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Perceptions and Behavioral Patterns of Young Nursing Mothers Towards Exclusive Breastfeeding

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ABSTRACT

Background: *Exclusive breastfeeding provides optimal nutrition and immune protection for infants, yet global and regional data show persistent gaps in adherence to recommended practices. In Pakistan, cultural norms, traditional liquid supplementation, and family influence frequently disrupt exclusive breastfeeding during the first six months of life.* ***Objective****: To determine the prevalence of exclusive breastfeeding among nursing mothers with infants aged 0–6 months in Gojra, Pakistan, and to examine maternal behaviours, perceptions, and supplementary feeding practices influencing breastfeeding exclusivity.* ***Methods****: A cross-sectional observational study was conducted among 200 nursing mothers recruited from four hospitals in Gojra. Data were collected using a structured, pre-tested questionnaire assessing demographic characteristics, breastfeeding knowledge, feeding behaviours, introduction of liquids and supplementary foods, and involvement of caregivers. Descriptive statistics were computed using SPSS version 25. Exclusive breastfeeding was defined according to WHO criteria.* ***Results****: Exclusive breastfeeding was reported by 48.0% of mothers, while 52.0% practiced non-exclusive feeding. Formula feeding (36.5%), fresh animal milk (20.0%), and early introduction of liquids (52.0%) were common. Expressed breast milk was frequently provided via feeding bottles (48.0%), and aunts and grandmothers played key roles in infant feeding during maternal absence.* ***Conclusion****: Exclusive breastfeeding prevalence in this semi-urban population remains below recommended levels, with traditional liquid supplementation and caregiver involvement contributing to early deviation from exclusivity.*

Keywords
Exclusive breastfeeding; maternal behaviour; infant feeding; Pakistan; supplementation; expressed breast milk

INTRODUCTION

Breastfeeding is a fundamental public health practice that confers short- and long-term benefits for both infants and mothers, including optimal nutrition, immune protection, healthy growth, and reduced risk of infectious and non-communicable diseases (1–4). Exclusive breastfeeding during the first six months of life reduces neonatal and infant mortality by lowering the incidence and severity of gastrointestinal and respiratory infections and by supporting healthy development of the gut and immune system (1,2). Global modelling suggests that optimal breastfeeding practices could prevent hundreds of thousands of under-five deaths annually and substantially reduce maternal breast cancer mortality, underscoring breastfeeding as a critical, low-cost intervention in child survival strategies (1,5). Beyond survival, breastfeeding has been associated with improved cognitive development in children and lower risks of obesity and type 2 diabetes later in life, as well as metabolic and psychological benefits for mothers (1,3).

Despite these well-established benefits, early initiation and exclusive breastfeeding remain suboptimal worldwide, with marked disparities between and within regions (1,5). While breastfeeding continuation at 12 months is relatively higher in many low- and middle-income countries compared with high-income settings, a large proportion of infants still do not receive exclusive breastfeeding for the first six months as recommended by the World Health Organization (1,5). In South Asia, where child undernutrition and infection burdens remain substantial, national and subnational surveys have highlighted gaps in exclusive breastfeeding coverage and timing of complementary feeding, pointing to missed opportunities for prevention of morbidity and mortality (1,5,6). Evidence from Pakistan indicates that exclusive breastfeeding is associated with improved infant health outcomes, yet national data show that a considerable proportion of infants are either partially breastfed or receive pre-lacteal feeds and early supplementation, diluting the protective effects of exclusive breastfeeding (6). Comparable findings from neighbouring countries, including India, further emphasize that despite relatively high breastfeeding initiation rates, exclusive breastfeeding prevalence remains below global targets (6,7). The decision to initiate and maintain exclusive breastfeeding is shaped by a complex interplay of maternal knowledge, attitudes, cultural norms, family and peer influence, health-care counselling, and structural factors such as employment conditions and maternity protection (8–11). Sociodemographic and psychosocial determinants—including maternal age, education, mental well-being, perceived milk sufficiency, and partner or family support—have been repeatedly linked with early cessation of breastfeeding or mixed feeding patterns (8,9). Qualitative work from diverse settings has shown that women's perceptions of breastfeeding, their confidence in managing breastfeeding challenges, and the messages

they receive from relatives, peers, and health professionals can either reinforce exclusive breastfeeding or promote early transition to formula, animal milk, or traditional liquids (9–11). Health-care contact during antenatal and postnatal periods, especially when accompanied by consistent, skilled counselling, has been identified as a pivotal modifiable factor that can improve exclusive breastfeeding rates (10,11).

In Pakistan, most available research on breastfeeding knowledge, attitudes, and practices has focused on large urban centres such as Karachi and provincial capitals, with reports of suboptimal exclusive breastfeeding and early introduction of complementary feeds despite generally positive maternal attitudes (6,12). However, there is limited evidence from smaller cities and tehsil-level settings, where health service access, cultural practices, and family structures may differ substantially from major metropolitan areas. Gojra, a tehsil of Toba Tek Singh in Punjab, represents such a semi-urban context where young mothers may face unique social, cultural, and logistical barriers to maintaining exclusive breastfeeding during the first six months of their infants' lives. Understanding how nursing mothers in this setting perceive exclusive breastfeeding, which behavioural patterns they adopt in practice, and what types of supplementary feeds are introduced is essential for designing locally appropriate, context-specific counselling and support strategies.

The present cross-sectional study was therefore designed to estimate the prevalence of exclusive breastfeeding among nursing mothers with infants aged 0–6 months attending selected hospitals in Gojra, Pakistan, and to characterize their knowledge, perceptions, and behavioural patterns related to exclusive breastfeeding, including the use of expressed breast milk and supplementary feeds (6,12). In addition, the study sought to identify key social and practical barriers and supports—such as involvement of other caregivers in infant feeding—that may influence adherence to exclusive breastfeeding recommendations in this context (8–11). The overarching research objective was to determine, among young nursing mothers in Gojra, what proportion practice exclusive breastfeeding for infants aged 0–6 months and which maternal and household behaviours and perceptions are associated with deviation from exclusive breastfeeding as defined by international guidelines (1,6).

MATERIAL AND METHODS

The study employed a cross-sectional observational design to examine exclusive breastfeeding practices among nursing mothers with infants aged 0–6 months in Gojra, Pakistan, with the rationale of estimating prevalence and identifying behavioural and perceptual determinants in a semi-urban population where evidence is limited. The setting comprised four hospitals with active gynaecology and obstetrics services within the tehsil, from which participants were recruited during routine postnatal or paediatric care visits. All mothers aged 18 years or older who had a live infant between 0 and 6 months of age and who were currently breastfeeding at the time of data collection were eligible for inclusion. Mothers who were severely ill, unable to complete the questionnaire independently, or who had infants with major congenital anomalies or conditions requiring medically indicated feeding alternatives were excluded to reduce confounding related to health status. A consecutive sampling strategy was used to enrol eligible mothers until the target sample size of 200 was achieved. Written informed consent was obtained from all participants after providing a verbal explanation of the study purpose and procedures.

Data were collected using a structured, pre-tested questionnaire administered in person by trained data collectors during the hospital visit. Questionnaire content was developed based on an extensive review of breastfeeding literature and behavioural assessment tools and consisted of four sections covering demographic characteristics, maternal knowledge, behavioural practices, and attitudes toward exclusive breastfeeding. Items captured age, parity, education, employment, household structure, feeding methods, use of expressed breast milk, involvement of caregivers, and introduction of liquids or supplemental feeds. All variables were operationalized prior to data collection. Exclusive breastfeeding was defined in accordance with World Health Organization criteria as the provision of breast milk only, without any additional liquids or foods except medicines or oral rehydration salts (13). Introduction of liquids (e.g., water, honey, gripe water) or milks (formula, animal milk) was categorized as non-exclusive breastfeeding. Behavioural variables included the mode of breast milk feeding (direct, expressed, or mixed), reliance on other caregivers for infant feeding, and supplementary feeding practices. Knowledge and attitudes were assessed through discrete items evaluating maternal understanding of exclusive breastfeeding recommendations and perceived benefits.

To minimize measurement bias, the questionnaire was pilot-tested for clarity and internal consistency prior to use, and data collectors received standardized training to ensure uniform administration. Participants were interviewed in a private setting to reduce social desirability bias. Data integrity was ensured through daily review of completed questionnaires, double data entry, and verification procedures. The sample size of 200 mothers was determined pragmatically to provide adequate precision for estimating exclusive breastfeeding prevalence with a reasonable confidence interval width and to allow for subgroup comparisons within behavioural categories (13). Statistical analyses were conducted using IBM SPSS version 25. Descriptive statistics were computed for all variables, including means and standard deviations for continuous variables and frequencies and percentages for categorical variables. Associations between exclusive breastfeeding status and maternal or household factors were assessed using chi-square tests. Where relevant, odds ratios with 95% confidence intervals were calculated to quantify the strength of associations. Missing data were assessed for randomness; complete-case analysis was performed given the low level of missingness. A two-sided alpha of 0.05 was used to determine statistical significance, and no adjustments for multiplicity were applied given the exploratory nature of the study.

Ethical approval for the study was obtained from an institutional ethics review committee, and all procedures adhered to the ethical principles of the Declaration of Helsinki (14). Data were anonymized before analysis, stored securely, and accessed only by authorized investigators to ensure confidentiality and reproducibility.

RESULTS

A total of 200 nursing mothers participated in the study. Table 1 summarises the prevalence of exclusive breastfeeding and key feeding behaviours. Exclusive breastfeeding was reported by 96 mothers (48.0%), while the remaining 104 mothers (52.0%) practiced some form of mixed or supplementary feeding. Among participants, 68 (34.0%) reported using additional methods to feed breast milk aside from direct breastfeeding, and 54 (27.0%) indicated that another caregiver fed the infant breast milk in their absence. Formula feeding was reported by 73 mothers (36.5%), and 40 mothers (20.0%) provided fresh animal milk to their infants. Additionally, 104 mothers (52.0%) introduced liquids other than breast milk, such as water, gripe water, or honey.

Table 2 summarises the specific methods mothers used to feed expressed breast milk. Nearly half of these mothers (48.0%) relied on feeding bottles, while smaller proportions used spoons (8.0%) or cups (2.0%). Table 3 describes who cared for and fed the infant in the mother's absence; aunts were reported most frequently (15.0%), followed by grandmothers (8.0%) and older sisters (2.0%). Table 4 outlines the types of liquids introduced alongside breast milk: 53.4% of mothers provided plain water, 30.8% gave gripe water, and 13.5% offered honey or honey water.
These results indicate that although a substantial proportion of mothers initiated breastfeeding, many engaged in mixed-feeding behaviours or introduced non-recommended liquids early in infancy. The descriptive patterns highlight the influence of family members and the continued reliance on traditional liquids during the breastfeeding period.

TABLE 1. Feeding Behaviours among Nursing Mothers (N = 200)

Feeding Behaviour	Frequency (n)	Percentage (%)
Exclusive breastfeeding	96	48.0
Non-exclusive breastfeeding	104	52.0
Use of other feeding methods for breast milk	68	34.0
Infant fed by another caregiver in mother's absence	54	27.0
Formula milk feeding	73	36.5
Fresh animal milk feeding	40	20.0
Provision of liquids alongside breast milk	104	52.0

TABLE 2. Methods Used for Feeding Expressed Breast Milk

Method Used	Frequency (n)	Percentage (%)
Feeding bottle	48	48.0*
Spoon feeding	8	8.0*
Cup feeding	2	2.0*

TABLE 3. Caregivers Feeding the Infant in Mother's Absence

Caregiver	Frequency (n)	Percentage (%)
Aunt	30	15.0
Grandmother	16	8.0
Older sister	4	2.0

TABLE 4. Liquids Provided Alongside Breast Milk (Among 104 Mothers)

Type of Liquid	Frequency (n)	Percentage (%)
Plain water	56	53.4
Gripe water	32	30.8
Honey / Honey water	14	13.5

Among the 200 participating mothers, exclusive breastfeeding was practiced by 48.0%, whereas 52.0% introduced additional feeds during the first six months. A considerable proportion (34.0%) reported using at least one alternative method for feeding breast milk, with bottle-feeding of expressed breast milk being the predominant method at 48.0%. Approximately 27.0% of infants received breast milk from another caregiver during the mother's absence, most frequently from an aunt (15.0%) or grandmother (8.0%). Supplementation with non-recommended liquids was common, affecting 52.0% of infants; within this subgroup, plain water accounted for 53.4% of introductions, followed by gripe water (30.8%) and honey-based liquids (13.5%). Furthermore, 36.5% of mothers provided formula milk, and 20.0% introduced fresh animal milk. These patterns suggest gaps in adherence to WHO-defined exclusive breastfeeding, influenced by traditional practices, caregiver involvement, and mixed-feeding behaviours.

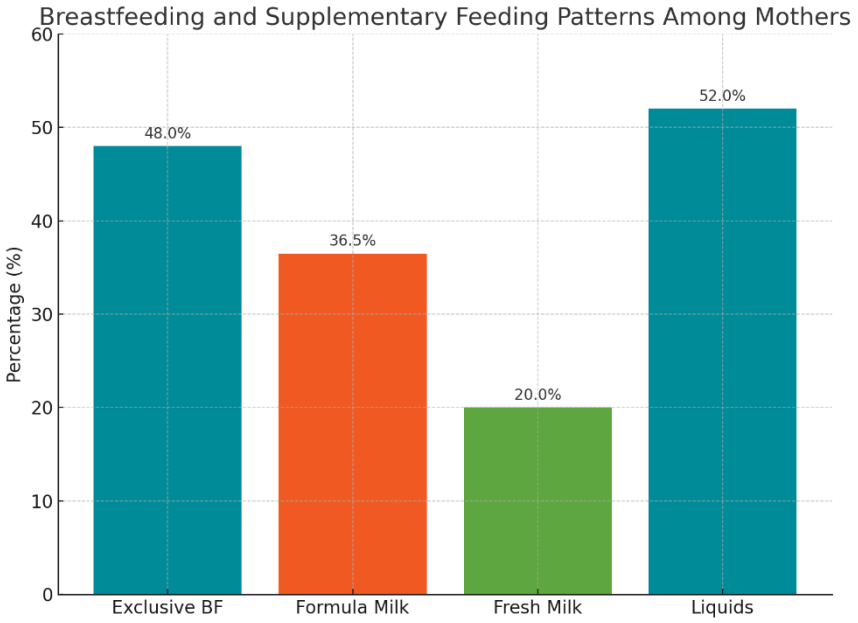

Figure 1 Breastfeeding and Supplementary Feeding Patterns among Mothers

The visualisation reveals a clear behavioural gradient in infant-feeding practices, demonstrating that while 48.0% of mothers adhered to exclusive breastfeeding, the prevalence of supplementary feeding behaviours was substantially higher, with 52.0% introducing liquids and 36.5% providing formula milk. The markedly elevated introduction of liquids—exceeding both formula and fresh milk—illustrates a consistent reliance on cultural or traditional fluids during early infancy, which appears to displace exclusive breastfeeding more strongly than formula use. The sharp contrast between exclusive breastfeeding and liquid supplementation indicates a potential behavioural pathway in which mothers maintain breastfeeding but routinely add non-recommended liquids, highlighting a pattern of partial dilution of exclusive breastfeeding rather than outright substitution. Clinically, this pattern suggests that interventions should prioritise addressing early liquid introduction—particularly plain water and gripe water—because these practices represent the most prevalent deviation from recommended feeding and may serve as an entry point for health education efforts in this population.

DISCUSSION

The findings of this study demonstrate that fewer than half of nursing mothers practiced exclusive breastfeeding, despite the well-documented benefits of exclusive breastfeeding for infant survival, immunity, and optimal growth (1,2). The prevalence observed here aligns closely with reports from urban centres in Pakistan and other South Asian settings, which consistently show exclusive breastfeeding rates between 40–55%, indicating persistent gaps between global recommendations and real-world practices (6,12). The prominent use of mixed-feeding behaviours—particularly the early introduction of water, gripe water, and honey—mirrors patterns documented in similar sociocultural contexts, where traditional beliefs and household influences continue to shape infant feeding decisions (8,9). The frequent provision of plain water, reported in over half of non-exclusive feeders, aligns with earlier studies identifying misconceptions around infant thirst and the perceived necessity of water supplementation in hot climates, despite clear evidence that breast milk alone meets hydration needs during the first six months (1,3).

Comparison with international research reinforces that cultural norms, family dynamics, and perceived milk insufficiency remain central determinants of early supplementation. For example, studies from Turkey and Italy have shown that maternal confidence, social support, and early counselling influence adherence to exclusive breastfeeding, with young and inexperienced mothers being particularly susceptible to external pressures that encourage mixed feeding (10,11). The present study supports these findings by demonstrating the strong involvement of family members—especially aunts and grandmothers—in infant feeding, suggesting that breastfeeding decisions in Gojra operate within multigenerational households where elders exert considerable influence. This underscores the need for family-inclusive interventions rather than mother-centric education alone.

Behavioral mechanisms underlying early supplementation likely include limited maternal knowledge of WHO feeding guidelines, misinterpretation of infant cues, and deeply rooted traditional practices related to honey or gripe water as perceived remedies for digestive comfort. These findings are consistent with systematic reviews identifying sociocultural beliefs, poor breastfeeding technique support, and perceived milk shortage as leading drivers of non-exclusive breastfeeding in South Asia (8,9). Clinically, early introduction of liquids is concerning, as it increases the risk of gastrointestinal infections, undermines breastfeeding frequency, and ultimately reduces breast milk production through decreased stimulation (1,2).

This study contributes to the existing literature by providing evidence from a semi-urban tehsil setting where breastfeeding patterns have been under-documented. A key strength is its direct assessment of caregiver involvement and detailed categorization of supplementary liquids, which provide actionable insights for community-level interventions. However, the cross-sectional design limits causal inference, and the reliance on self-reported behaviours may introduce recall or social desirability bias. The absence of inferential analyses on sociodemographic determinants also limits understanding of structural contributors such as maternal employment, education, or household economic conditions. Generalizability is further constrained to similar semi-urban hospital-attending populations.

Future research should incorporate longitudinal designs to track breastfeeding trajectories over the first six months, alongside qualitative investigations exploring maternal perceptions, social pressure, and household decision-making. Interventions targeting grandmothers, aunts, and

other key caregivers may be critical, as may structured breastfeeding counselling integrated into antenatal and postnatal care. Public health programs should address the specific misconception that infants require early water supplementation and provide tailored communication strategies to counter traditional practices such as honey or gripe water introduction.

Overall, the findings underscore that improving exclusive breastfeeding in similar contexts requires multilayered approaches addressing maternal knowledge, family influence, cultural norms, and health system support, with particular focus on mitigating early supplementation practices that compromise breastfeeding exclusivity.

CONCLUSION

This study demonstrates that exclusive breastfeeding was practiced by fewer than half of nursing mothers in Gojra, while substantial proportions introduced formula, animal milk, or traditional liquids such as water, gripe water, and honey—behaviours that undermine adherence to recommended exclusive breastfeeding during the first six months of life. These findings reveal a pattern in which breastfeeding is maintained but diluted through culturally embedded supplementation practices, often reinforced by influential family members who actively participate in infant feeding. The results highlight the need for targeted, context-specific interventions that address cultural norms, correct misconceptions about early liquid introduction, and engage not only mothers but also extended family caregivers. Strengthening breastfeeding counselling in routine maternal–child health services and promoting evidence-based feeding practices could improve infant health outcomes and support national efforts to enhance exclusive breastfeeding rates.

REFERENCES

1. Victora CG, Bahl R, Barros AJD, França GVA, Horton S, Krasevec J, et al. Breastfeeding in the 21st Century: Epidemiology, Mechanisms, and Lifelong Effect. Lancet. 2016;387(10017):475–90.
2. Kramer MS, Kakuma R. Optimal Duration of Exclusive Breastfeeding. Cochrane Database Syst Rev. 2012;(8):CD003517.
3. Fisk CM, Crozier SR, Inskip HM, Godfrey KM, Cooper C, Robinson SM, et al. Breastfeeding and Reported Morbidity During Infancy: Findings From the Southampton Women's Survey. Matern Child Nutr. 2011;7(1):61–70.
4. Group NS. Timing of Initiation, Patterns of Breastfeeding, and Infant Survival: Prospective Analysis of Pooled Data From Three Randomised Trials. Lancet Glob Health. 2016;4(4):e266–75.
5. Black RE, Victora CG, Walker SP, Bhutta ZA, Christian P, de Onis M, et al. Maternal and Child Undernutrition and Overweight in Low-Income and Middle-Income Countries. Lancet. 2013;382(9890):427–51.
6. Saeed OB, Haile ZT, Chertok IA. Association Between Exclusive Breastfeeding and Infant Health Outcomes in Pakistan. J Pediatr Nurs. 2020;50:e62–8.
7. Dhirar N, Dudeja S, Khandekar J, Bachani D. Childhood Morbidity and Mortality in India: Analysis of National Family Health Survey-4 (NFHS-4) Findings. Indian Pediatr. 2018;55:335–8.
8. Mangrio E, Persson K, Bramhagen AC. Sociodemographic, Physical, Mental and Social Factors in the Cessation of Breastfeeding Before 6 Months: A Systematic Review. Scand J Caring Sci. 2018;32(2):451–65.
9. DeMaria AL, Ramos-Ortiz J, Basile K. Breastfeeding Trends, Influences, and Perceptions Among Italian Women: A Qualitative Study. Int J Qual Stud Health Well-being. 2020;15(1):1734275.
10. Bayram Değer V, Ertem M, Çifçi S. Comparison of the Breastfeeding Practices of Refugee Syrian Mothers and Native Turkish Mothers. Breastfeed Med. 2020;15(3):170–5.
11. Lyellu FN, Hussein TH, Wandel M, Stray-Pedersen B, Arero AG, Gladstein T, et al. Predictors of Exclusive Breastfeeding in Tanzania: A Cross-Sectional Analysis. Int Breastfeed J. 2020;15:81.
12. Mohsin SS, Shaikh AS, Shaikh R, Haider N, Parkash A. Knowledge, Attitude and Practices of Mothers Regarding Complementary Feeding. J Dow Univ Health Sci. 2014;8(1):21–5.
13. World Health Organization. Indicators for Assessing Infant and Young Child Feeding Practices. Part 1: Definitions. Geneva: WHO; 2008.
14. World Medical Association. Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Subjects. JAMA. 2013;310(20):2191–4.