

Effect of Timely Initiation and Exclusive Breastfeeding on Under 5 Childhood Illness- A Cross Sectional Study in Coastal District of India

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Abstract

Background: Breast milk is the natural and complete diet for a newborn for the initial part of his life. It contains all the nutrients in adequate amounts essential for the physical and mental development of the child. Besides the health benefits, it also creates a bond of affection between the mother and her child. **Objective:** To find out the relationship between the pattern of breastfeeding (exclusive/non-exclusive) and the episode of illness in under five children. **Methodology:** This cross-sectional study was conducted in 1980 under 5 mothers of Dakshinakannada district.UNICEF multi-indicator survey questionnaire was modified and used to obtain data of family, breast feeding practices , health education during antenatal visits and illness in child and care sought and expenditures in the past 1 month were recorded **Results and analyzed Conclusion:** Statistically significant difference was found in illness of episode and health care expenditure in children who were initiated breastfeeding early in life.Breastfeeding must be promoted so that there's a decline in the morbidity and mortality in children

Key words: Breast feeding initiation, Under -5 illness , Health Care Expenditure

Breastfeeding is a unique way of providing ideal food for the healthy growth and development of infants¹. Breastfeeding is known to have a beneficial effects in enhancing infants' immunity, protecting against gastrointestinal and respiratory infections, reducing maternal hemorrhage, as well as the risk of breast and ovarian cancer²⁻⁶. Breastfeeding is associated with reduced risk of chronic diseases such as diabetes mellitus type 2 ⁷ and obesity ⁸⁻¹². Despite the above benefits to breastfeeding, its prevalence and duration in many countries is below the international recommendation of exclusive breastfeeding (EBF) for the first six months of life. For instance, the proportion of infants less than six months who are exclusively breastfed are 36% globally, 39% in developing countries and 31% in Sub Saharan Africa ¹³. A recent systematic review has revealed that risk of all-cause and infection-related mortality was higher in predominantly, partially and non-breastfed infants compared to exclusively breastfed infants aged 0–5 months ¹⁴. Another aspect is timely initiation of breastfeeding within one hour after delivery¹⁵; early initiation of breastfeeding averages about 43% globally¹⁶.Moreover, in addition to breast milk, 17%

of infants 0–5 months consumed plain water, 5% each consumed non-milk liquids or other milk whereas 11% consumed complementary foods – practices contrary to WHO’s recommendation of EBF. Additionally, 5% of infants under age 6 months are not breastfed at all. The percentage of EBF decrease sharply with age from 74% of infants age 0–1 month to 64% of age 2–3 months and, further, to 36% of infants age 4– 5 months .There is a need to enhance the resources and strategize to promote early and exclusive breastfeeding as to encash on the long term advantages of exclusive breast feeding. With this in the background we designed a study with an aim and objective to study the patterns of breastfeeding in the community, factors contributing to it and the illness episodes in under 5 exclusively breast fed children

Methodology: This was a cross sectional survey conducted in all 5 taluks of Dakshinakannada district (IMR of 10.9) after obtaining permission from the authorities and the institutional ethics committee . Target sample size of 1980 mothers of U-5 children were considered for the study. 66 clusters around anganwadis were randomly selected by cluster random sampling method. UNICEF multi-indicator survey questionnaire was adopted, modified, pretested and used. Health care workers were trained to administer the questionnaire to mothers of U-5 who volunteered for the survey. All data of family, antenatal care sought, health education during antenatal visits and illness in child and care sought and expenditures in the past 1 month were recorded. Based on the feeding pattern infants were categorized as exclusively breastfed and top fed. (a) *Exclusively Breastfed*. This comprised infants who were given only breastfeeding excluding water even. (b) *Top Fed*. This included infants who were given milk other than exclusive breastfeeding, that is, cow’s, buffalo’s, goat’s, and formula milk, both breast and other milk (mixed fed), and those who were given water in addition to breast milk. Data were coded and analyzed using the SPSS package. Results were expressed as rates and proportions. Outcome variables were compared with sociodemographic characteristics of families.

Results: 1903 mothers of U-5 children were recruited in the study. 917 (48.3%) were below Poverty line (BPL) card holders out of which 229 (24.9%) had a monthly income of less than Rs.1000 and 437 (47.6%) had income of more than Rs.3000. 32 (12.2%) of people with income less than Rs.1000 did not have BPL card. Public Health System (PHS) was most preferred for delivery and 1884 (99%) were hospital delivery (Table 1). Most mothers, 1629 (85.6 %) were informed regarding importance of breastfeeding during ANC and 1668 (87.6%) had at least one antenatal ultra-sonogram done. 1693 (88.9%) of mothers breast fed their babies within first 2 hours of life and 376 (19.7%) gave pre lacteal feeds on day one. Out of 1903 surveyed, illness episode was reported in 431 (22.6%) children in past 1 month. Among them 299 (69.4%) had ARI, 64 (14.8%) had ADD, 15 (3.5%) had infectious diseases and 53 (12.3%) had other diseases.

It was reported that 1693 (89%) breast fed their babies within 2 hours of birth. Further it was analyzed that illness episode in our study was more common in those babies who were breast fed beyond 2 hours of life (Table 2). Nevertheless it was found mothers who had breast fed their babies within first 2 hrs of life spent a mean of Rs 409.33 (N=337) while those who fed beyond 2 hrs, mean Rs 729.74 (N=62) probably reflecting on the severity of illness (Table 3). Interestingly it was found that mothers who underwent antenatal checkups at Public health

systems 1629 (85 %) were more likely to be educated regarding the importance of breastfeeding , emphasizing that Private sector health care professionals should spend more time with this aspect. Literacy levels was never a hindrance, attributing to high literacy levels in our district. However mothers in the lower income group were likely to initiate breast feeding early and also exclusively breast feed the babies

Discussion: In our study we found that exclusively breastfed children have lesser episodes of illness compared to those who are not. This finding is scientifically proven and is also in concordance with other studies¹⁷. In our exclusively breastfeeding rates were good but the rate of breastfeeding needs to be increased much beyond this level as this simple but effective measure can save a lot of lives and money as well. In a study conducted in United States it was found that if 90% of US families adhered to exclusive breastfeeding for first six months, the United States would have been saving \$13 billion every year and prevent 911 deaths in children¹⁸. We did not find any association between episodes of illness in children and other factors like sex of the child, mother's education, age of the child and the mode of delivery of the child. Although all these factors are very important but we could not find an association which may be because our study was a single-visit interview with recall period of 4 weeks. Duration of illness of disease was not taken in to consideration while calculating average expenditure.

Conclusion: Exclusively breastfed children have lesser episodes of illness compared to the children who are not exclusively breastfed. Efforts must be made at increasing the rate of breastfeeding by educating the mothers regarding the benefits of breastfeeding for both mother and the child. Breastfeeding must be promoted so that there's a decline in the morbidity and mortality in children.

Table 1: Preferred place of delivery among various income groups: (N=1903)

	< Rs1000	1001 – 3000	>3000	Total
Govt. (PHS)	156 (59.5%)	221 (50.2%)	293 (24.4%)	670 (35.2%)
Private (PHCS)	101 (38.5%)	211 (48%)	902 (75.1%)	1214 (63.8%)
House	5 (1.9%)	8 (1.8%)	6 (0.5%)	19 (1%)
Total	262 (100%)	440 (100%)	1201 (100%)	1903 (100%)

$\chi^2=214.303$ $p<0.001$ vhs

TABLE 2:Initiation of breast feeding and illness episode

Illness in past 1 month	Initiation Of Breast Feeding		Total
	<2 hrs	>2 hrs	
Yes	366(19.2%)	65(3.4%)	431 (22.6%)
No	1327(69.7%)	145(7.6%)	1472 (77.4%)
Total	1693(88.9%)	2110(11%)	1903 (100%)

a X²= 9.291 p=0.002 hs

Table 3: Initiation of breastfeed and health care expenditure for illness

Initiation of Breastfeeding	N	Mean	Std,Deviation	Minimum	Maximum
<2hrs	337	409.3	733.9	10.00	5800.00
>2hrs	62	729.7	1471.8	24.00	8000.00

H=3.477 p=0.032 sig (H= Kruskalwallis test)

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