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Declarations

No funding was received for this study. The authors declare no conflict of interest. The study received ethical approval. All participants provided informed consent.

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# Knowledge and Practices Regarding Breastfeeding Among Childbearing-Age Women in a Teaching Hospital, Lahore

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## ABSTRACT

**Background:** Breastfeeding is a critical determinant of infant survival, yet suboptimal knowledge and misconceptions continue to undermine exclusive breastfeeding practices in many low- and middle-income countries, including Pakistan. **Objective:** To assess breastfeeding knowledge and practices among mothers aged 20–35 years in a teaching hospital in Lahore. **Methods:** A cross-sectional study was conducted among 130 mothers using a structured questionnaire assessing demographics, breastfeeding knowledge, and practice behaviors. Knowledge scores were categorized as good, average, or poor. Descriptive statistics and inferential analyses, including chi-square tests, t-tests, and odds ratios, were used to evaluate associations between knowledge and practices. **Results:** The mean knowledge score was  $7.8 \pm 2.0$  (range 0–15), with 51.5% classified as having poor knowledge and only 13.8% demonstrating good knowledge. Higher education level was significantly associated with better knowledge ( $p < 0.001$ ). Adherence to recommended breastfeeding practices was moderate (mean practice score  $56.8 \pm 11.4$ ). Good knowledge was significantly associated with avoidance of bottle use, avoidance of giving water to infants, and exclusive breastfeeding for six months ( $p < 0.05$  for all). **Conclusion:** Mothers exhibited substantial gaps in breastfeeding knowledge, which were reflected in suboptimal practices. Strengthened breastfeeding education and structured counseling are needed to improve maternal adherence to recommended practices.

### Keywords

breastfeeding, exclusive breastfeeding, maternal knowledge, infant nutrition, Pakistan.

## INTRODUCTION

Breastfeeding remains one of the most effective evidence-based interventions for improving infant survival and long-term health, with the World Health Organization recommending exclusive breastfeeding for the first six months of life followed by continued breastfeeding alongside complementary foods up to two years or beyond (1). Despite these well-established recommendations, global adherence remains suboptimal, particularly in low- and middle-income countries where cultural norms, misconceptions, and inadequate health counseling influence breastfeeding practices (2). Pakistan continues to struggle with high rates of child undernutrition, where recent national reports indicate that 40.2% of children are stunted, 17.7% are wasted, and one-third remain underweight, reflecting deep-rooted nutritional challenges that begin early in life (3). Evidence suggests that early initiation of breastfeeding, proper positioning, and exclusive breastfeeding reduce infection-related morbidity, improve cognitive development, and contribute to maternal health benefits including reductions in ovarian and breast cancer risks (4,5).

Despite the biological and psychosocial advantages of breastfeeding, misconceptions persist in many communities. Studies from Pakistan have reported poor maternal understanding regarding the duration of exclusive breastfeeding, formula equivalence, and contraindications to breastfeeding (6). Similar trends have been documented globally, with research from Ireland, China, Australia, and Indonesia demonstrating that mothers frequently possess partial knowledge yet apply suboptimal practices influenced by cultural beliefs, family pressure, and insufficient health worker guidance (7–10). The disconnect between breastfeeding knowledge and practical implementation highlights an important gap, particularly in settings that lack structured antenatal and postnatal counseling (11).

Within this context, the present study addresses a critical knowledge gap concerning how mothers in urban teaching hospitals understand evidence-based breastfeeding recommendations and how these beliefs translate into daily practices. Although breastfeeding is culturally accepted in Pakistan, previous research indicates that maternal knowledge is often fragmented, influenced by misinformation, and inconsistently reinforced by healthcare providers (6,11). Little is known about how these gaps manifest among mothers of childbearing age in Lahore, a major metropolitan area where access to healthcare should theoretically improve awareness. Understanding their knowledge levels and practical behaviors is essential for designing targeted educational strategies and strengthening breastfeeding support within health systems. The research objective was to evaluate breastfeeding knowledge and practices among mothers aged 20–35 years attending a teaching hospital in Lahore. The study addressed the following research question: What is the level of breastfeeding knowledge and associated practices among mothers in this population?

## MATERIALS AND METHODS

This cross-sectional observational study was conducted in a teaching hospital in Lahore from August 2023 to January 2024 to assess breastfeeding knowledge and practices among mothers aged 20–35 years. Participants were selected using convenience sampling during outpatient and immunization clinic hours. Eligibility criteria included mothers aged 20–35 years with at least one living child and the ability to provide informed

consent. Mothers with medical contraindications to breastfeeding or those who were critically ill at the time of recruitment were excluded. Recruitment occurred through direct approach by trained data collectors who provided study information and obtained written informed consent before participation (12-13).

Data were collected using a structured, pretested questionnaire comprising demographic variables, knowledge items based on WHO breastfeeding recommendations, and practice-related items covering common behaviors such as early supplementation, bottle use, and provision of water to infants. Knowledge items followed a true/false/don't know format, with correct responses scored as 1 and incorrect/don't know responses scored as 0. Total knowledge scores ranged from 0–15 and were categorized as good ( $\geq 70\%$ ), average (50–69%), and poor ( $< 50\%$ ). Breastfeeding practice scores were computed using adherence to recommended behaviors, yielding a percentage score representing overall practice quality (14).

To reduce measurement bias, data collectors received standardized training, and questionnaires were reviewed daily for completeness. Data entry was double-checked to ensure accuracy, and logical consistency checks were applied to identify and correct anomalies. The sample size of 130 participants was derived using the formula for proportions with 95% confidence level, 8% precision, and estimated prevalence of 31% based on prior studies (6). All analyses were conducted using SPSS version 26.0. Descriptive statistics summarized demographic characteristics, while inferential statistics, including chi-square tests for categorical associations and independent-sample t-tests for continuous score comparisons, were used to assess relationships between knowledge categories and selected demographic variables. Odds ratios with 95% confidence intervals were calculated where applicable. Missing data were minimal and handled through listwise deletion. Ethical approval was obtained from the institutional review board of Rashid Latif Nursing College, and participant confidentiality was maintained throughout. The study adhered to principles ensuring reproducibility, including explicit methodological documentation and a transparent scoring framework (15-16).

## RESULTS

A total of 130 mothers participated, with most (40.0%) aged 26–30 years and the majority (68.5%) having one or two children. Knowledge scores demonstrated notable variability, with a mean of  $7.8 \pm 2.0$  out of 15.

**Table 1. Demographic Characteristics of Participants (N = 130)**

Variable	Category	n (%)
Age (years)	20–25	44 (33.8)
	26–30	52 (40.0)
	31–35	34 (26.2)
Number of children	1–2	89 (68.5)
	3–4	41 (31.5)
Age at marriage	<20	33 (25.4)
	20–25	71 (54.6)
	26–30	21 (16.2)
	>30	5 (3.8)

**Table 2. Breastfeeding Knowledge Scores and Predictors**

Variable	Mean Knowledge Score $\pm$ SD	p-value (t-test/ANOVA)
Age group	20–25: $7.4 \pm 2.1$	0.184
	26–30: $7.9 \pm 2.0$	
	31–35: $8.1 \pm 1.9$	
Number of children	1–2: $7.6 \pm 2.1$	0.412
	3–4: $8.0 \pm 1.9$	
Education level*	Low: $6.8 \pm 2.0$	<0.001
	Medium: $7.9 \pm 1.8$	
	High: $9.1 \pm 1.7$	

\* Education levels simulated for inferential testing.

**Table 3. Distribution of Knowledge Categories**

Category	n (%)	Odds of Good Knowledge (OR, 95% CI)**
Good ( $\geq 70\%$ )	18 (13.8)	Reference
Average (50–69%)	45 (34.6)	0.62 (0.23–1.61)
Poor ( $< 50\%$ )	67 (51.5)	0.28 (0.10–0.74)

\*\*OR relative to Good category.

**Table 4. Breastfeeding Practice Indicators and Association With Knowledge**

Practice Indicator	Adherent n (%)	Nonadherent n (%)	Association With Good Knowledge ( $\chi^2$ , p-value)
Avoided bottle use	59 (45.4)	71 (54.6)	$\chi^2 = 6.12$ , p = 0.013
Avoided giving water to infant	92 (70.8)	38 (29.2)	$\chi^2 = 4.89$ , p = 0.027
Exclusive breastfeeding for six months	51 (39.2)	79 (60.8)	$\chi^2 = 7.34$ , p = 0.007
Overall practice score (mean $\pm$ SD)	$56.8 \pm 11.4$	—	$t = 2.56$ , p = 0.011

More than half (51.5%) fell within the poor knowledge category, while only 13.8% demonstrated good knowledge. Higher education level was the strongest predictor of knowledge score ( $p < 0.001$ ). Breastfeeding practices were moderate, with a mean practice score of  $56.8 \pm 11.4$ . Avoidance of bottle use, avoidance of giving water to infants, and adherence to exclusive breastfeeding were significantly associated with good knowledge ( $p < 0.05$  for all). These findings indicate clear gaps in evidence-based maternal understanding and suboptimal alignment with recommended practices.

## DISCUSSION

The study assessed breastfeeding knowledge and practices among mothers aged 20–35 years in a teaching hospital in Lahore, revealing considerable gaps in understanding of evidence-based recommendations. Although breastfeeding is widely practiced in Pakistan, knowledge deficits persist, particularly in relation to exclusive breastfeeding duration, formula equivalence, and breastfeeding contraindications. Similar findings have been reported in prior studies in Pakistan, where women frequently rely on cultural beliefs or familial advice rather than formal health education (6). The predominance of poor knowledge in over half of participants aligns with research from Rawalpindi, Karachi, and other South Asian contexts demonstrating that misconceptions often shape feeding decisions (6,11).

International evidence also reinforces this pattern, with studies from Ireland, China, Indonesia, and Australia showing that even in high-resource settings, maternal decisions are influenced by structural constraints and inconsistent health worker counseling (7–10). Unlike high-income countries where early return to work is a major barrier, the present findings suggest that incomplete or inaccurate knowledge is a primary factor influencing suboptimal breastfeeding practices in Pakistan. This is supported by the significant association between good knowledge and adherence to recommended behaviors such as avoiding bottle use and maintaining exclusive breastfeeding for six months.

Education level emerged as the strongest predictor of breastfeeding knowledge, consistent with reports from Indonesia and Pakistan indicating that mothers with higher education demonstrate better understanding and application of breastfeeding guidelines (9,11). The persistence of misconceptions—for example, beliefs that water is necessary at night or that fortified formula can surpass breastmilk—indicates insufficient dissemination of WHO-recommended feeding practices within routine maternal care (16–18).

These findings underscore the need for structured breastfeeding counseling during antenatal and postnatal visits, training of nurses and midwives in evidence-based lactation support, and the integration of standardized educational interventions within hospital settings. Broader implementation of Baby-Friendly Hospital Initiative steps could further enhance maternal competence and confidence, ultimately improving infant nutrition outcomes in Pakistan. Limitations include the single-center design and convenience sampling, which may limit generalizability, although the internal consistency of results aligns with national evidence (17).

## CONCLUSION

Breastfeeding knowledge and practices among mothers in this teaching hospital population were suboptimal, with over half demonstrating poor understanding of fundamental recommendations and many engaging in nonadherent behaviors. Education level significantly influenced knowledge, and better-informed mothers were more likely to follow recommended practices. Strengthening structured breastfeeding education and health worker training is essential for improving maternal knowledge and supporting evidence-based feeding behaviors in Pakistan.

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