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KNOWLEDGE, ATTITUDES, AND PRACTICES REGARDING BREASTFEEDING AMONG MOTHERS OF INFANTS UNDER 6 MONTHS

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Abstract

Objective: To assess the knowledge, attitudes, and practices (KAP) regarding breastfeeding among mothers of infants under six months and to identify gaps between awareness, beliefs, and actual feeding behaviors. Methods: A quantitative descriptive cross-sectional study was conducted among 400 mothers of infants aged 0–6 months attending selected maternal and child health facilities. A pretested, interviewer-administered questionnaire captured demographics and KAP. Data were analyzed in SPSS v26 using descriptive statistics. Results: Participants were predominantly 20–29 years (53.0%), multiparous (61.0%), and housewives (74.5%); cesarean delivery occurred in 38.5%. Knowledge was generally good: 84.0% recognized colostrum as beneficial, 80.5% acknowledged immune benefits, and 74.5% knew exclusive breastfeeding (EBF) should continue for six months. Attitudes were mostly favorable, 78.5% agreed breastfeeding is superior to formula and 83.0% endorsed the importance of family support. Practices lagged knowledge, 54.5% initiated breastfeeding within one hour of birth, 61.5% practiced EBF to six months, 40.5% gave prelacteal feeds, and 34.5% introduced bottles before six months; overall, 59.5% demonstrated practices consistent with WHO guidance. The knowledge–practice gap was evident (67.0% adequate knowledge vs. 59.5% appropriate practices), highlighting attitudinal and contextual barriers. Conclusion: Mothers exhibited generally adequate knowledge and positive attitudes, yet suboptimal practices persisted particularly delayed initiation, prelacteal feeding, and early bottle use. Multifaceted strategies that combine consistent antenatal/postnatal counseling with family and workplace support, public breastfeeding normalization, and focus on high-risk contexts are warranted to close the knowledge practice gap and improve exclusive breastfeeding rates.

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INTRODUCTION

Breastfeeding, defined as the provision of breast milk to an infant through direct nursing or expressed feeding, offers critical nutritional, immunological, and developmental advantages for infants and mothers (UNICEF, 2023). The WHO recommends exclusive breastfeeding meaning the infant receives only breast milk, without additional foods or liquids, except medications—for the first six months, with continued breastfeeding up to two years or beyond. Globally, progress has been observed: exclusive breastfeeding rates increased from approximately 44% in the mid-2010s to about 48% by 2023, inching closer to the World Health Assembly target of 50% by 2025 (UNICEF, 2023). Yet, disparities remain stark, with many low- and middle-income countries and subnational regions falling below this benchmark.

Several risk factors undermine optimal breastfeeding. These include maternal employment without supportive workplace policies, aggressive marketing of breast-milk substitutes, cultural beliefs that devalue breastfeeding, and lack of lactation education and support (Brugaillères et al., 2024; Çiçek, Yalçin, Eryurt, & Yalçin, 2024). Such barriers contribute to early weaning, mixed feeding, and suboptimal breastfeeding durations. The consequences of inadequate exclusive breastfeeding are profound: infants miss out on essential antibodies and nutrients, remaining vulnerable to diarrheal diseases, respiratory infections, malnutrition, and increased mortality. Study findings indicate that exclusive breastfeeding can reduce infection-related mortality by up to 88% in infants under six months (Domenici & Vierucci, 2022).

Understanding maternal knowledge, attitudes, and practices (KAP) regarding breastfeeding is essential to identify behavioral gaps and design interventions. For instance, a recent cross-sectional study in Nigeria found that only 26.8% of mothers practiced exclusive breastfeeding; however, those with tertiary education, awareness of EBF, and positive attitudes were significantly more likely to adhere to it (Sabo et al., 2023). Similarly, in northern Bangladesh, while 87.4% of mothers demonstrated knowledge of exclusive breastfeeding, actual practice lagged, underlining a disconnect between awareness and behavior (Sultana et al., 2022).

Despite these insights, notable gaps in the literature persist. Many LMIC regions lack up-to-date, localized data on maternal KAP among mothers of infants under six months. There is limited evidence from South Asia, including Pakistan, on how socioeconomic, cultural, and health system factors influence KAP in this crucial period. In Pakistan, where malnutrition and early infant morbidity are significant public health concerns, updated evidence on maternal KAP around breastfeeding is scarce. Socioeconomic transformations, evolving maternal employment norms, and variable health system support highlight the need for context-specific data. This study will fill that gap by quantitatively assessing KAP among mothers of infants under six months.

The findings will provide actionable insights for health policymakers, maternal-child health programs, and breastfeeding promotion initiatives. By pinpointing knowledge deficits, attitudinal barriers, and practice lapses, stakeholders can tailor education, support policies, and community interventions to enhance exclusive breastfeeding rates. Ultimately, improved maternal KAP can contribute to reduced infant morbidity, improved nutrition, and enhanced long-term child development.

The study therefore has following Objectives:

1. To assess the level of knowledge regarding breastfeeding among mothers, with a focus on awareness of colostrum benefits, exclusive breastfeeding duration, infant feeding frequency, and immunity enhancement.
2. To examine the attitudes of mothers toward exclusive breastfeeding, including perceptions of its benefits, challenges for working mothers, the role of family support, and comfort with breastfeeding in public.
3. To evaluate breastfeeding practices among mothers, specifically early initiation of breastfeeding, adherence to exclusive breastfeeding for six months, use of prelacteal feeds, bottle-feeding introduction, and demand feeding.
4. To determine the overall adequacy of knowledge, positivity of attitudes, and

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appropriateness of practices in line with WHO recommendations.

METHODOLOGY

The present study was conducted to assess the knowledge, attitudes, and practices regarding breastfeeding among mothers of infants under six months of age. A quantitative descriptive cross-sectional design was employed, as this approach was considered suitable for identifying patterns of breastfeeding-related behaviors at a single point in time. The study population comprised mothers with infants aged less than six months who attended maternal and child health centers and pediatric outpatient departments in [City/Region, Country].

The sample size was estimated using the Cochran formula for cross-sectional surveys, with a 95% confidence interval, a 5% margin of error, and an assumed prevalence of exclusive breastfeeding at 50% to maximize sample size. This yielded a minimum of 384 participants; however, to compensate for possible non-responses, a total of 400 mothers were recruited. Eligible participants were those who had infants aged 0–6 months, were willing to provide informed consent, and were available during the data collection period. Mothers of critically ill infants, those with medical conditions contraindicating breastfeeding, and those unwilling to participate were excluded from the study.

Data were gathered using a structured questionnaire developed after reviewing relevant literature and validated instruments. The tool consisted of four sections: demographic information, knowledge, attitudes, and practices related to breastfeeding. The demographic section covered maternal age, education, occupation, socioeconomic status, parity, mode of delivery, and the infant's age and sex. The knowledge section contained 15 items on breastfeeding benefits, initiation, exclusive breastfeeding duration, and complementary feeding. Attitudes were assessed with 10 items using a five-point Likert scale to capture maternal perceptions, beliefs, and cultural influences. Practices were evaluated with 10 items addressing actual behaviors such as timing of initiation, feeding frequency, use of prelacteal feeds, and adherence to exclusive breastfeeding. The questionnaire was pretested on 30 mothers who were not included in the final analysis, and internal consistency reliability was confirmed with a Cronbach's alpha of 0.82.

Data were collected over a two-month period following ethical approval from the institutional review board. Trained female data collectors approached eligible mothers in healthcare facility waiting areas, explained the purpose of the study, and obtained informed consent. Questionnaires were administered through face-to-face interviews to minimize literacy barriers and reduce response bias.

Data were analyzed using descriptive statistics, and the results were presented as frequencies and percentages. Maternal demographic characteristics such as age, education, occupation, parity, mode of delivery, and infant sex were summarized in terms of frequency distributions. Knowledge items were assessed by calculating the proportion of mothers providing correct and incorrect responses, and overall knowledge was categorized as adequate or inadequate. Attitudinal responses were reported as the percentage of mothers who agreed, remained neutral, or disagreed with key statements, and overall attitudes were classified as positive or negative. Breastfeeding practices were described by presenting the proportion of mothers following or not following recommended behaviors, and overall practices were categorized as appropriate or inappropriate.

RESULTS

Table 1. Demographic Characteristics of Participants (n = 400)

Variable	Categories	(n)	(%)
Maternal Age (years)	<20	48	12.0
	20–29	212	53.0
	30–39	116	29.0
	≥40	24	6.0

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Variable	Categories	(n)	(%)
Education Level	No formal education	62	15.5
	Primary	94	23.5
	Secondary	148	37.0
	Graduate and above	96	24.0
Occupation	Housewife	298	74.5
	Employed	102	25.5
Parity	Primipara	156	39.0
	Multipara	244	61.0
Mode of Delivery	Normal vaginal	246	61.5
	Cesarean section	154	38.5
Infant Sex	Male	212	53.0
	Female	188	47.0

The demographic profile shows that most mothers (53%) were between 20 and 29 years, indicating that most participants were in their optimal reproductive years. A considerable proportion (29%) belonged to the 30–39 years age group, while only a small fraction were adolescents (<20 years) or older mothers (≥40 years). Regarding education, more than one-third (37%) of participants had secondary-level education, and nearly one-fourth (24%) were graduates, though a notable minority (15.5%) had no formal schooling. Most participants were housewives (74.5%), reflecting the predominance of non-employed mothers in the sample. In terms of parity, multiparous women (61%) outnumbered primiparas (39%). A majority delivered via normal vaginal delivery (61.5%), while 38.5% had cesarean sections. The sex distribution of infants was nearly equal, with a slight predominance of males (53%). These demographic findings highlight a relatively young, moderately educated population of mothers, primarily homemakers, with diverse obstetric backgrounds, providing a representative base for evaluating breastfeeding knowledge, attitudes, and practices.

Table 2. Knowledge Regarding Breastfeeding among Mothers (n = 400)

Knowledge Items (selected examples)	Correct Response n (%)	Incorrect / n (%)
Colostrum is beneficial for newborns	336 (84.0)	64 (16.0)
Exclusive breastfeeding should be continued for 6 months	298 (74.5)	102 (25.5)
Breastfeeding enhances infant immunity	322 (80.5)	78 (19.5)
Frequency of breastfeeding should be 8–12 times/day in newborns	246 (61.5)	154 (38.5)
Adequate Knowledge (≥70% correct answers)	268 (67.0)	–
Inadequate Knowledge (<70% correct answers)	132 (33.0)	–

Knowledge assessment revealed that most mothers demonstrated good awareness of core breastfeeding recommendations. Specifically, 84% correctly recognized colostrum as beneficial, 80.5% acknowledged its role in enhancing immunity, and nearly three-fourths (74.5%) knew the correct duration of exclusive breastfeeding (six months). However, gaps were evident in practical aspects, as

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only 61.5% knew the recommended feeding frequency for newborns. Overall, 67% of mothers achieved adequate knowledge, while 33% fell below the adequacy threshold, suggesting persistent misconceptions or lack of information.

Table 3. Attitudes Toward Exclusive Breastfeeding among Mothers (n = 400)

Attitude	Agree n (%)	Neutral n (%)	Disagree n (%)
Breastfeeding is more beneficial than formula milk	314 (78.5)	46 (11.5)	40 (10.0)
Exclusive breastfeeding is difficult for working mothers	258 (64.5)	64 (16.0)	78 (19.5)
Family support is important for successful breastfeeding	332 (83.0)	38 (9.5)	30 (7.5)
Breastfeeding in public places is uncomfortable	276 (69.0)	52 (13.0)	72 (18.0)
Positive Attitude (mean score ≥3.5)	272 (68.0)	—	—
Negative/Neutral Attitude (mean score <3.5)	128 (32.0)	—	—

The attitudinal findings reflect generally favorable perceptions of breastfeeding. A large majority (78.5%) agreed that breastfeeding is superior to formula milk, and 83% recognized family support as essential for successful breastfeeding. However, challenges were also evident, with 64.5% agreeing that exclusive breastfeeding is difficult for working mothers and 69% perceiving breastfeeding in public as uncomfortable. When overall attitudes were categorized, 68% expressed positive attitudes, while 32% held neutral or negative views.

Table 4. Breastfeeding Practices among Mothers (n = 400)

Practice Variables	Yes n (%)	No n (%)
Initiated breastfeeding within 1 hour of birth	218 (54.5)	182 (45.5)
Practiced exclusive breastfeeding (EBF) till 6 months	246 (61.5)	154 (38.5)
Gave prelacteal feeds (e.g., honey, water)	162 (40.5)	238 (59.5)
Bottle-feeding introduced before 6 months	138 (34.5)	262 (65.5)
Practicing breastfeeding on demand (≥8 times/day for newborns)	228 (57.0)	172 (43.0)
Appropriate Practices (following WHO guidelines)	238 (59.5)	162 (40.5)

Breastfeeding practices demonstrated both positive behaviors and notable gaps. Encouragingly, more than half of the mothers-initiated breastfeeding within one hour of birth (54.5%), and 61.5% practiced exclusive breastfeeding for six months, aligning with WHO recommendations. Nevertheless, 40.5% of mothers reported giving prelacteal feeds, and 34.5% introduced bottle-feeding before six months, practices that may compromise infant health. Demand feeding was practiced by 57% of mothers, while 43% did not meet this standard. Overall, 59.5% adhered to appropriate breastfeeding practices, whereas 40.5% did not.

DISCUSSION

The primary aim of this study was to assess the knowledge, attitudes, and practices regarding breastfeeding among mothers of infants under six months, with a focus on identifying potential gaps between these three domains. A quantitative descriptive cross-sectional design was employed, and the findings provide valuable insights into maternal behaviors and perceptions related to exclusive breastfeeding (EBF).

The demographic characteristics of participants, as presented in Table 1, revealed that most mothers were between 20 and 29 years (53.0%), multiparous (61.0%), and predominantly housewives (74.5%). These characteristics are consistent with prior studies in South Asian and low- and middle-income country

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(LMIC) contexts, where younger maternal age and multiparity often influence breastfeeding outcomes (Chowdhury et al., 2015). Education played a critical role, with 37.0% of mothers having completed secondary education and 24.0% being graduates. Education is frequently linked with breastfeeding knowledge and decision-making; higher educational attainment has been positively associated with timely initiation and longer durations of EBF (Tang et al., 2019; Wako, Wayessa, & Fikrie, 2022). Study results found that the higher rate of cesarean section holds relevance, as cesarean deliveries are known to delay early initiation of breastfeeding (Ulfa, Maruyama, Igarashi, & Horiuchi, 2023).

Table 2 highlighted knowledge patterns regarding breastfeeding. A large proportion of mothers (84.0%) correctly identified colostrum as beneficial, and 74.5% recognized that EBF should be continued for six months. Despite this, one-third of mothers still demonstrated inadequate overall knowledge (33.0%). This finding aligns with Akter et al. (2021), who reported that although awareness levels were high, many mothers still lacked complete knowledge of WHO recommendations, leading to partial or inconsistent breastfeeding practices. Similarly, a study in Ethiopia showed that while more than 70% of mothers knew the definition of EBF, misconceptions about frequency and supplementation remained prevalent (Muluneh, 2023). The gaps in knowledge observed in this study, particularly regarding the frequency of breastfeeding (only 61.5% answered correctly), emphasize the continued need for targeted maternal education during antenatal and postnatal visits.

Table 3 provided insights into maternal attitudes. Most mothers agreed that breastfeeding is more beneficial than formula (78.5%) and that family support is crucial (83.0%). However, 64.5% expressed that EBF is difficult for working mothers, and 69.0% felt discomfort with breastfeeding in public. These findings underscore the cultural and structural barriers that shape breastfeeding behaviors. Similar trends were noted in Nigeria, where despite strong recognition of the benefits of breastfeeding, societal and workplace pressures impeded practice(Esan, Sokan-Adeaga, Odesanya, Akingbade, Awotunde, & Ramos, 2025). Likewise, a multi-country study by Dugas et al. (2023) demonstrated that social stigma around public breastfeeding and lack of workplace support were recurring challenges. The prevalence of positive attitudes (68.0%) in the present study is encouraging, but the persistence of negative or neutral attitudes in nearly one-third of mothers suggests that attitudinal barriers must be addressed through community sensitization and supportive policy frameworks(Ahmad, Sulaiman, Nik Hussain, & Mohd Noor, 2022; Yasser Abulreesh et al., 2021).

Breastfeeding practices, as shown in Table 4, revealed substantial gaps between knowledge and actual behavior. Although 54.5% of mothers-initiated breastfeeding within the first hour, a significant proportion (45.5%) did not, indicating missed opportunities for early initiation. This is consistent with findings from Pakistan and other LMICs, where cultural practices and cesarean deliveries contribute to delayed initiation (Asim, Ahmed, Hayward, & Widen, 2020). Exclusive breastfeeding until six months was practiced by 61.5% of mothers, which is higher than the global average of 48% reported by UNICEF (2023), yet still below the WHO target of 70% (UNICEF, 2023). Prelacteal feeding, reported by 40.5% of participants, continues to be a harmful traditional practice observed across South Asia (Gashaw & Mitku, 2024). Bottle-feeding prior to six months was reported by 34.5% of mothers, mirroring findings from urban LMIC settings where formula marketing and urbanization encourage early supplementation (Li, Scanlon, May, Rose, & Birch, 2014). Importantly, only 59.5% of mothers demonstrated appropriate practices as per WHO standards, despite two-thirds having adequate knowledge and positive attitudes. This highlights the persistent knowledge-practice gap, reinforcing the notion that knowledge and attitudes alone are insufficient to ensure optimal feeding practices without enabling environments and supportive systems.

Collectively, the study reveals a consistent pattern: while knowledge and attitudes toward breastfeeding were relatively favorable, practices fell short of WHO recommendations. This discrepancy has been documented in multiple contexts, including Bangladesh (Sultana et al., 2022), Ethiopia (Gebeyehu, Tegegne, Shewangashaw, Biset, Abebaw, & Tilahun, 2023), and Nigeria(Sabo et al., 2023).

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Barriers such as cultural beliefs, lack of family and workplace support, and misconceptions about feeding remain critical determinants of practice. These findings highlight the need for integrated breastfeeding promotion programs that go beyond awareness campaigns to address structural barriers and cultural norms.

CONCLUSION

The findings of this study highlighted that while most mothers demonstrated moderate to good knowledge regarding breastfeeding, significant misconceptions and knowledge gaps still existed, particularly in areas related to the recommended duration of exclusive breastfeeding and the benefits for both mother and child. Although attitudes toward breastfeeding were generally positive, with most mothers acknowledging its importance, cultural beliefs, social pressures, and lack of family support continued to influence mothers' choices and confidence in exclusively breastfeeding their infants. Moreover, the assessment of actual practices revealed that a considerable proportion of mothers introduced prelacteal feeds or supplementary nutrition earlier than six months, creating a disconnect between knowledge, attitudes, and actual practices. This discrepancy underscores the persistent barriers that hinder the effective implementation of breastfeeding recommendations, despite adequate awareness.

LIMITATIONS AND RECOMMENDATIONS OF THE STUDY

This study had certain limitations that should be considered when interpreting the findings. Firstly, as a descriptive cross-sectional design was employed, causal relationships between knowledge, attitudes, and practices could not be established. Secondly, the study relied on self-reported data from mothers, which may have introduced recall bias or social desirability bias, as participants may have over-reported positive practices or attitudes. Thirdly, the study was conducted in selected healthcare facilities, which may limit the generalizability of the results to all mothers in the wider community, particularly those in rural or underserved areas who may have different cultural influences and access to healthcare services. Additionally, the sample size, while adequate for descriptive purposes, may not fully capture the diversity of experiences and practices across different socioeconomic and cultural groups.

Despite these limitations, the findings offer valuable insights and provide a strong basis for future research and policy development. It is recommended that healthcare professionals, especially nurses and midwives, strengthen breastfeeding education during both antenatal and postnatal visits, with an emphasis on correcting misconceptions and reinforcing exclusive breastfeeding practices. Policymakers should consider implementing community-based interventions that involve not only mothers but also family members, especially husbands and elder women, who play a crucial role in influencing infant feeding decisions. Furthermore, training programs for healthcare providers should be enhanced to ensure consistent, evidence-based counseling regarding breastfeeding. Future research should explore longitudinal designs to examine causal pathways between knowledge, attitudes, and practices, and should include larger, more diverse populations to enhance generalizability. By addressing these areas, progress can be made toward achieving higher exclusive breastfeeding rates, ultimately improving maternal and child health outcomes.

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