

Original Research Article

EVALUATION OF BREAST FEEDING PRACTICES AND MATERNAL KNOWLEDGE IN RURAL AREAS: A CROSS-SECTIONAL STUDY

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Received : 17/06/2025
Received in revised form : 02/08/2025
Accepted : 23/08/2025

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DOI: 10.70034/ijmedph.2025.3.448

Source of Support: Nil,
Conflict of Interest: None declared

Int J Med Pub Health
2025; 15 (3); 2428-2431

ABSTRACT

Background: Breastfeeding is a cornerstone of infant nutrition, yet its optimal practice is influenced by maternal knowledge, socio-cultural norms, and healthcare access, particularly in rural communities. Assessing prevailing practices and awareness can guide targeted interventions. **Aim:** To evaluate breastfeeding practices and maternal knowledge in rural areas and identify factors influencing early initiation, exclusive breastfeeding, and colostrum feeding.

Materials and Methods: A cross-sectional study was conducted among 100 lactating mothers residing in rural areas. Data were collected using a structured questionnaire covering socio-demographics, breastfeeding practices, and knowledge assessment. Descriptive statistics were used to summarise findings, and associations were analysed using chi-square tests, with $p < 0.05$ considered statistically significant.

Results: Most mothers (62%) were aged 21–30 years; 72% had primary education. Early initiation of breastfeeding within one hour was practised by 58%, while 84% provided colostrum. Among infants <6 months ($n=46$), exclusive breastfeeding was reported in 74%, whereas 22% of all mothers practised pre-lacteal feeding. Knowledge assessment revealed that 56% had good knowledge, 30% moderate, and 14% poor. Maternal education showed a significant association with good knowledge levels ($p < 0.05$), and facility-based delivery was positively associated with early initiation ($p < 0.01$).

Conclusion: Breastfeeding practices in rural areas are suboptimal, particularly in terms of early initiation and avoidance of pre-lacteal feeds. Enhancing maternal knowledge through community-based education and strengthening institutional delivery coverage could improve breastfeeding outcomes.

Keywords: Breastfeeding practices, Maternal knowledge, Rural health, Exclusive breastfeeding, Colostrum, Pre-lacteal feeding.

INTRODUCTION

Breastfeeding is universally recognised as the optimal method of infant feeding, offering essential nutrients, immunological protection, and fostering mother–infant bonding.^[1] The World Health Organization (WHO) recommends initiating breastfeeding within the first hour of birth, maintaining exclusive breastfeeding (EBF) for the first six months, and continuing breastfeeding alongside complementary feeding up to two years or beyond.^[1] Early initiation and EBF have been shown to reduce neonatal morbidity and mortality, enhance

cognitive outcomes, and confer long-term health benefits.^[2]

Despite these well-established advantages, breastfeeding practices vary widely, particularly in rural areas where maternal education, cultural beliefs, and healthcare access play a critical role in shaping behaviours.^[3] In many such settings, practices such as discarding colostrum, delayed initiation, and providing pre-lacteal feeds persist, undermining optimal infant nutrition.^[4]

Maternal knowledge is a key determinant of breastfeeding success. Studies have consistently reported a positive association between maternal

education and adherence to WHO-recommended breastfeeding practices.^[5] However, knowledge gaps remain prevalent, often exacerbated by inadequate counselling during antenatal and postnatal care.^[6] Addressing these gaps through culturally appropriate, targeted interventions could significantly improve breastfeeding outcomes and contribute to achieving Sustainable Development Goal 3 on child health. The present study was undertaken to evaluate breastfeeding practices and maternal knowledge in rural areas, identify prevailing gaps, and assess factors influencing early initiation, exclusive breastfeeding, and colostrum feeding. The findings aim to inform community-level strategies for improving breastfeeding practices in resource-limited settings.

MATERIALS AND METHODS

Study Design and Setting

This was a community-based cross-sectional study conducted in the rural areas of Penamaluru Mandal, Vijayawada, Andhra Pradesh, between August 2024 and January 2025. The area is predominantly agrarian, with limited access to tertiary healthcare facilities, and represents typical rural socio-demographic characteristics of the region.

Study Population

The study included lactating mothers residing in the selected villages who had delivered within the past 12 months. Mothers who were critically ill, unwilling to participate, or unable to provide informed consent were excluded.

Sample Size and Sampling Technique:

A total of 100 participants were enrolled using purposive sampling to ensure representation across different age groups, educational levels, and socio-economic strata.

Data Collection Tool

A pre-tested, structured questionnaire was administered through face-to-face interviews in the local language (Telugu). The questionnaire included sections on socio-demographic details, obstetric history, breastfeeding initiation time, colostrum feeding practices, exclusive breastfeeding status, pre-lacteal feeding habits, and maternal knowledge regarding breastfeeding.

Knowledge Assessment

Maternal knowledge was assessed using a scoring system based on WHO breastfeeding guidelines. Scores $\geq 75\%$ were categorised as good, 50–74% as moderate, and $< 50\%$ as poor.

Data Analysis

Data were compiled in Microsoft Excel and analysed using SPSS version 26.0. Results were expressed as frequencies and percentages. Associations between variables were tested using the chi-square test, with $p < 0.05$ considered statistically significant.

RESULTS

A total of 100 lactating mothers from rural areas participated in the study. The majority were aged between 21–30 years (62%), followed by 31–40 years (28%) and ≤ 20 years (10%). Most participants had completed primary education (72%), while 18% had secondary education and 10% were illiterate (Table 1).

Table 1: Socio-Demographic Characteristics of Mothers (n=100)

Parameter	Number (n)	Percentage (%)
Age ≤ 20 years	10	10.0
Age 21–30 years	62	62.0
Age 31–40 years	28	28.0
Illiterate	10	10.0
Primary education	72	72.0
Secondary education	18	18.0

Breastfeeding Initiation and Colostrum Feeding Practices

Early initiation of breastfeeding within one hour of birth was reported by 58% of mothers, while 32%

initiated between 1–24 hours and 10% delayed beyond 24 hours. Colostrum feeding was practised by 84% of mothers, whereas 16% discarded colostrum due to misconceptions or cultural beliefs (Table 2).

Table 2: Breastfeeding Initiation and Colostrum Practices

Practice	Number (n)	Percentage (%)
Initiation within 1 hr	58	58.0
Initiation 1–24 hrs	32	32.0
Initiation > 24 hrs	10	10.0
Colostrum given	84	84.0
Colostrum discarded	16	16.0

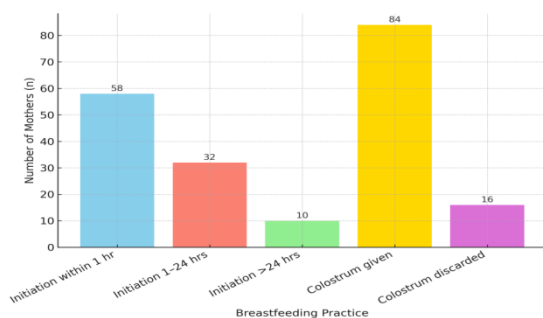


Figure 1. Breastfeeding Initiation and Colostrum Practices

Table 3: Exclusive Breastfeeding and Pre-Lacteal Feeding

Practice	Number (n)	Percentage (%)
Exclusive breastfeeding (<6 months, n=46)	34	74.0
Not exclusive (<6 months)	12	26.0
Pre-lacteal feed given	22	22.0
No pre-lacteal feed	78	78.0

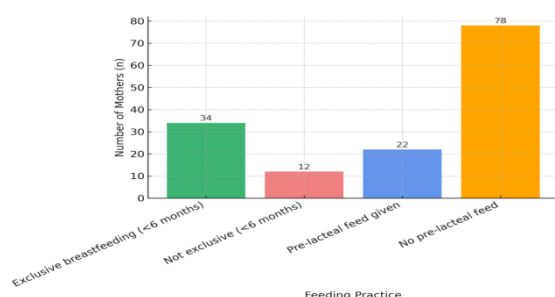


Figure2. Exclusive Breastfeeding and Pre-Lacteal Feeding

Table 4: Maternal Knowledge on Breastfeeding

Knowledge Level	Number (n)	Percentage (%)
Good ($\geq 75\%$)	56	56.0
Moderate (50–74%)	30	30.0
Poor (<50%)	14	14.0

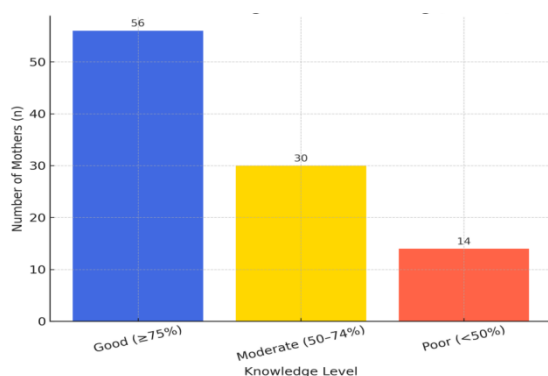


Figure 3. Maternal Knowledge on Breastfeeding

DISCUSSION

This community-based study in rural Penamaluru, Vijayawada, revealed both encouraging trends and persistent challenges in breastfeeding practices and maternal knowledge. The early initiation rate of 58% in our study, while promising, falls short of the WHO's global target of $\geq 70\%$.^[7] Comparable findings were reported in the National Family Health

Exclusive Breastfeeding and Pre-lacteal Feeding

Among infants younger than six months ($n = 46$), 74% were exclusively breastfed, while 26% had received other feeds. Pre-lacteal feeding was reported by 22% of mothers, with honey, sugar water, and cow's milk being the commonest types; the remaining 78% did not practise pre-lacteal feeding (Table 3).

Maternal Knowledge on Breastfeeding

Overall, 56% of mothers demonstrated good knowledge regarding breastfeeding, 30% had moderate knowledge, and 14% had poor knowledge scores. Higher maternal education was positively associated with better knowledge levels (Table 4).

Survey-5 (NFHS-5), where 58.3% of rural Indian mothers initiated breastfeeding within one hour.^[8] The observed significant association between institutional delivery and early initiation supports prior evidence that skilled birth attendance and immediate skin-to-skin contact enhance breastfeeding initiation.^[9]

Colostrum feeding prevalence was notably high at 84%, exceeding the NFHS-5 rural average for Andhra Pradesh (72%).^[8] Nonetheless, the practice of discarding colostrum among 16% of mothers reflects the enduring influence of cultural beliefs, a trend also documented in studies from other rural populations.^[10]

Exclusive breastfeeding (EBF) among infants <6 months in our study (74%) was higher than both the state average (63%) and national rural average (68%)^[8], suggesting better adherence in the study setting. However, the prevalence of pre-lacteal feeding (22%) is concerning, given its documented link with higher infection risk and reduced breastfeeding duration.^[11]

In terms of maternal knowledge, 56% demonstrated good awareness, and higher educational attainment was significantly associated with optimal practices. This aligns with studies from India, Nigeria, and Ethiopia, where literacy positively influenced breastfeeding outcomes.^[12,13] These findings underscore the need for targeted education during antenatal and postnatal care, particularly in communities with lower literacy rates, to address misconceptions and reinforce evidence-based practices.

The study's cross-sectional design, small sample size, and reliance on self-reported practices may introduce recall and reporting bias, limiting generalisability to other rural populations.

CONCLUSION

This study in rural Penamaluru, Vijayawada, revealed encouraging breastfeeding indicators, with higher-than-average colostrum feeding (84%) and exclusive breastfeeding rates (74%) compared to state and national rural benchmarks. However, early initiation within one hour (58%) and the persistence of pre-lacteal feeding (22%) highlight ongoing gaps. Maternal education was strongly linked to better knowledge and optimal practices, emphasising the role of awareness in improving infant feeding. Strengthening institutional delivery coverage, integrating structured breastfeeding counselling into antenatal and postnatal care, and addressing cultural misconceptions are crucial. Community-based health worker interventions remain vital to sustain positive trends and bridge remaining gaps for achieving optimal child nutrition and health outcomes.

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