% of mothers. Higher percentage of mothers in the slum area (37.50%) discarded colostrum compared to the mothers in non-slum area (19.08%) and this difference was significant ( $P = 0.00036$ ). There was significant association between the literacy and discarding of colostrums in slum area ( $P = 0.000000127$ ). Most common reason for discarding colostrums was advice by relatives and friends (43.02%) and other reasons were mother felt it is not healthy for the baby (19.77%), unhygienic (17.44%), social customs (8.14%), another 11.63% discarded without any reason.

Almost 87.50% of the mothers breast feed the baby on demand another 12.50% gave scheduled feeds.

**Table 1: Socio-demographic distribution.**

Variable	Slum area (%)	Non-slum area (%)	Total (%)
<b>Age</b>			
15-20 years	25.66	9.21	17.43
21-25 years	54.60	46.72	50.66
26-30 years	18.42	26.97	22.70
31-35 years	1.32	17.1	9.21
<b>Education</b>			
Literate	56.58	96.71	76.61
Illiterates	43.42	3.29	23.39
<b>Occupation</b>			
Employed	25.00	26.97	25.99
Unemployed	75.00	73.03	74.01
<b>Economic status</b>			
APL	75.65	100	87.83
BPL	24.35	0.0	12.17
<b>Religion</b>			
Hindu	63.16	72.37	67.76
Christian	31.58	19.74	25.66
Muslim	5.26	7.89	6.58
<b>Type of family</b>			
Nuclear family	71.05	69.74	70.39
Three generation family	19.74	27.63	23.68
Joint family	9.21	2.63	5.93



**Figure 1: Pie diagram showing the reasons for starting artificial feeding.**

\*other reasons included: advertisements, advice by relatives and friends, mother perception that artificial feeds increase babies weight

Among 223 children who were more than 6 months old 62.33% of babies had received exclusive breast feeding. There was no difference among children in both the areas. Significantly higher number of employed mothers did not practice exclusive breast feeding in slum ( $p=0.03086$ ) and non-slum area ( $p=0.0000068$ ). Almost 30.26% of the mothers had given artificial feeding. Higher number of mothers in non-slum area (40.13%) had given artificial feeding compared to mothers in slum area (20.39%) ( $P < 0.00018$ ). Insufficient milk was the

major reason for starting artificial feeding in 44.57% of mothers. Almost 61.84% of the babies were given breast feeding during illness. Among 180 babies weaning was started to 30.56% of babies at less than 6 months of age, for 41.11% of the babies at 6 months and 28.33% received supplementary food after 6 months.

## DISCUSSION

In the present study 52.54% of mothers in slum area and in non-slum areas 47.46% of mothers had given pre-lacteal feeds. Higher percentages was reported by Chhabra P et al. (76.9%),<sup>11</sup> Ranjana Tiwari et al.<sup>12</sup> (76.0%), Sharadha Jain et al.<sup>13</sup> (34% of doctors, 61.5% of nurses). Were as lower percentage was reported by Kulkarni RN et al.<sup>14</sup> (36.1%), Kumar D et al.<sup>15</sup> (40%). This difference can be attributed to social customs prevailing in the area. Type of pre-lacteal feed given varied from place to place. In the present study most common pre-lacteal feed given was sugar water for 26.88% of infants, similar findings were observed by Adhisivam B et al.<sup>16</sup> In Chhabra P et al.<sup>11</sup> study, a preparation of jaggery called 'gur ghutti' was the most popular pre-lacteal feed and in study done by Malini et al.<sup>17</sup> first feeding 'Janam Ghunti' was given to neonates with the belief that it helps to prevent stomach disorder, dehydration and acts as a tonic.

In the present study 40.46% of mothers initiated breast feeding within one hour. Initiation of breast feeding was higher in present study compared to NFHS-3<sup>18</sup> Andhra Pradesh (28.9% urban, 21.5% rural) and Ajay Kumar G et al.<sup>19</sup> (30%). Adhisivam B et al.<sup>16</sup> reported 51% mothers initiated breast feeding within one hour. Maternal surgery (27.62%) and lack of milk secretion (21.55%) were the common reasons for delayed initiation, whereas Kumar D et al.<sup>15</sup> reported family restrictions (38.8%) and social customs and religious belief (25.2%) as the common reasons for delay.

Initiation of breast feeding was significantly associated with literacy and type of delivery whereas no association was observed with parity and gender. Similar findings were reported by other Indian studies.<sup>4,6,14,15,20,21</sup> In contrary Das Gupta et al.<sup>22</sup> in their study reported that early initiation of breast feeding was more in multiparous mothers.

In the present study higher number of the mothers in slum (37.5%) discarded the colostrum. In urban slums of Gwalior 26.2% of mothers discarded colostrum and in Chandigarh only 15.9% of mothers discarded colostrum.<sup>12,15</sup> Most common reasons for discarding colostrum were because of the advice given by the relatives and friends (43.02%). Similarly in Yadav R.J et al.<sup>25</sup> study most common reason to discard colostrum was elder's advice in 36.6%. Other studies reported heavy or not good for the newly born child, family restrictions as the reasons to discard the colostrums.<sup>9,15,26</sup> In the present study literacy was significantly associated with colostrum

feeding similar findings were reported by others studies.<sup>14,19,23</sup> Demand feeding was the commonest practice (87.50%), majority of the Indian studies reported similar feeding practice where as in Nepal scheduled feeding was commonly practiced.<sup>4,6,16,17,23</sup>

Exclusively breastfeeding was practiced by 62.33% of the mothers our study findings were in accordance with NFHS-3<sup>18</sup> (62.7%). Lesser rates of exclusive breast feeding was found according to other Indian studies.<sup>6,23</sup> Higher number of non-working mothers practiced exclusive breast feeding compared to mothers working away from home similar findings were observed by Anju Agarwal et al.<sup>27</sup> In the present study majority of the mothers in the non-slum area had given artificial feeding. Artificial feeding was higher in our study compared to others Indian studies.<sup>14,19</sup> In the present study most common reasons for starting artificial feeding were insufficient milk secretion (41.94%), next pregnancy (29.03%) and resuming the work (45.09%) was the most common reason in non-slum area. Insufficient milk production was the commonest reasons according to other studies.<sup>19,28</sup> Complementary food was started at 6 months for 41.11% of children similar results were reported by other studies.<sup>6,28,29</sup> Early weaning practices were common in non-slum areas where as late weaning was prevalent in slum areas.

## CONCLUSION

Better feeding practices were observed in non-slum area compared to slum area. Higher number of mothers in non-slum area had given artificial feeds. The present study shows better indicators than the national level data but emphasis should be made to improve the breast feeding practices. Regular IEC activities and health education regarding the importance of breast feeding practices should be included in slum areas. More emphasis should be given to improve the breast feeding practices in working women. Day care services or creches facilities should be provided at work place in order to facilitate breast feeding.

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