

KNOWLEDGE, ATTITUDES, AND PRACTICES OF EXCLUSIVE BREASTFEEDING AMONG MOTHERS IN RURAL SINDH, PAKISTAN

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ABSTRACT

Background: Exclusive breastfeeding for the first six months of life is a proven strategy to improve infant survival, growth, and development. Despite global and national recommendations, exclusive breastfeeding remains suboptimal in many rural communities of Pakistan due to cultural beliefs, misinformation, and limited maternal support.

Objective: To assess the knowledge, attitudes, and practices of exclusive breastfeeding among mothers in rural Sindh, Pakistan.

Methods: A community-based cross-sectional study was conducted among mothers in Village Paryo Tunio, Kandiaro, Sindh, Pakistan, from August to November 2025, among 96 mothers using convenience sampling. Data were collected using a structured, pre-validated questionnaire covering socio-demographics and EBF-related knowledge, attitudes, and practices. Data were analysed using SPSS v23 with descriptive statistics.

Results: Overall knowledge was moderate in 52% of mothers, good in 26%, and poor in 22%. Most mothers (67.7%) had heard of EBF, and 70.8% correctly defined it. While 80.2% recognized the importance of initiating breastfeeding immediately after birth, only 58.3% actually practiced immediate initiation. Colostrum was fed by 63.5%, and 69.8% provided pre-lacteal feeds. Exclusive breastfeeding for six months was reported by 58.3%, with overall practices moderate in 52%, good in 21%, and poor in 27%. Attitudes were generally positive, with 83.3% perceiving breastfeeding as easier than formula feeding.

Conclusion: Mothers demonstrated moderate knowledge and generally positive attitudes toward EBF, but practices were inconsistent, reflecting cultural norms, limited formal education, and inadequate counseling. The gap between knowledge and practice highlights the need for community-based education, structured postnatal support, and engagement of family decision-makers to improve EBF adherence and maternal-child health outcomes.

Keywords: Breast Feeding; Maternal Health; Infant Nutrition; Health Knowledge, Attitudes, Practice; Rural Population

INTRODUCTION

Exclusive breastfeeding (EBF) is the practice of providing an infant only breast milk during the first six months of life, without additional

nutrients, supplements, or drugs (1). The World Health Organization (WHO) and UNICEF recommend initiating breastfeeding within the first

hour of birth and continuing EBF for six months, followed by complementary feeding alongside breastfeeding for up to two years or longer, based on maternal and child needs (2). Despite global targets aiming for 70% EBF coverage to reduce infant morbidity and mortality, current rates remain low, highlighting the need for interventions to support mothers (3). EBF offers significant health benefits for both infants and mothers. For infants, it promotes cognitive development, reduces the risk of malnutrition, and protects against infections such as diarrhea and respiratory illnesses. For mothers, breastfeeding lowers the risk of breast and ovarian cancers, type 2 diabetes, and cardiovascular disease, accelerates postpartum recovery, and strengthens maternal-infant bonding (4, 5). Cohort studies in low-income countries have demonstrated that EBF reduces the incidence of infections and is associated with improved long-term health and educational outcomes for children (6). Globally, 44–48% of infants were exclusively breastfed between 2015 and 2024, with variations across countries and regions (6, 7). In Pakistan, awareness of breastfeeding benefits is high; however, gaps remain in knowledge about the full six-month duration, adequacy of milk intake, and handling perceived insufficiency (8). Cultural beliefs, family influence, and social stigma continue to hinder adherence to EBF despite generally positive maternal attitudes (9). Prevalence in Pakistan varies widely, ranging from 38% to 64%, with early introduction of water or complementary foods contributing to suboptimal six-month adherence (10). In Sindh, rates range from 35% to 64%, influenced by location, parity,

and sample type (11). Therefore, this study aimed to assess the knowledge, attitudes, and practices of exclusive breastfeeding among mothers in Village Paryo, Kandiaro, Sindh, Pakistan.

MATERIAL AND METHODS

A community-based cross-sectional study was conducted from August to November 2025 in Village Paryo, located in Kandiaro Taluka, Sindh Province, Pakistan. The village represents a typical rural setting characterized by limited healthcare resources and traditional maternal practices. Mothers who were permanent residents, available during the study period, and willing to participate were included. Non-breastfeeding women and those who declined participation were excluded. A sample of 96 mothers was selected using the Raosoft online sample size calculator, with a 95% confidence interval and a 5% margin of error. Participants were recruited through convenience sampling, acknowledging potential selection bias. Data were collected using a structured questionnaire adapted from a previously published study (12), covering socio-demographic characteristics, knowledge and attitudes regarding exclusive breastfeeding, and breastfeeding practices. Permission for data collection was obtained from the community head, and written informed consent was secured from all participants, ensuring confidentiality and voluntary participation. Data were analyzed using IBM SPSS Statistics Version 23, with descriptive statistics, including frequencies and percentages, used to summarize the findings.

RESULTS

Table 1: Demographic Characteristics of Respondents (n = 96)

Characteristics	Frequency	Percentage (%)
Age (years)		
18–25	44	45.8 %
26–33	41	42.7 %
34–41	11	11.5 %
Level of Education		
No Formal Education	49	51.0 %
Primary Education	28	29.2 %
Secondary Education	17	17.7 %
Higher Education	2	2.1 %
Occupation		
Housewife	96	100 %
Business	0	0 %
Employed	0	0 %

Table 1 presents the socio-demographic characteristics of the 96 mothers. Most participants were aged 18–25 years (45.8%), followed by 26–33 years (42.7%), while 11.5% were aged 34–41 years. More than half of the respondents (51.0%) had no

formal education, whereas only 2.1% had attained higher education. All participants were housewives, with no formal employment or business engagement.

Table 2: Mothers' Knowledge and Attitude on Exclusive Breastfeeding (n = 96)

Statement	Category / Response	Frequency	Percentage
Heard of exclusive breastfeeding	Yes	65	67.7%
	No	31	32.3%
Source of knowledge	Hospital	41	42%
	Friends	4	4.2%
	Other	51	53.1%
Exclusive breastfeeding definition	Yes	68	70.8%
	No	28	29.2%
Attended EBF training	Yes	30	31.3%
	No	66	68.8%
Time to start breastfeeding	Immediately after birth	77	80.2%
	Later	19	19.8%
Handling colostrum	Feed	57	59.4%
	Discard	39	40.6%
Start supplemental feeding at 6 months	Yes	72	75%
	No	24	25%
Formula less demanding	Yes	85	88.5%
	No	11	11.5%
Easier to breastfeed than formula	Yes	80	83.3%
	No	16	16.7%
Give other fluids during EBF	Yes	52	54.2%
	No	44	45.8%
EBF preferred in the community	Yes	67	69.8%
	No	29	30.2%

Table 2 shows that 67.7% of mothers had heard of exclusive breastfeeding, and 70.8% correctly defined it. Hospitals were the main source of information (42.0%), followed by other sources (53.1%). Only 31.3% of mothers had attended training related to exclusive breastfeeding. Regarding attitudes, 80.2% of mothers reported that breastfeeding should be initiated immediately after birth, and 59.4% believed that colostrum should be fed to the newborn. Most respondents

(75.0%) identified six months as the appropriate time to introduce supplemental feeding. A large proportion considered breastfeeding easier than formula feeding (83.3%), although 54.2% believed that giving other fluids during exclusive breastfeeding was acceptable. Overall, 69.8% reported that exclusive breastfeeding was preferred within their community.

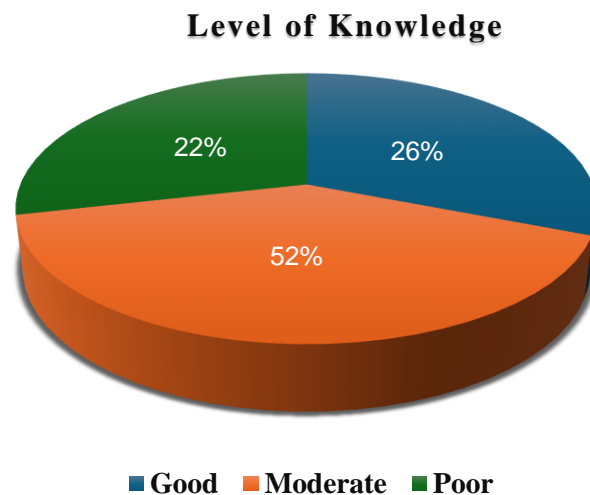


Figure 1: Knowledge Regarding Exclusive Breastfeeding

Table 3: Mothers' Practices on Exclusive Breastfeeding (n=96)

Statement	Category	Frequency	Percentage
Do you exclusively breastfeed your child?	Yes	56	58.3%
	No	40	41.7%
After delivery, when did you begin feeding your child?	Immediately	56	58.3%
	After some time	40	41.7%
Does your infant receive pre-lactation feedings?	Yes	67	69.8%
	No	29	30.2%
Does your infant receive colostrum?	Yes	61	63.5%
	No	35	36.5%
How frequently do you breastfeed your baby?	On-demand	52	54.2%
	Specific interval	15	15.6%
	Random	29	30.2%
Did you or your child suffer from any illnesses during exclusive breastfeeding?	Yes	48	50%
	No	48	50%

Table 3 shows that 58.3% of mothers practiced exclusive breastfeeding. An equal proportion (58.3%) initiated breastfeeding immediately after delivery. However, 69.8% of infants received pre-lactation feeds, while 63.5% were given colostrum. Feeding practices varied, with 54.2% of mothers breastfeeding on demand, 15.6% at specific intervals, and 30.2% randomly. Half of the mothers (50.0%) reported that either they or their infants experienced illness during the exclusive breastfeeding period.

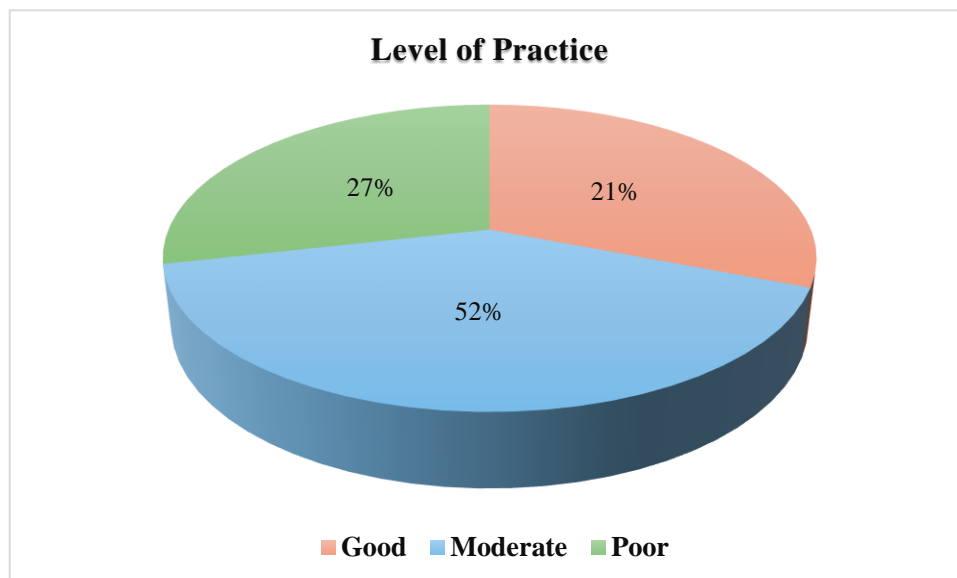


Figure 2: Practice Regarding Exclusive Breastfeeding

DISCUSSION

This study assessed mothers' knowledge, attitudes, and practices regarding exclusive breastfeeding (EBF) in a rural community. The results indicate moderate overall knowledge (52%) and moderate overall practices (52%), highlighting gaps in formal training and optimal practices. These findings are consistent with a study conducted in, Sindh, which reported similar gaps between knowledge and actual breastfeeding practices despite generally positive attitudes(12).

Regarding specific knowledge, 67.7% of mothers had heard of EBF, and 70.8% correctly defined it as feeding only breast milk for the first six months. These figures are lower than urban reports in Pakistan, where awareness exceeded 90% (13), but comparable to rural Nigeria (71%) and Ethiopia (76.9%), where misconceptions about colostrum and pre-lactation feeding were common (14, 15). Only 31.3% of mothers had attended formal EBF training, indicating reliance on informal sources such as hospitals, family, or community. Early initiation of breastfeeding was reported by 80.2% of mothers, aligning with WHO recommendations for initiation within the first hour of life (16). However, suboptimal practices persisted: 69.8% provided pre-lactation feeds, and 40.6% discarded colostrum, reflecting traditional beliefs. Similar trends have been documented in rural Sindh and other parts of Pakistan (17). In this study, Exclusive breastfeeding for six months was reported by

58.3% of mothers, consistent with rural Pakistani studies reporting 50–65% prevalence, but below global targets (18, 19). Feeding patterns varied: 54.2% breastfed on demand, 15.6% at fixed intervals, and 30.2% irregularly, highlighting inconsistent routines that may affect infant nutrition (20). Attitudes toward EBF were generally positive: 83.3% considered breastfeeding easier than formula, and 69.8% preferred EBF in the community. Interestingly, 88.5% perceived formula feeding as less demanding, reflecting practical challenges observed in Bangladesh and Ethiopia (21, 22). These findings indicate that while knowledge and attitudes toward EBF are moderately favorable, actual practices remain inconsistent due to cultural beliefs, limited formal training, reliance on informal information, and maternal or infant health challenges. Strengthening structured community-based education, engaging family decision-makers, and reinforcing postnatal counseling could improve EBF adherence in similar rural settings.

Limitations: The study was limited by a small sample size, convenience sampling, and self-reported data, which may introduce recall bias.

CONCLUSION

Mothers in this rural community demonstrate moderate knowledge and generally positive attitudes toward exclusive breastfeeding; however, practices remain suboptimal due to cultural norms,

limited education, and inadequate counseling. Bridging the knowledge-practice gap through targeted community interventions and structured support is critical for improving maternal and child health outcomes.

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