

A Cross-sectional Descriptive Study to Estimate the Prevalence of Early Initiation and Exclusive Breast Feeding in the Rural Health Training Centre of a Medical College in Tamilnadu, Southern India

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ABSTRACT

Introduction: The World Health Organization and the National guidelines on infant and young child feeding recommend the practice of exclusive breastfeeding of infants for the first 6 months after their birth. The objective of this study was to estimate the prevalence of the early initiation of and exclusive breast feeding.

Method: A cross sectional, descriptive study was done. 79 infants and children who attended the under five clinic in the Rural Health Training Centre (RHTC), Pulipakkam Village, were chosen for the study by convenient sampling. This study was conducted by interviewing 79 mothers of the children in the ages of 0–24 months, who attended the under five clinic of RHTC, Pulipakkam. The data was collected by using a pre tested, structured questionnaire to obtain the information on the breast feeding and the hygienic feeding practices among mothers.

The statistical analysis was done by the authors by using the SPSS, version 16. The significance in the differences were

evaluated by using the Chi square test and the relationship between the variables were evaluated by using Kendall's tau correlation. A p value of <0.05 was considered as statistically significant.

Results: The prevalence of the early Initiation of breast feeding was 97.5% and the prevalence of exclusive breast feeding in the study population was 68%. Inadequate exclusive breast feeding and the lack of hygienic feeding practices among the mothers were significantly associated with an increased incidence of upper and lower respiratory tract infections and gastro intestinal infections in the infants and the children.

Conclusion: The education of the antenatal mothers on the benefits of breast feeding and hygienic feeding practices and making all hospitals baby friendly have to be focused on, in order to achieve 80% exclusive breast feeding as per the national guidelines on infant and young child feeding. We need to strengthen the MCH services in the study area in order to achieve 100% immunization.

Key Words: Pulipakkam, prevalence, exclusive breast feeding, Chi square test and Kendall's tau correlation

INTRODUCTION

Infant and young child nutrition has been engaging the attention of scientists and planners since long for the very simple reason that the growth rate in the life of human beings is maximum during the first year of life and that the infant feeding practices which comprise of both breastfeeding as well as complementary feeding have a major role in determining the nutritional status of the child [1].

Breast milk provides the best and the complete nourishment for the baby during the first six months of life.

During the first six months, exclusive breast feeding should be practised. The optimal infant and young child feeding practices - especially the early initiation of and the exclusive breast feeding for the first six months of life - help in ensuring young children the best possible start in life. Breast feeding is not only important for the young child's survival, health and nutrition, the development of the baby's trust and its sense of security - but it also enhances the brain development and the learning readiness as well. Breastfeeding is the best way to satisfy the nutritional and the psychological needs of the baby. The exceptional nutritional quality of the human milk has been recognized since a long time.

The data suggest that the infant mortality rates in the developing countries are 5–10 times higher among the children who have not been breast fed or who have been breast fed for less than 6 months. A child who is breast-fed has greater chances of survival than a child who has been artificially fed [2]. Also, infants who are not breastfed have a six fold greater risk of dying from infectious diseases (which include diarrhoea) in the first two months of life, than those who are breastfed [3].

Breastfeeding has many health and developmental advantages for the infants and their mothers and it is the preferred way of feeding the infants to promote optimal infant health and a reduced morbidity later in life [4–6].

The Baby Friendly Hospital Initiative was introduced with the goal of ensuring that all the infants were breastfed before they were discharged from the hospital and that 80% were exclusively breastfed for the first six months of life [7].

Malnutrition has been responsible, directly or indirectly, for 60% of all the deaths among children under five years of age, annually. Over 2/3rds of these deaths are often associated with inappropriate feeding practices and they occur during the first year of life. Only

35% of the infants world-wide are exclusively breastfed during the first six months of life and the complementary feeding begins either too early or too late, with foods which are often nutritionally inadequate and unsafe [1]. The poor feeding practices in infancy and early childhood which result in malnutrition, contribute to an impaired cognitive and social development, a poor school performance and a reduced productivity in the later life. Poor feeding practices are therefore, a major threat to the social and the economic development of the babies, as they are among the most serious obstacles which are in the way of attaining and maintaining the health of this important age group [1].

In view of the above reports, the present study was conducted to estimate the prevalence of the early initiation of breast feeding and the prevalence of exclusive breast feeding in the Rural Health Training Centre, Pulipakkam, Chengalpattu, Kanchipuram.

MATERIALS AND METHODS

The authors conducted this study after informing about its purpose to each of the mothers and after obtaining consent from them.

The Study Design

A cross sectional, descriptive study was chosen, as it could measure the prevalence of the children who have had an early initiation of breast feeding and who had been exclusively breast fed at the specified point or period. The results of this would be valuable for administrative purposes, for example, for determining the workload of the personnel in a health programme and also in the 'Community diagnosis', i.e. to identify the communities that need special programmes or actions to prevent the illness.

The Study Area

The Rural Health Training Centre, Pulipakkam, Chengalpattu, which is situated on the 12°43'8"N latitude and on the 79°58'35"E longitude, which is attached to the Department of Community Medicine, Karpaga Vinayaga Institute of Medical Sciences for the outreach activities and is also the field practice area for the under graduate MBBS students. The total population of this village was 3283 as per the 2011 census, with a birth rate of 21.9 per 1000.

The Study Population

The infants and the children who were less than 2 yrs of age, who were attending the under five clinic at the Rural Health Training Centre, Pulipakkam and were selected to participate in the study. The mothers were interviewed by using the pre tested, structured questionnaire on breast feeding and the hygiene practices of the mother. The questionnaire was administered by the auxiliary nurse midwife; the infants and the children were examined by a lady medical officer at the rural health training centre.

The Sample Size and the Sampling

79 children who were less than 2 years of age, who attended the under five clinic in the first week of August 2011 were recruited for the study [21] through convenient sampling.

The Study Tools

The NATIONAL GUIDELINES ON INFANT AND YOUNG CHILD FEEDING'2006 were considered as the norms and the same protocol was followed in our study.

- The initiation of breastfeeding immediately after birth, preferably within one hour.

- Exclusive breastfeeding for the first six months of life i.e., the infants receive only breast milk and nothing else, no other milk, food, drink or water.

The questionnaire contained particulars with regards to the current weight of the child, its immunization details, the details on breast feeding which included the early initiation with colostrum, exclusive breast feeding and pre lacteal feeds if any, and the hygiene feeding practices of the mother, which was initially drafted in English and was later translated to Tamil, the local language of the study participants. It was then pretested to assess its suitability with regards to its duration, language appropriateness and its question comprehensibility. The auxiliary nurse midwife (ANM) who was attached to the RHTC was trained in interviewing skills and with the content of the questionnaire and she administered the questionnaire to the mothers. The lady medical officer who was attached to the RHTC examined and treated the children for morbidities if there were any.

The statistical analysis was done by the authors by using the SPSS, version 16.

RESULTS

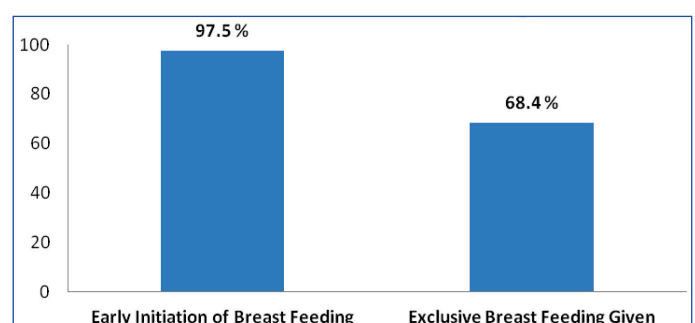
Of the 79 children, 48 (60.8%) were males and 31(39.2%) were females. The age of the study population ranged from 50 days to 24 months, and the mean age was 18 months.

The Prevalence of the Early Initiation of Breast Feeding

97.5% of the study subjects had been started breast feeding within one hour of birth, which was very much higher than the national level of 23% [8] [Table/Fig-1].

The Prevalence of Exclusive Breastfeeding

In our study, we found that 54 children (68.4%) had received exclusive breast feeding, which was also higher than the national level of 46% [8] [Table/Fig-1], while 25(31.6%) had not received exclusive breast feeding.



[Table/Fig-1]: Prevalence of early initiation and exclusive breast feeding

In this study, 18% (n=14) babies were suffering from one of the following morbidities viz., upper and lower respiratory tract infections, diarrhoea, etc. From [Table/Fig-2], it is evident that the incidence of morbidities was significantly higher among those children who had not been exclusively breast fed. ($p < 0.01$)

While a Chi-square test would suggest whether a statistically significant association between two variables was present or not, the Kendall's tau rank correlation coefficient would suggest about the strength of the association, if it was present i.e. to establish whether two variables may be regarded as statistically dependent or not.

Exclusive breast feeding	Morbidity in the children		Total
	Present	Absent	
Given	5	49	54 (68.4 %)
Not given	9	16	25 (31.6 %)
Total	14 (18 %)	65 (82 %)	N = 79

[Table/Fig-2]: Relationship between Exclusive breast feeding and Morbidity in the children
 $p < 0.01$.

In our study, when the Kendall's tau rank correlation coefficient was measured, it showed that the exclusive breast feeding and the morbidity in the children were statistically dependent ($\tau = 0.326$, $p=0.004$).

Of the 79 mothers, 85% had followed hygienic feeding practices and 15% (n=12) had not followed hygienic feeding practices. We found that all the children whose mothers were not following hygienic feeding practices had some morbidity conditions, as has been mentioned earlier. When we looked for the association between the lack of hygienic feeding practices among the mothers and the morbidities in their children, it was found that there was a highly significant association between the lack of hygienic feeding practices among the mothers and the morbidities in their children ($p < 0.01$) [Table/Fig-3].

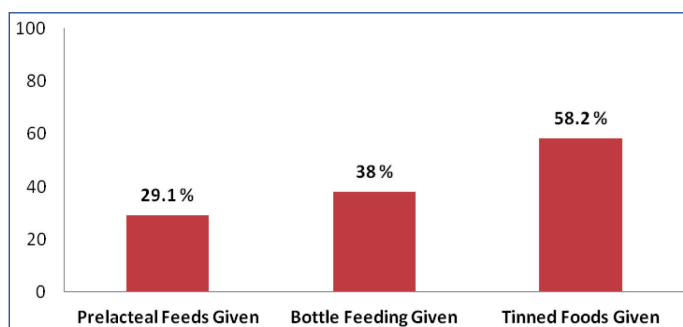
Hygienic feeding practices among the mothers	Morbidity in the children		Total
	Present	Absent	
Present	2	65	67
Lacking	12	0	12
Total	14	65	N = 79

[Table/Fig-3]: Relationship between Hygienic feeding practices among the mothers and morbidity in the children
 $p < 0.01$.

Here again, the Kendall's tau rank correlation coefficient, when it was measured, showed that the lack of hygienic feeding practices among the mothers and the morbidities in their children were statistically dependent ($\tau = 0.912$, $p=0.001$).

Among the feeding practices in the study subjects, the following pattern was observed;

Early initiation of breast feeding and colostrum given- 77 (97.5 %) babies, pre lacteal feeds given -23(29.1 %) babies, exclusively breast fed -54 (68.4 %) babies, bottle fed- 30 (38.0 %) babies and tinned foods given- 46 (58.2 %) babies [Table/Fig-4].



[Table/Fig-4]: Other infant and child feeding practices

In our study, a statistically significant association was found between pre lacteal feeding and bottle feeding ($p < 0.05$). Also, the Kendall's tau rank correlation coefficient showed that the pre lacteal feeding and the bottle feeding were statistically dependent ($\tau = 0.302$, $p=0.008$).

When we looked for the present weight of the children, of the 79 study participants, 39 (49.4 %) had the appropriate weights for their ages and 40 (50.6 %) had less appropriate weights for their ages.

Among the 79 children, the immunization was complete and up to date in 71 (89.9 %), it was partial and incomplete in 7 (8.9 %) and it was not given in 1 (1.3 %).

DISCUSSION

A cross sectional, descriptive study was done to estimate the prevalence of the early initiation of and the exclusive breast feeding in the Rural Health Training Centre in Pulipakkam village.

The prevalence of the early initiation of breast feeding was much higher in our study as compared to that in the national level [8] and other studies which had been done in India [9-10].

The prevalence of exclusive breast feeding in this study was found to be higher than that in the national level [7] studies and it was on par with that in most of the studies which were conducted in and outside India [9-13]

The protective effect of breast feeding in the prevention of infections during the first year of life has been proved through various studies across the world [14-17]. Our study also supported the protective effect of breastfeeding by showing a statistically significant, increased prevalence of respiratory infections and diarrhoea in the children who were not exclusively breast fed ($P < 0.01$).

The association between the lack of hygienic feeding practices among the mothers and the morbidities in their children is also well known [18]. Our study also showed a very significant association ($P < 0.01$) between the lack of hygienic feeding practices in the mothers and the increased morbidities in their children.

We found that the prevalence of giving pre lacteal feeds was much lower in our study as compared to that in the studies which were done in other communities in India [10, 19, 20]. This can be attributed to the higher prevalence of colostrum feeding and the early initiation of feeding in the study population. Also, pre lacteal feeds are usually administered due to colostrum deprivation and the delayed initiation of breastfeeding, apart from some social customs and beliefs. Among the study subjects, those who were given pre lacteal feeds were also started on bottle feeding and tinned foods, which was statistically significant ($p < 0.05$).

The weight of the study population, when it was analyzed, showed a statistically significant increase in the weight with respect to the age. It was more among the male children than among their female counterparts ($p < 0.01$). When the significance of this observed difference was looked for in the exclusive breast fed cases, it was found to be not statistically significant in both the sexes.

71 out of the 79 (89.9 %) babies in the study group were immunized as was appropriate for their ages, the immunization was partial and incomplete in 7 (8.9 %) babies and it was not done in 1 (1.3 %) baby.

LIMITATION

A too early or a delayed weaning could also have contributed to the morbidities in the study participants, which itself needs a research study.

CONCLUSION

The prevalences of the early initiation of breast feeding (97.5%) and the exclusive breast feeding (68.4%) were much higher in our study as compared to those in the national level studies and the practice of giving pre lacteal feeds was less in our study population than among the other communities in India. Hence, we need to focus on mother crafting viz., educating the expectant mothers with regards to breast feeding, immunization, maintaining personal and environmental hygiene, etc., and making all the hospitals baby friendly, in order to achieve 80% exclusive breast feeding as per the national guidelines on infant and young child feeding. We need to strengthen the MCH services in the study area in order to achieve 100% immunization.

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