

## Original Article

## Influencing Factors of Breastfeeding Practices in Working Mothers Visiting Tertiary Care Hospitals: A Study at Kotri and Liaquat University Hospital, Hyderabad

Zohra Khowaja,<sup>1</sup> Husan Bano Channar,<sup>2</sup> Zafrullah Junejo,<sup>3</sup> Mansoor ul Haque,<sup>4</sup> Rubina Dean,<sup>5</sup> Mushtaque Ali Talpur<sup>6</sup>

### Abstract

**Objective:** To assess the influencing factors of breastfeeding practices among working women visiting tertiary care hospitals in Hyderabad.

**Study Design:** A descriptive cross-sectional quantitative study was conducted.

**Place and duration of study:** The study was conducted at Kotri and Liaquat University Hospitals, Hyderabad, Pakistan, from February to June 2025.

**Material and Methods:** A total of 359 working mothers of infants aged 0–12 months were recruited using convenience sampling. Data were collected using a structured questionnaire covering demographics, breastfeeding practices, and workplace support. Analysis was performed using descriptive statistics and Chi-square tests (SPSS v26). Statistical significance was set at  $p < 0.05$  with a 95% confidence interval.

**Results:** Most working mothers were 26–35 years (47.6%), had 1–2 children (32.6%–36.5%), and intermediate (42.3%) or undergraduate education (38.7%). The majority were full-time employees (82.7%), with children aged 4–7 months (38.2%), and 56.5% lived in joint families. Overall, 65% were breastfeeding. Continuation was significantly associated with flexible time (36.4%,  $p = 0.012$ ), private room (33.9%,  $p = 0.034$ ), maternity leave (50.8%,  $p = 0.005$ ), and employer-provided information (50.4%,  $p = 0.011$ ). Refrigeration (26.9%), breast pumps (13.6%), nursery facilities (56.8%), and task adjustments (54.3%) were not significant.

**Conclusion:** Workplace accommodations, including flexible schedules, private lactation spaces, maternity leave, and employer-provided breastfeeding guidance, facilitate breastfeeding continuation among working mothers. Additionally, socio-cultural, family, and individual factors influence breastfeeding practices. Promoting breastfeeding effectively requires interventions that address both workplace policies and broader personal and social determinants

**Keywords:** Breast Feeding; Working Women; Workplace; Maternal Employment, Lactation Maternity Leave, Pakistan

### 1. Introduction

Breastfeeding is the most natural and optimal source of infant nutrition, providing essential nutrients, immune protection, and developmental benefits during the first six months of life.<sup>(1, 2)</sup> It reduces the risk of malnutrition, infections, obesity, and certain childhood cancers, while also improving maternal health by lowering the risk of breast and ovarian cancers, diabetes, and postpartum complications.<sup>(3-5)</sup> The World Health Organization (WHO) and UNICEF recommend exclusive breastfeeding for the first six months,

followed by continued breastfeeding with complementary foods up to two years or beyond.<sup>(6,7)</sup> Despite these global recommendations, breastfeeding rates remain suboptimal. Globally, only 44% of infants under six months are exclusively breastfed, far below the WHO target of 50%.<sup>(8,9)</sup> Employment status significantly influences breastfeeding continuation, with working mothers less likely to sustain exclusive breastfeeding compared to non-working mothers.<sup>(10)</sup> In Pakistan, the situation is similar. The national

MSN Scholar, Peoples Nursing School, LUMHS, Jamshoro,<sup>1,3,6</sup> Assistant Professor, Peoples Nursing School, LUMHS, Jamshoro,<sup>2</sup> Lecturer, Peoples Nursing School, LUMHS, Jamshoro<sup>4</sup> Senior Lecturer, Peoples Nursing School, LUMHS, Jamshoro.<sup>5</sup>

**Correspondence:** Zohra Khowaja, MSN Scholar, Peoples Nursing School, LUMHS, Jamshoro Sindh

**Email:** zohra20024@gmail.com

Nutrition Survey (2018) reported that only 45.8% of infants were breastfed within the first hour of birth, and 48.4% were exclusively breastfed during the first six months<sup>(11)</sup> Studies consistently show that working mothers in Pakistan have much lower breastfeeding rates than non-working mothers, with employment, short maternity leave, and lack of workplace facilities identified as major barriers.<sup>(12,13)</sup> Within Sindh province, breastfeeding practices are further constrained by sociocultural factors, insufficient counseling, and work-related challenges. Regional studies highlight early discontinuation and reliance on formula feeding, particularly among employed women in urban settings.<sup>(14, 15)</sup> However, there is limited evidence from tertiary care hospitals in Hyderabad, where a large number of working mothers seek healthcare services.

Given these gaps, it is important to explore the workplace, institutional, and cultural factors that affect breastfeeding among working mothers in this setting.

**2. Materials & Methods**

This cross-sectional quantitative study assessed workplace factors influencing breastfeeding practices among working mothers visiting Kotri and Liaquat University Hospitals, Hyderabad, Pakistan. Ethical approval was obtained from the Ethical Review Committee of Liaquat University of Medical & Health Sciences (Ref: NO.LUMHS/REC/-616), along with authorization from the Medical Superintendent and departmental heads. All participants provided informed consent and were briefed on study objectives, procedures, voluntary participation, and confidentiality. The study adhered to the principles of the Declaration of Helsinki. The study population included working mothers aged 14–45 years with infants aged 0–12 months visiting the outpatient departments between February and June 2025. Mothers who were not breastfeeding, had infants with illnesses preventing breastfeeding, or had multiple births were excluded. Convenience sampling was used, and the sample size of 359 participants was calculated using OpenEpi (Version 3) based on a 37.2% prevalence<sup>(16)</sup>, 95%

confidence level, and 5% margin of error. Data were collected using a structured questionnaire adapted from validated instruments, covering demographics, breastfeeding practices, and workplace factors. The questionnaire was administered in Urdu and Sindhi in a private setting, requiring approximately 20 minutes per participant. Data analysis was performed using SPSS Version 26. Descriptive statistics summarized demographic characteristics, breastfeeding practices, and workplace factors, while Chi-square tests assessed associations between workplace support and breastfeeding continuation. Statistical significance was set at  $p < 0.05$ .

**3. Results**

Participants were mostly aged 26–35 years (47.6%), with the majority having one or two children (32.6% and 36.5%, respectively). Most mothers were educated at the intermediate (42.3%) or undergraduate level (38.7%), employed full-time (82.7%), and living in joint families (56.5%). The children’s ages ranged primarily from 4 to 7 months (38.2%). Participants were employed across various sectors, including schools (26.4%), hospitals (25.6%), and government offices (19.7%). Monthly income varied, with 38.3% earning more than PKR 40,000 and 31.7% earning below PKR 20,000 (Table 1).

**Table 1. Socio-demographic characteristics of working mothers (N = 359)**

Variable	Category	Frequenc y (f)	Percentag e (%)
Age of mother	≤25	113	31.5 %
	26–35	171	47.6 %
	≥36	75	20.9 %
Age of the child	0–3 months	93	25.9 %
	4–7 months	137	38.2 %
	8–12 months	129	35.9 %
Monthly income	<20,000	114	31.7 5
	20,000–40,000	107	29.7 5
	>40,000	138	38.3 5
Number of children	1	117	32.6 %
	2	131	36.5 %
	3	73	20.3 %
	≥4	38	10.6 %

<b>Education</b>	Matriculation	68	18.9 %
	Intermediate	152	42.3 %
	Undergraduate	139	38.7 %
<b>Employment type</b>	Full-time	297	82.7 %
	Part-time	62	17.3 %
<b>Family type</b>	Joint	203	56.5 %
	Nuclear	156	43.5 %
<b>Workplace</b>	Hospital	92	25.6 %
	School	95	26.4 %
	Government office	71	19.7 %
	Bank	19	5.3 %
	Other	82	22.8 %

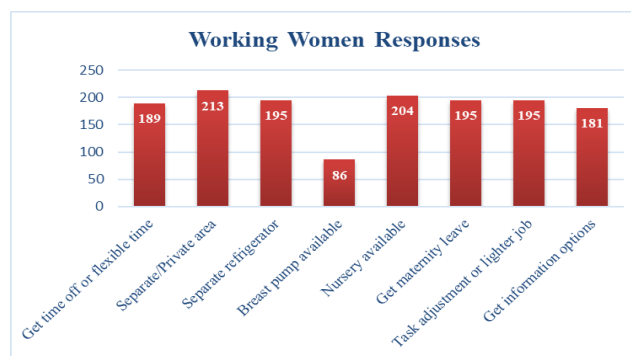
**Breastfeeding Practices of Working Mothers**

More than half of the participants (51.3%, n = 184) were currently breastfeeding. Nearly half (47.6%, n = 171) breastfed 4–6 times daily, while 41.2% (n = 148) introduced complementary feeding at 6 months. Difficulties after returning to work were reported by 31.8% (n = 114).

**Table 2. Breastfeeding Practices of Working Mother**

Item	Category	Frequency (n)	Percentage (%)
<b>Currently breastfeeding</b>	Yes	184	51.3 %
	No	175	48.7 %
<b>Breastfeeding frequency per day</b>	1–3 times	113	31.5 %
	4–6 times	171	47.6 %
	>6 times	75	20.9 %
<b>Age of complementary food initiation</b>	Before 6 months	92	25.6 %
	At 6 months	148	41.2 %
	After 6 months	119	33.1 %
<b>Faced difficulties after returning to work</b>	Yes	114	31.8 %
	No	245	68.2 %

**Figure 1. Proportion of working mothers reporting availability of workplace supports**



Association between Workplace Factors and Breastfeeding Continuation Chi-square analysis revealed significant associations between breastfeeding continuation and several workplace factors, including flexible hours (p = 0.037), private room availability (p = 0.016), refrigerator availability (p = 0.020), nursery facilities (p = 0.004), maternity leave (p = 0.020), task adjustments (p < 0.001), and employer-provided information (p = 0.005). Breast pump availability showed borderline significance (p = 0.050). Task adjustments during lactation showed the strongest association, with mothers receiving adjustments significantly more likely to continue breastfeeding (77.4% vs 20.1%). These findings are summarized in Table 3.

**Table 3. Association of workplace factors with breastfeeding continuation**

Workplace Factor	Category	Breastfeeding Practice: Yes (f, %)	Breastfeeding Practice: No (f, %)	χ² value	df	p-value
Flexible time to express breast milk	Yes	87 (46.0%)	102 (54.0%)	4.36	1	0.037*
	No	97 (57.1%)	73 (42.9%)			
Private room availability	Yes	98 (46.0%)	115 (54.0%)	5.77	1	0.016*
	No	86 (58.9%)	60 (41.1%)			
Refrigerator availability	Yes	89 (45.6%)	106 (54.4%)	5.38	1	0.020*
	No	95 (57.9%)	69 (42.1%)			
Breast pump availability	Yes	52 (60.5%)	34 (39.5%)	3.84	1	0.050
	No	132 (48.4%)	141 (51.6%)			
Nursery facility availability	Yes	118 (57.8%)	86 (42.2%)	8.21	1	0.004*
	No	66 (42.6%)	89 (57.4%)			
Maternity leave availability	Yes	89 (45.6%)	106 (54.4%)	5.38	1	0.020*
	No	95 (57.9%)	69 (42.1%)			
Task adjustments during lactation	Yes	151 (77.4%)	44 (22.6%)	117.12	1	<0.001*
	No	33 (20.1%)	131 (79.9%)			
Employer breastfeeding info on return	Yes	106 (58.6%)	75 (41.4%)	7.81	1	0.005*
	No	78 (43.8%)	100 (56.2%)			

**4. Discussion**

This study assessed workplace factors influencing breastfeeding practices among working mothers visiting Kotri and Liaquat University Hospitals,

Hyderabad. The findings provide insights into how workplace supports, socio-demographic characteristics, and employment conditions collectively shape breastfeeding behaviors. The majority of participants were aged 26–35 years (47.6%), consistent with global trends showing that mid-reproductive age women are more likely to be employed and face challenges in sustaining breastfeeding.<sup>(17)</sup> Maternal age is a recognized determinant of breastfeeding decisions, as older mothers often possess greater confidence and knowledge about breastfeeding, while younger mothers may lack experience or face higher work-related pressures. Children in the study were predominantly aged 4–7 months (38.2%), corresponding to the critical exclusive breastfeeding period recommended by WHO.<sup>(18)</sup> Despite this, only 41.2% of mothers adhered to exclusive breastfeeding until six months, while 25.6% introduced complementary feeding earlier, reflecting persistent gaps between recommended practices and actual behaviors, as similarly reported in Western Ethiopia and regional Sindh.<sup>(19-21)</sup> Educational attainment was relatively high, with 81% of mothers having intermediate or undergraduate education. This aligns with literature showing that higher maternal education positively correlates with breastfeeding knowledge, intention, and duration.<sup>(22,23)</sup> Family structure also influenced breastfeeding practices: 56.5% of participants lived in joint families, which may provide caregiving support but also reinforce traditional norms that limit exclusive breastfeeding, consistent with studies from Pakistan and India.<sup>(24-27)</sup>

Monthly income was moderately distributed, with 38.3% earning more than PKR 40,000, reflecting that household resources may facilitate access to workplace support and reduce financial pressures associated with childcare.<sup>(28,29)</sup> Breastfeeding practices in this population revealed both challenges and opportunities. More than half (51.3%) were currently breastfeeding, with 47.6% feeding 4–6 times daily. Early complementary feeding was common, and 31.8% of mothers reported difficulties after returning to work. These findings are consistent with previous studies demonstrating that workload, time constraints, and

limited employer support are major barriers to continued breastfeeding.<sup>(11,30,31)</sup> Workplace supports vary in availability and impact. Flexible time to express milk (52.6%), private lactation rooms (59.3%), refrigerators (54.3%), nurseries (56.8%), and maternity leave (54.3%) were moderately available, but only 54.3% received task adjustments. Statistical analysis confirmed that task adjustments during lactation were the strongest predictor of breastfeeding continuation ( $\chi^2 = 117.12$ ,  $p < 0.001$ ,  $\Phi = 0.571$ ). Flexible time ( $\chi^2 = 4.36$ ,  $p = 0.037$ ), private room availability ( $\chi^2 = 5.77$ ,  $p = 0.016$ ), refrigerator availability ( $\chi^2 = 5.38$ ,  $p = 0.020$ ), nursery facilities ( $\chi^2 = 8.21$ ,  $p = 0.004$ ), maternity leave ( $\chi^2 = 5.38$ ,  $p = 0.020$ ), and employer-provided breastfeeding information ( $\chi^2 = 7.81$ ,  $p = 0.005$ ) also significantly influenced breastfeeding continuation, whereas breast pump availability showed borderline significance ( $\chi^2 = 3.84$ ,  $p = 0.050$ ). These findings support the study hypothesis that workplace factors significantly influence breastfeeding behaviors. Comparisons with previous research highlight both consistencies and unique contributions. Vilar-Compte et al. (2021) reported that formal workplace accommodations, privacy, and employer guidance enhance breastfeeding continuation<sup>(6)</sup>, consistent with our findings. Tsai (2025) demonstrated that lactation rooms and breast-pumping breaks correlated with longer breastfeeding duration, although colleague support was relevant only in the initial months after returning to work.<sup>(32)</sup> Unlike some studies in high-income countries where breast pump access strongly influences breastfeeding duration, this study found it less impactful, possibly due to cultural norms, personal preferences, or limited workplace promotion.<sup>(33)</sup> The study underscores the multifactorial nature of breastfeeding among working mothers, where workplace policies interact with maternal motivation, family support, socio-economic factors, and cultural expectations. Interventions that focus on task adjustments, privacy, and structured employer guidance are likely to yield the greatest benefits.

## Conclusion:

The study demonstrates that workplace factors, including flexible schedules, private lactation spaces, maternity leave, task adjustments, and employer-provided breastfeeding guidance, are significantly associated with breastfeeding continuation among working mothers. Task adjustments during lactation had the strongest association. These findings highlight the importance of workplace support in promoting breastfeeding practices among employed mothers.

### Strengths and Limitations

This study provides context-specific insights into breastfeeding practices among working mothers in urban Pakistan, using a structured questionnaire and a robust sample of 359 participants. Ethical standards, including informed consent and confidentiality, were maintained, enhancing credibility. Limitations include the use of convenience sampling, limiting generalizability, and the cross-sectional design, which prevents assessment of long-term impacts. Factors such as family support, cultural norms, and psychological influences were not explored, and not all workplace support factors showed statistically significant associations with breastfeeding continuation, indicating the presence of unexamined variables.

### Disclosure /Conflict of interest:

Authors declare no conflict of interest.

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