



STUDY OF INTER-RELATIONSHIP BETWEEN THE BREAST-FEEDING DURATION AND NUTRITIONAL STATUS IN CHILDREN AGED 9 MONTHS TO 3 YEARS

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Abstract

Background: The World Health Organization (WHO) recommends exclusive breastfeeding for the first six months. After six months, as an infant's nutritional needs increase, complementary foods should be introduced. The WHO estimates that around 1.3 million infant deaths globally could be prevented annually through optimal breastfeeding practices. In India, particularly in rural areas, children continue to suffer from malnutrition despite government efforts. This study aims to provide insights into optimal feeding practices and informed interventions to improve nutrition in early childhood by emphasizing the importance of exclusive breastfeeding, timely complementary feeding, and continuous education and support for mothers.

Methodology: The study was conducted in the OPD and Pediatric Ward of Parwati Clinic and Research Centre, Deoghar, Jharkhand from January 2022 to September 2022. The study employed a cross-sectional observational design. A total of 250 children were included: 200 undernourished children (cases) and 50 healthy children (controls). Data was gathered through a structured proforma.

Results: 57.6% children were continuing breast feeding at the time of interview (Table 1). Findings reveal that 38% children develop Grade I, 22% Grade II, 21% Grade III and 19% Grade IV malnutrition according to IAP classification.

Conclusion: Improper infant feeding practices like deprivation from colostrum, lack of exclusive breastfeeding for the first 6 months, and prolonged breastfeeding with improper complementary feed after 6 months play an important role in initiating and sustaining a vicious cycle of malnutrition.

Keywords: Breastfeeding Duration, Nutrition, IAP Classification

1. Introduction

Optimal nutrition in early childhood, particularly from birth to three years, is crucial for establishing a

foundation for lifelong health, physical growth, and cognitive development. This period is essential for ensuring that children achieve their full potential, as poor nutrition can lead to lasting developmental

delays and health issues. Despite numerous global initiatives and India's Integrated Child Development Services (ICDS), malnutrition among young children remains a significant public health issue in India. Feeding practices, including breastfeeding and the timely introduction of complementary foods, play a critical role in determining a child's nutritional status and are key factors in preventing malnutrition.

Breastfeeding, an ancient and natural feeding practice, is universally recognized for its benefits in promoting child survival and providing early immunity. Breast milk alone is sufficient to support an infant's growth for the first six months, as it contains all essential nutrients and adaptive components that respond to the infant's changing needs. The World Health Organization (WHO) recommends exclusive breastfeeding for the first six months, initiated within an hour of birth. Exclusive breastfeeding means the infant receives only breast milk, without any additional liquids or foods, not even water[1]. This practice is often called a baby's "first vaccination," as it strengthens immunity and prevents infections.

After six months, as an infant's nutritional needs increase, complementary foods should be introduced alongside continued breastfeeding. The timing and quality of complementary feeding are critical, as introducing solids too early or too late, or relying on nutritionally inadequate foods, can negatively impact growth. However, in some regions, improper timing of complementary feeding leads to early weaning, depriving infants of breast milk benefits. This issue, along with prolonged breastfeeding without suitable complementary foods, can lead to undernutrition, which remains prevalent in many low-income regions.

In developing countries, insufficient breastfeeding and complementary feeding practices can be life-threatening. The WHO estimates that around 1.3 million infant deaths globally could be prevented annually through optimal breastfeeding practices and another six hundred thousand with complementary

feeding[2]. Yet, a decline in breastfeeding rates is observed, influenced by social and economic factors, such as increased participation of women in the workforce, aggressive marketing of formula milk, and lack of awareness about the importance of breastfeeding. This shift often reflects a perception of bottle feeding as modern and convenient, while breastfeeding is sometimes viewed as outdated and cumbersome. Addressing these misconceptions and barriers is essential for improving feeding practices.

In India, particularly in rural areas, children continue to suffer from malnutrition despite government efforts. There remains a gap between recommended breastfeeding practices and actual practices, contributing to malnutrition and its complications. The present study was conducted in Deoghar, Jharkhand, focusing on children aged 9 to 36 months, to assess the prevalence of malnutrition and examine the relationship between breastfeeding duration and nutritional status in both rural and urban settings. This study aims to provide insights into optimal feeding practices and inform interventions to improve nutrition in early childhood by emphasizing the importance of exclusive breastfeeding, timely complementary feeding, and continuous education and support for mothers in both urban and rural areas. Understanding the local factors affecting breastfeeding duration and feeding practices is essential for creating effective programmes that address the root causes of malnutrition and promote child health.

2. Materials and Methods

The study was conducted in the OPD and Pediatric Ward of Parwati Clinic and Research Centre, Deoghar, Jharkhand from January 2022 to September 2022. It aimed to assess the relationship between breastfeeding duration and nutritional status among children aged 9 months to 3 years. A total of 250 children were included: 200 undernourished children (cases) and 50 healthy children (controls). Children were selected as cases met criteria for undernutrition and had histories of prolonged breastfeeding,

non-exclusive breastfeeding up to six months, or inadequate complementary feeding. Control children were healthy and had received exclusive breastfeeding up to six months and adequate complementary feeding thereafter. Excluded were children outside the age range and those who had followed the recommended feeding practices.

The study employed a cross-sectional observational design. Feeding history and anthropometric data (weight, height, head circumference, mid-upper arm circumference, and chest circumference) were collected using standardized tools like an infantometer, weighing machine, and measuring tape. Anthropometric data were used to classify malnutrition based on AP.

Data was gathered through a structured proforma, which included variables related to feeding practices and anthropometric measurements. Children’s mothers or guardians provided the information. Following data collection, a correlation analysis examined the relationship between breastfeeding duration and nutritional outcomes in these children.

3. Results and Discussion

Table 1: Breastfeeding Characteristics Observed in Index Cases (n=200)

Characteristics	Percentage
Children who received colostrum	49.2
Children who were exclusively breast fed	42.0
Currently continuing breast feeding	57.6

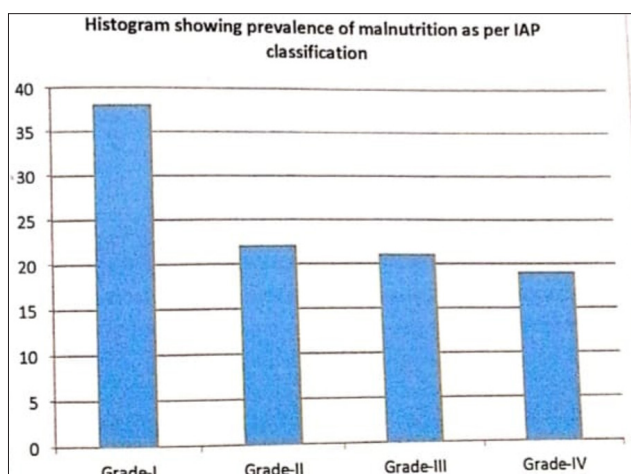


Figure 1: Prevalence of malnutrition as per IAP classification

This study revealed that 57.6% children were continuing breast feeding at the time of interview (Table 1). Findings reveal that 38% children develop Grade I, 22% Grade II, 21% Grade III and 19% Grade IV malnutrition according to IAP classification (Figure 1). However, similar study in Gujarat revealed 33.3% cases of Grade I, 34.4% cases of Grade II, 14.3% of Grade III, 8.02 % of Grade IV malnutrition[3]. Our results were considerably higher than those in rural Rajasthan[4], where 27.1% cases developed Grade I, 24.2% Grade II, 13.4% Grade III, and 5.7% Grade IV.

The current study found that the children who were pronged breastfed (57.6%) with inadequate complementary food or inappropriate weaning food develop significant malnutrition. A community based study in urban areas of Allahabad[5] revealed the children who received exclusive breast feeding or prolonged breast feeding with inadequate complementary food were significantly malnourished. Another study among Sudanese children aged 6 months to 36 months also showed a positive association between prolonged breast feeding and malnutrition[6].

The present study demonstrated children receiving prolonged breast feeding with inadequate complementary food were more likely to suffer from malnutrition and 42% suffered from ≥ 3 episodes of infections per year. Other researches have also reported a significant relationship between children with improper feeding habits, acute ailments and malnutrition[7].

4. Conclusion

The researchers conclude that improper infant feeding practices like deprivation from colostrum, lack of exclusive breastfeeding for the first 6 months, and prolonged breastfeeding with improper complementary feed after 6 months play an important role in initiating and sustaining a vicious cycle of malnutrition. There is no evidence that prolonged breast feeding per se is associated with proper nutritional status but when adequate complementary food is not provided along with it, there is significant

risk of malnutrition. So, the situation demands improved infant feeding practices. To achieve the goal, we have to motivate prolonged breast feeding upto 2 years but it must be supplemented with appropriate complementary food enriched with adequate amount of calories and proteins.

Conflict of Interest: None

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