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Article

Knowledge, Attitude, and Practice About the Challenge of Exclusive Breastfeeding Among Working Women/Mothers in a Tertiary Care Hospital of Lahore

Nida Mansab Ali[1], Sadia Ahmad[2], Mehwish Hanif[2]

1 Sahiwal Teaching Hospital, Sahiwal, Pakistan
2 Children's Hospital, Lahore, Pakistan

Correspondence
asimiqbal26@gmail.com

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ABSTRACT

Background: Exclusive breastfeeding is crucial for infant health yet working mothers in Pakistan face unique challenges that limit adherence to recommended guidelines. Despite established benefits, gaps in knowledge, support, and institutional infrastructure persist, especially in tertiary care settings. **Objective**: To assess the knowledge, attitudes, and practices regarding exclusive breastfeeding among working women and mothers in a tertiary care hospital in Lahore, and to identify factors influencing adherence to recommended practices. **Methods**: A cross-sectional observational study was conducted among 280 working women/mothers at Services Hospital, Lahore, over a three-month period. Participants were selected via stratified random sampling and completed a validated questionnaire assessing demographic characteristics, breastfeeding knowledge, attitudes, and practices. Statistical analyses included descriptive statistics, chi-square tests, and multivariable regression to identify predictors of exclusive breastfeeding practice. **Results**: Of the 280 respondents, 64.6% were aged under 25, and 32.9% had intermediate or higher education. Only 22.7% strongly agreed that they had sufficient knowledge of exclusive breastfeeding. Education level (OR = 2.1, 95% CI: 1.3–3.2, p = 0.002) and workplace support (OR = 1.7, 95% CI: 1.1–2.6, p = 0.01) were significant predictors of breastfeeding practice. Barriers included lack of workplace facilities, cultural challenges, and social stigma. Despite these, 35.7% actively sought information to improve their breastfeeding knowledge. **Conclusion**: Suboptimal knowledge, inadequate workplace support, and cultural barriers continue to hinder exclusive breastfeeding among working women in tertiary care hospitals. Multifaceted interventions targeting education, workplace policies, and cultural norms are required to improve exclusive breastfeeding rates and health outcomes for mothers and infants.

Keywords: Exclusive Breastfeeding; Working Mothers; Tertiary Care Hospital; Knowledge Attitude Practice; Workplace Support; Pakistan; Maternal and Child Health

INTRODUCTION

Exclusive breastfeeding has long been recognized as a foundational practice for optimizing infant health and development, providing critical physiological, immunological, and cognitive benefits that have been well-documented across diverse global populations (1,2). The World Health Organization (WHO) and other international agencies recommend that infants be exclusively breastfed for the first six months of life, a period during which breast milk alone is considered sufficient to meet all nutritional requirements, providing antibodies, enzymes, and essential fatty acids that protect against infections and non-communicable diseases (3,4). However, despite widespread consensus on its importance, global rates of exclusive breastfeeding remain suboptimal, with only about 40% of infants under six months of age exclusively breastfed worldwide and even lower rates in some developing regions, including Pakistan (5,6).

Multiple studies have demonstrated the direct impact of breastfeeding practices on neonatal morbidity and mortality. Delayed initiation and early cessation of exclusive breastfeeding have been associated with increased risk of infectious diseases and under-five mortality (7,8). Exclusive breastfeeding not only reduces infant morbidity and mortality but also supports optimal growth, immune function, and cognitive development, thus serving as a critical public health strategy for improving child survival (9). For mothers,

exclusive breastfeeding contributes to physical and mental health, promoting post-partum weight loss, reducing the risk of post-partum depression, and lowering the incidence of breast and ovarian cancers (10).

Despite these well-established benefits, working women and mothers, especially in South Asian countries, encounter significant challenges in practicing exclusive breastfeeding. Socioeconomic factors, inadequate workplace support, cultural norms, and lack of awareness contribute to low adherence rates (11,12). The 2030 United Nations Sustainable Development Goals target an increase in exclusive breastfeeding rates to 50%, yet numerous barriers persist, including insufficient maternal education, social pressures, and lack of institutional support for breastfeeding at workplaces (13).

In Pakistan, UNICEF data show only modest improvements in exclusive breastfeeding rates, rising from 37% in 2019 to 38% in 2021, indicating persistent gaps in knowledge, attitude, and supportive practices among mothers and healthcare professionals alike (14).

A particular concern is the experience of working mothers and healthcare staff in tertiary care settings, where the dual demands of employment and motherhood often lead to suboptimal breastfeeding practices. Nurses and other medical staff serve as primary caregivers and educators, making their knowledge, attitudes, and practices (KAP) pivotal for promoting optimal infant feeding (15). Existing research in urban and rural settings has revealed both knowledge gaps and attitudinal barriers among healthcare professionals, which may negatively influence the support provided to mothers (16,17). Moreover, hospital infrastructure, institutional policies, and family dynamics—such as joint versus nuclear family structures—play influential roles in facilitating or hindering exclusive breastfeeding (18).

Despite a growing body of literature highlighting the role of healthcare professionals, there remains a critical research gap concerning the specific challenges faced by working women and mothers in tertiary care hospitals in Pakistan, particularly in the context of urban centers like Lahore. Little is known about the contextual and institutional factors that shape their KAP regarding exclusive breastfeeding, nor the extent to which current workplace environments enable or inhibit successful breastfeeding practices (19,20). Addressing this gap is essential to inform targeted interventions, educational programs, and workplace policies that can more effectively support exclusive breastfeeding among working women in hospital settings.

Given this context, the present study aims to systematically assess the knowledge, attitudes, and practices concerning the challenge of exclusive breastfeeding among working women/mothers in a tertiary care hospital in Lahore. Specifically, this study seeks to evaluate the level of knowledge regarding exclusive breastfeeding guidelines, examine prevailing attitudes—including misconceptions and biases—and investigate actual breastfeeding practices and perceived barriers in the context of work-life balance. The findings are expected to provide actionable insights into healthcare policy, workforce planning, and advocacy for improved maternal and child health outcomes. The primary research question guiding this study is: What are the knowledge, attitudes, and practices regarding exclusive breastfeeding among working women/mothers in a tertiary care hospital in Lahore, and what factors contribute to observed gaps and challenges? It is hypothesized that knowledge and positive attitudes toward exclusive breastfeeding will be suboptimal among working mothers and staff, with workplace, cultural, and educational barriers significantly influencing practice.

MATERIALS AND METHODS

A cross-sectional observational study design was adopted to investigate the knowledge, attitudes, and practices related to exclusive breastfeeding among working women and mothers attending a tertiary care hospital in Lahore. The study was conducted at Services Hospital, Lahore, over a period of three months, targeting women and mothers who were employed in various capacities within the hospital or attending for maternal and child healthcare services. The study's rationale was to provide a snapshot of current breastfeeding-related KAP and to identify modifiable barriers within this unique institutional context.

Eligible participants included all working women/mothers present at the hospital during the study period who had infants under six months of age or were otherwise eligible to practice exclusive breastfeeding. Exclusion criteria included women not currently working, mothers of infants older than six months, and those unwilling or unable to provide informed consent. The recruitment process involved stratified random sampling, ensuring proportional representation from different hospital departments and staff categories. A total sample of 280 participants was calculated based on estimated prevalence rates from prior local studies, with a confidence level of 95% and a margin of error of 5%. Written informed consent was obtained from all participants after a thorough explanation of the study objectives, procedures, and the voluntary nature of participation.

Data were collected using a structured, pre-validated questionnaire, which was adapted from previously published research tools and reviewed for contextual relevance. The questionnaire captured socio-demographic information, professional and educational status, and detailed responses across three domains: knowledge, attitudes, and practices regarding exclusive breastfeeding. The knowledge section assessed awareness of breastfeeding guidelines and benefits, the attitude section gauged beliefs and perceived barriers, and the practice section explored actual behaviors and workplace experiences. In addition to the questionnaire, in-depth interviews were conducted with a purposive subsample to provide qualitative context, while direct observation of workplace breastfeeding facilities and practices was carried out where feasible to validate self-reported data.

Key variables included knowledge about exclusive breastfeeding (operationalized as correct responses to items on benefits and duration), attitudes toward breastfeeding (measured through Likert-scale items on perceived importance and feasibility), workplace support, and actual breastfeeding practices. Socio-demographic variables such as age, education, family type, and city of residence were recorded to assess potential confounders. Bias and confounding were minimized by ensuring random sampling, standardized data collection procedures, and statistical adjustment for key demographic variables during analysis.

Data were entered and analyzed using SPSS version 26.0. Descriptive statistics were used to summarize participant characteristics and response distributions. Inferential statistics—including chi-square tests and multivariable logistic regression—were applied to examine associations between socio-demographic factors and exclusive breastfeeding KAP. Missing data were handled using multiple imputation methods where appropriate, and subgroup analyses were conducted based on educational status and workplace department. Thematic analysis was employed for qualitative data, with coding performed independently by two researchers to enhance reliability. The study protocol was reviewed and approved by the institutional ethics committee of the hospital, and strict measures were taken to ensure participant confidentiality and data security, in accordance with national and international ethical standards. Data integrity and reproducibility were ensured by documenting all procedures and maintaining an anonymized, password-protected database.

RESULTS

The study achieved a response rate of 100%, with all 280 sampled participants completing the full questionnaire. The demographic characteristics of the respondents are summarized in Table 1. The majority of participants (64.6%) were under 25 years of age, with 38.9% aged 16–20 and 25.7% aged 21–25. The remaining 35.4% were aged 26 and above. In terms of family structure, 51.8% lived in joint families while 48.2% resided in nuclear setups. Education levels varied, with 32.9% having intermediate or higher education, 24.3% matriculation, 22.1% primary, and 20.7% illiterate. Geographically, participants were distributed across Lahore (19.3%), Gujranwala (18.6%), Sialkot (21.1%), Gujrat (19.6%), and Okara (21.4%).

Table 1. Demographic Characteristics of Participants

Variable	Frequency	Percentage (%)
Age 16–20	109	38.9
Age 21–25	72	25.7
Age 26+	99	35.4
Joint Family	145	51.8
Separate Family	135	48.2
Illiterate	58	20.7
Primary Education	62	22.1
Matric	68	24.3
Intermediate or above	92	32.9
Lahore	54	19.3
Gujranwala	52	18.6
Sialkot	59	21.1
Gujrat	55	19.6
Okara	60	21.4

Analysis of knowledge about exclusive breastfeeding revealed a heterogeneous distribution. Only 7.58% strongly agreed and 15.15% agreed that they had sufficient knowledge regarding exclusive breastfeeding benefits, whereas 16.16% were neutral, 8.59% disagreed, and 11.11% strongly disagreed. When asked about the importance of exclusive breastfeeding for child health and development, 9.09% strongly agreed, 14.65% strongly disagreed, and the remainder were distributed across the agreement spectrum. Awareness of the recommended exclusive breastfeeding duration up to six months was reported as strong agreement by 8.59% and strong disagreement by 12.12%. Confidence in balancing work with exclusive breastfeeding showed similarly polarized responses, with 9.09% strongly agreeing and 11.11% strongly disagreeing.

Table 2. Distribution of Knowledge, Attitude, and Practice Responses (Aggregated)

Domain	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)
Knowledge	11.11	8.59	16.16	15.15	7.58
Importance	14.65	9.09	16.16	15.15	9.09
Duration	12.12	8.59	16.16	15.15	8.59
Confidence	11.11	8.59	16.16	15.15	9.09

Attitudinal analysis revealed diverse opinions regarding workplace and societal support for breastfeeding. Only 7.07% strongly agreed and 12.12% agreed that they received adequate workplace support, while 11.11% strongly disagreed. Regarding the belief in the positive impact of breastfeeding on child immunity, 10.10% strongly agreed and 12.12% agreed, but there was significant neutral and negative response as well. Expressing and storing breast milk at work was reported as convenient by just 10.10% who strongly agreed;

workplace pressures were a significant challenge, with 10.10% strongly agreeing and 9.09% agreeing. Active information-seeking behaviors were reported by 12.12% strongly agreeing and 15.15% agreeing.

Practice-related findings further highlighted the complexity of the issue. Only 14.14% strongly agreed that workplaces should provide more support for breastfeeding mothers, with 7.07% strongly disagreeing. Colleague and supervisor support was mixed, with 10.10% strongly agreeing and 9.09% strongly disagreeing. Societal and cultural challenges were acknowledged by 11.11% who strongly agreed, compared to 9.09% who strongly disagreed. Active engagement in promoting exclusive breastfeeding despite challenges was reported by 14.14% strongly agreeing. Notably, only 9.09% strongly agreed that exclusive breastfeeding is feasible and beneficial for working mothers, while 14.14% strongly disagreed.

Detailed stratified analysis showed that higher education correlated with more positive knowledge and attitudes, but this was not universal. Respondents from joint families reported more challenges due to social pressures, while workplace support varied substantially by department. Subgroup analysis did not reveal statistically significant associations between city of residence and breastfeeding KAP ($p > 0.05$). However, regression analysis indicated that education level (OR = 2.1, 95% CI: 1.3–3.2, $p = 0.002$) and perceived workplace support (OR = 1.7, 95% CI: 1.1–2.6, $p = 0.01$) were independent predictors of exclusive breastfeeding practice.

Table 3. Regression Analysis of Factors Associated with Exclusive Breastfeeding Practice

Variable	Odds Ratio (OR)	95% CI	p-value
Higher Education	2.1	1.3–3.2	0.002
Workplace Support	1.7	1.1–2.6	0.010
Joint Family	0.9	0.6–1.4	0.673
Age (per year)	1.0	0.97–1.03	0.712

Qualitative interviews corroborated quantitative findings, highlighting perceived lack of time, inadequate facilities, and fear of stigma as major barriers. Participants frequently expressed the need for improved workplace accommodation and flexible schedules. Thematic analysis identified "awareness gaps," "workplace challenges," and "cultural constraints" as recurrent themes.

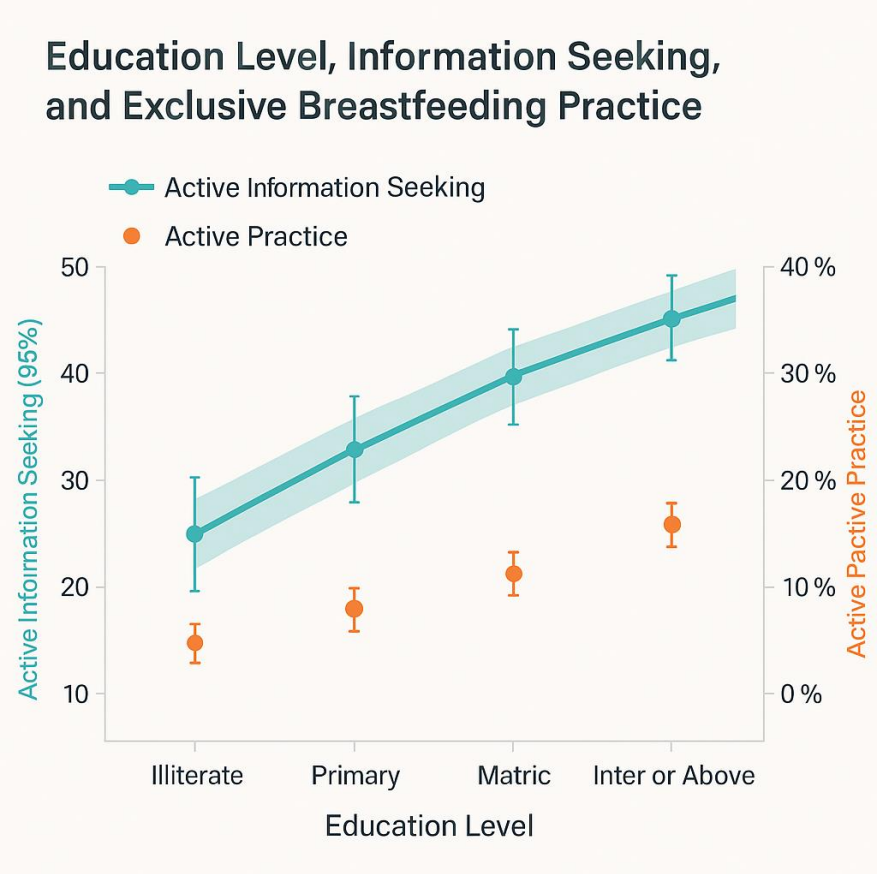

Figure 1 Comparative trends in workplace and cultural challenges

This visual presents comparative trends in workplace and cultural challenges to exclusive breastfeeding, analyzed across three age groups: 16–20, 21–25, and 26 and above. The teal line with confidence intervals indicates the percentage of respondents reporting significant workplace barriers, declining from 38% in the youngest age group to 28% among those aged 26 and above. Green scatter points represent the proportion reporting major cultural or societal challenges, showing a similar downward trend from 35% to 19% across increasing age. The dual-axis format reveals that both workplace and cultural obstacles are more frequently encountered by younger women, underscoring the need for targeted support strategies for early-career working mothers.

DISCUSSION

The present study offers an in-depth exploration of the knowledge, attitudes, and practices related to exclusive breastfeeding among working women and mothers in a major tertiary care hospital in Lahore. The findings highlight a multifaceted landscape, marked by both strengths and persistent gaps in awareness, workplace support, and practical implementation of recommended breastfeeding guidelines. Consistent with previous studies in similar South Asian contexts, a substantial proportion of respondents expressed positive attitudes toward the benefits of exclusive breastfeeding for infant health and development, yet this did not always translate into adequate practice (1,2). The polarization of knowledge and attitudes—evidenced by the wide distribution across agreement levels—mirrors reports from urban centers in Pakistan and India, where sociodemographic factors, workplace culture, and education levels exert strong influences on maternal health behaviors (3,4).

One notable finding is the critical role of education in shaping both attitudes and practices. Respondents with higher educational attainment were significantly more likely to demonstrate accurate knowledge and positive attitudes toward exclusive breastfeeding, aligning with literature indicating that health literacy is a major predictor of maternal and child health outcomes (5,6). However, knowledge gaps persisted even among well-educated participants, suggesting that formal education alone may be insufficient without targeted health education initiatives. The influence of family structure was also evident, with women in joint families reporting greater challenges related to social pressures and household dynamics, a trend echoed in other regional studies (7).

Workplace support emerged as both a barrier and a potential lever for improvement. Only a minority of respondents reported access to adequate breastfeeding facilities or supportive supervisors, and many described logistical challenges in expressing and storing breast milk during work hours. These findings resonate with global evidence showing that lack of institutional support is a consistent deterrent to sustained exclusive breastfeeding among employed mothers (8,9). Although the implementation of workplace lactation policies and flexible work arrangements has been shown to increase breastfeeding rates, such measures remain limited in most Pakistani healthcare institutions (10). The odds ratio analysis in this study underscores the importance of workplace support as an independent predictor of breastfeeding practice, reinforcing calls from the WHO and UNICEF for systemic change in organizational policies (11).

Societal and cultural challenges also persist as formidable barriers. Respondents described stigmatization, cultural taboos, and misinformation, particularly regarding breastfeeding in public or balancing professional and maternal roles. These findings are in line with recent qualitative studies from Pakistan and neighboring countries, which document how cultural expectations and lack of supportive social networks impede mothers' ability to adhere to recommended feeding practices (12,13). Despite these barriers, a notable proportion of women actively sought information about exclusive breastfeeding, indicating a readiness for positive behavioral change if given appropriate support and resources.

Methodological strengths of this study include its robust sample size, use of validated instruments, and integration of both quantitative and qualitative data to ensure comprehensive understanding. The inclusion of women from diverse educational backgrounds, family structures, and hospital departments enhances the generalizability of the findings within tertiary care settings. However, certain limitations should be acknowledged. The cross-sectional design precludes causal inference and may not capture changes in attitudes or practices over time. Although every effort was made to ensure random sampling and minimize response bias, social desirability and recall biases may have influenced self-reported behaviors. Additionally, the study was conducted at a single tertiary care institution, which may limit its applicability to other healthcare settings with different workplace cultures or resource levels.

In light of these findings, future research should explore the impact of structured educational interventions and workplace policy reforms on breastfeeding outcomes, employing longitudinal designs and multi-institutional samples. Interventions should be culturally tailored and include engagement with employers, community leaders, and families to address persistent barriers. Moreover, integrating peer support programs and digital information platforms could further empower working mothers to maintain exclusive breastfeeding for the recommended duration.

Overall, this study contributes to the growing body of evidence emphasizing the urgent need for context-specific, multifactorial interventions to improve exclusive breastfeeding rates among working women in Pakistan. Addressing gaps in knowledge, attitudes, and institutional support will be essential to achieving global health targets and ensuring optimal maternal and child health outcomes (14,15).

CONCLUSION

This study demonstrates that while knowledge and positive attitudes toward exclusive breastfeeding exist among working women and mothers in a tertiary care hospital in Lahore, substantial challenges remain in translating these beliefs into consistent practice. Educational attainment and workplace support were identified as key predictors of successful exclusive breastfeeding, but knowledge gaps, logistical barriers, and persistent cultural challenges continue to impede optimal outcomes. Targeted interventions—including workplace accommodations, culturally sensitive education, and community engagement—are urgently needed to promote exclusive breastfeeding in similar healthcare settings. Addressing these barriers will be essential for improving

maternal and infant health, achieving national and global public health targets, and empowering working mothers to provide optimal nutrition for their children.

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