



MULTIDISCIPLINARY *SCIENCE JOURNAL*

VOLUME - 3



WWW.ECOSCIENCEJOURNALS.COM



ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
UNITED STATES
ISSN:3067-1221; CODEN: USA

Breastfeeding Challenges and Practices Amongst Female Health Care Professionals-A Cross-Sectional Study

Durr-E-Najaf^{1*}

1. Faculty of Medicine, Karachi Medical and Dental College, Karachi 74700, Pakistan.

Article Info: Received: 19 Aug 2026, Accepted: 27 Sep 2026, Published: 30 Sep 2026



ABSTRACT:

Background: Breastfeeding for the first six months of life is essential for optimal maternal and infant health. Despite their medical knowledge, female healthcare professionals often face workplace-related barriers that hinder recommended breastfeeding practices. This study aimed to assess breastfeeding practices and to identify challenges affecting exclusive breastfeeding among female healthcare professionals.

Methods: A cross-sectional study was conducted among 246 female healthcare professionals including doctors, nurses, and postgraduate trainees that are working in government hospitals who had at least one child and previous breastfeeding experience. Data were collected using a standardized self-administered questionnaire assessing sociodemographic characteristics, breastfeeding practices, knowledge, attitudes, and workplace support. Descriptive statistics, Chi-square test, and binary logistic regression were performed using SPSS. Statistical significance was set at $p < 0.05$.

Results: Although participants demonstrated good knowledge and positive attitudes toward breastfeeding, only 15.9% exclusively breastfed for the recommended six months, while 84.1% discontinued before six months. Significant associations were observed between exclusive breastfeeding duration and workplace support factors, including availability of breastfeeding space ($p < 0.001$), milk expression facilities ($p < 0.001$), hospital breastfeeding policies ($p = 0.004$), and maternal knowledge ($p = 0.036$). However, multivariate logistic regression showed that none of these variables independently predicted exclusive breastfeeding duration. Long working hours, inadequate workplace facilities, insufficient maternity support and occupational stress emerged as major barriers.

Conclusion: Despite adequate knowledge regarding breastfeeding, exclusive breastfeeding practices among female healthcare professionals remain suboptimal due to workplace and institutional challenges. Strengthening breastfeeding friendly workplace policies, providing dedicated lactation facilities, ensuring flexible work schedules, and enhancing maternity support may improve breastfeeding continuation and maternal and child health outcomes.

Keywords: Breast feeding, maternal health, infant health, female healthcare professionals, breastfeeding practices, Cross-Sectional Study.

CORRESPONDENCE

Durr-E-Najaf

Faculty of Medicine, Karachi Medical and Dental College, Karachi 74700, Pakistan. ORCID: <https://orcid.org/0009-0006-7518-212X>

Citation: Durr-E-Najaf (2026). Breastfeeding Challenges and Practices Amongst Female Health Care Professionals-A Cross-Sectional Study. Eco Science Journal.2026 3(9).



Copyrights ©: This article is licensed under the Creative Commons Attribution-NonCommercial-4.0-International-License-(CCBY-NC).

INTRODUCTION:

It is well accepted that breastfeeding is the cornerstone of newborn nutrition, offering the best possible health advantages to both mothers and infants. For the first six months of life, exclusive breastfeeding is highly recommended worldwide. After that, nursing should be continued in addition to supplemental feeding. In many populations across the world, especially working women, adherence to recommended breastfeeding methods is still below ideal levels despite these well-established standards^[1,2]. Within this population, female healthcare workers constitute a distinct subset. They are expected to actively support breastfeeding habits and have sufficient expertise as providers of maternity and child health education. Their individual experiences, however, frequently depict a distinct reality. Research indicates that even medical professionals face substantial obstacles when starting and maintaining breastfeeding, underscoring a disconnect between professional expertise and individual practice^[3-5]. Breastfeeding practices are significantly influenced by issues relating to the workplace. The main obstacles to breastfeeding continuation among working moms, particularly those in the healthcare industry, have been repeatedly recognized as demanding schedules, lengthy work hours, a lack of approved lactation areas, and inadequate institutional support^[2,6,7]. Due to organizational and structural limitations, even women employed by health institutions find it difficult to adhere to breastfeeding recommendations, according to recent global research^[4,8]. Healthcare workers may encounter difficulties with uneven breastfeeding support systems, poor training conditions, and competing clinical obligations in addition to obstacles at work^[8]. According to studies, healthcare professionals themselves identify obstacles including time constraints, a lack of practical assistance, and institutional policy gaps that can have a detrimental impact on their own breastfeeding habits as well as their capacity to assist others^[3,9]. Furthermore, variations in the quality of breastfeeding support and maternal experiences have also been linked to broader psychological and healthcare system factors^[10]. Additionally, structural constraints and societal expectations can exacerbate these difficulties, especially in low- and middle-income nations. According to studies conducted in comparable environments, working moms frequently struggle to continue breastfeeding because of a lack of job flexibility, insufficient maternity leave regulations, and a lack of support networks^[7,9]. These limitations are particularly pertinent in hospital settings, where the load on female professionals is exacerbated by staff shortages and demanding duties. Recent qualitative evidence also highlights that formally employed mothers continue to face persistent structural and social barriers despite awareness of breastfeeding benefits^[12]. While a large amount of study has been done on breastfeeding behaviors in the general community, there is still little attention paid to female healthcare workers as a separate category^[4]. It is crucial to comprehend their experiences since their personal behaviors may affect their professional attitudes, self-assurance, and efficacy in promoting breastfeeding^[7]. Thus, the purpose of this cross-sectional study is to evaluate breastfeeding patterns and investigate the difficulties encountered by female healthcare workers. Determining these obstacles is crucial for creating supportive workplace policies and focused treatments that can improve breastfeeding outcomes and mother well-being.

METHODOLOGY:

Study design: Healthcare professionals from certain hospitals participated in this cross-sectional survey.

Study population: Female doctors, nurses, and PG trainees working in government hospitals who had at least one child and breastfeeding experience.

Sample size: A standardized, self-administered questionnaire was used to include 246 people in total. Raosoft Sample Size Calculator used with 5% margin of error and 95% confidence level.

Study variables:

The questionnaire was divided into four sections: exclusive breastfeeding practices, knowledge, attitude, and demographics. Age, occupation, breastfeeding practices, and workplace breastfeeding assistance (hospital policy, breastfeeding area, milk expression facility, and support from coworkers and supervisors) were among the variables.

Categorization of exclusive breastfeeding duration:

The length of exclusive breastfeeding was divided into two categories: less than six months (coded as 1) and six months (coded as 2).

Inclusion Criteria:

- Female health care professionals working in government hospitals.
- Must have at least one child and experience of breastfeeding.

Exclusion Criteria:

- Health professionals who never breastfed due to medical contraindications.
- Those who are not willing to provide informed consent.

Data analysis:

SPSS version XX was used for data entry and analysis. The data was summarized using descriptive statistics, which were displayed as percentages and frequencies. The Chi-square test was used to evaluate the relationship between the length of exclusive breastfeeding and independent variables. Binary logistic regression was used to further examine variables that demonstrated relationship in bivariate analysis in order to find independent predictors. We computed odds ratios (OR) with 95% confidence intervals. Statistical significance was defined as a p-value of less than 0.05.

Results:

The study comprised 246 participants in total. Most showed positive attitudes and good understanding on exclusive breastfeeding. However, 84.1% of participants stopped nursing earlier, and just 15.9% persisted exclusively for six months.

Bivariate Analysis:

Workplace-related characteristics were substantially linked to the duration of exclusive breastfeeding, according to chi-square analysis. Exclusive breastfeeding for six months was substantially correlated with the availability of breastfeeding space ($p < 0.001$), the availability of milk expression facilities ($p < 0.001$), and supportive hospital policies ($p = 0.004$). Additionally, there was a significant correlation ($p = 0.036$) between maternal awareness and the recommended six-month period of exclusive breastfeeding. Age ($p = 0.064$), occupation ($p = 0.609$), and assistance from coworkers or superiors ($p = 0.090$) did not show any significant correlation.

Multivariate Analysis:

To find independent determinants of exclusive breastfeeding for six months, binary logistic regression analysis was used. The total model showed strong fit (Hosmer–Lemeshow $p = 0.664$) and statistical significance (Omnibus test, $p = 0.002$). Nevertheless, the model had a limited explanatory power (Nagelkerke $R^2 = 0.125$). It was discovered that none of the model's variables were statistically significant predictors of the length of exclusive breastfeeding. Hospital policy (OR = 0.636, $p = 0.306$), milk expression facility (OR = 0.547, $p = 0.257$), colleague support (OR = 0.949, $p = 0.912$), and maternal awareness (OR = 0.681, $p = 0.569$) did not significantly correlate with breastfeeding space (OR = 0.373, $p = 0.067$).

According to the categorization table, the model was able to accurately identify most cases in the <6 months category, but it was not very good at predicting moms who exclusively breastfed for six months.

Sociodemographic Characteristics:

The study comprised **246 participants** in total. 52.8% of participants were between the ages of 26 and 35, while 24.8% were between the ages of 36 and 45. Just 7.3% of them were older than 45. In terms of occupation, the majority of participants were **nurses (36.6%)** , followed by house officers (17.9%) and postgraduate residents (27.6%). RMOs and others made up a lower percentage, with consultants making up 8.9%. Just 0.4% of participants were from rural areas, whereas the majority (99.6%) lived in metropolitan areas.

Knowledge Regarding Exclusive Breastfeeding:

When it came to exclusive breastfeeding techniques, most participants showed good expertise. Exclusive breastfeeding should last for six months, according to almost **90.3%** of respondents. Breastmilk is the best source of nutrition for newborns, according to a very high percentage (**96.4%**). Furthermore, **90.7%** concurred that early breastfeeding initiation enhances baby health outcomes.

Attitude Towards Exclusive Breastfeeding:

The majority of participants had a favorable opinion of exclusive breastfeeding. With workplace support, working mothers can successfully sustain exclusive breastfeeding, according to about **82.5%** of respondents.

Association Between Workplace Support and Breastfeeding Duration:

The length of exclusive breastfeeding was statistically significantly correlated with hospital policy support (** $p = 0.004$ **). Just **12.0%** of participants without policy support sustained breastfeeding for six months, while **88.0%** did so for less than six months. On the other hand, **27.4%** of those who received workplace support breastfed for six months. *Chi-square test: $p = 0.004$ (statistically significant).*

Multivariate Logistic Regression Analysis:

To find independent determinants of exclusive breastfeeding for six months, binary logistic regression analysis was used. The total model demonstrated strong fit (Hosmer-Lemeshow test ** $p = 0.664$ **) and statistical significance (** $p = 0.002$ **). Nevertheless, it was discovered that none of the variables were independent predictors that were statistically significant.

Variable	Category	Frequency (n)	Percentage %
Age Group	12–25 years	37	15.0
	26–35 years	130	52.0
	36–45 years	61	24.8
	>45 years	18	7.3
Profession	Consultant	22	8.9
	House Officer	44	17.9
	Nurse	90	36.6
	Postgraduate Resident	68	27.6
	RMO	19	7.7
	Others	3	1.2
Residence	Urban	245	99.6
	Rural	1	0.4

Table 1. Sociodemographic Characteristics.

Statement	Agree %	Neutral %	Disagree %
Exclusive breastfeeding should continue for 6 months	90.3	8.9	0.8
Breast milk is the best nutrition for infants	96.4	2.8	0.8
Early initiation improve infants outcome	90.7	6.5	2.8

Table 2. Knowledge Regarding Exclusive Breastfeeding.

Statement	Agree %	Neutral %	Disagree %
Working mothers can continue breastfeeding with support	82.5	11.8	5.7

Table 3. Attitude Towards Exclusive Breastfeeding.

Hospital policy support	<6 months %	6 months %
No support	88.0	12.0
Support present	72.6	27.4

Table 4. Association Between Workplace Support and Breastfeeding Duration.

Variable	Adjusted odds ratio	P - value	Interpretation
No support	0.636	0.306	Not significant
Support present	0.373	0.067	Borderline significance
Milk expression facility	0.547	0.257	Not significant
Colleague/supervisor support	0.949	0.912	Not significant
Knowledge	0.681	0.569	Not significant

Table 5. Multivariate logistics regression analysis.

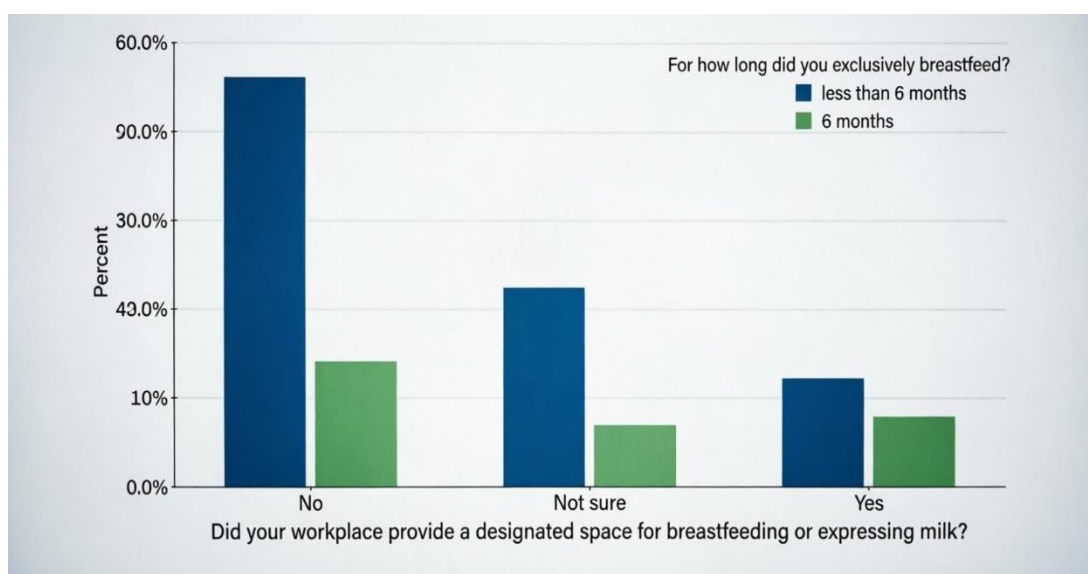


FIG-1. Graph showing information of mothers with access to a designated breastfeeding space had a higher proportion of exclusive breastfeeding for 6 months compared to those without access, indicating a significant association between workplace support and breastfeeding duration.

DISCUSSION:

This cross-sectional study examined breastfeeding patterns and the difficulties faced despite having sufficient medical knowledge among female healthcare personnel at Abbasi Shaheed Hospital in Karachi. Because of their expertise, healthcare professionals are typically expected to exhibit appropriate infant feeding behaviors; nevertheless, the results indicate that professional knowledge does not guarantee maintained exclusive breastfeeding. Previous studies have documented similar discrepancies between awareness and practice^[10,11]. Participants seemed to start nursing early, which probably reflects their awareness with UNICEF and WHO standards. Healthcare professionals are often well-informed about the global standards that emphasize beginning during the first hour of birth to prevent infant morbidity and mortality^[12,13]. Even with good beginning methods, working moms in hospital settings may find it difficult to continue exclusive breastfeeding for up to six months. Returning to work considerably shortens the duration of exclusive breastfeeding, according to earlier worldwide research among working women, including healthcare workers^[14–16]. In this context, early return to duty and short maternity leave were seen as obstacles. Limited paid maternity leave is substantially linked to early termination of exclusive breastfeeding, according to evidence from occupational health studies^[17,18]. The lack of designated lactation rooms is another commonly reported institutional hurdle. The absence of privacy and supportive infrastructure in hospitals has been found to make it difficult for doctors and nurses to express and store breast milk^[19–21]. Breastfeeding disruption may also result from tertiary care facilities like Abbasi Shaheed Hospital's heavy workload and extended duty hours. Similar results have been reported for shift-based nurses and resident physicians in comparable hospital settings^[22,23]. Lactation habits may also be impacted by stress at work. According to research, maternal confidence and perceived milk production may be impacted by psychological stress and exhaustion, which may lead to early supplementation^[24,25]. Despite their strong theoretical understanding of newborn feeding, healthcare providers nevertheless face practical difficulties. This knowledge-practice gap has been brought to light by earlier surveys of mothers with medical training, which emphasize that systemic considerations frequently trump awareness^[26,27]. Family and social support are crucial facilitators. Maternal health literature has repeatedly shown that mothers who receive support from their spouses and other family members are more likely to continue exclusive breastfeeding^[28,29]. Early nursing practices may also be influenced by the mode of birth. Due to postoperative discomfort and separation from the infant, Caesarean sections have been linked to delayed initiation and increased supplementing^[30]. Concerns over a lack of milk supply were voiced by a few individuals. International cohort studies have shown that reported inadequate milk production is still a common reason for early cessation, even among educated mothers^[31]. Feeding patterns may be interfered with by rotational shifts and night work, which are typical in Karachi's public hospitals. According to occupational research, inconsistent work schedules have a detrimental effect on the constancy of breastfeeding^[32].

Breastfeeding continuation is significantly influenced by supportive workplace cultures and administrative encouragement. Employed moms' outcomes are better at institutions that adopt breastfeeding-friendly policies^[33]. Healthcare workers may have greater beginning rates when compared to statistics from the broader Pakistani population, but they face comparable institutional obstacles after maternity leave concludes. This illustrates the necessity for institutional reform on a larger scale. Healthcare professionals' personal experiences may influence patient education because they serve as new mothers' primary counsellors. Increasing hospital staff support for breastfeeding may indirectly improve the efficacy of patient counselling. The results highlight the necessity of established lactation policies at Abbasi Shaheed Hospital, which should include flexible duty hours, planned pumping breaks, and private lactation areas.

The duration of exclusive breastfeeding among female healthcare practitioners may be greatly increased by implementing workplace breastfeeding support programs. This study adds to the little body of local research in Karachi that evaluates breastfeeding patterns, particularly among medical professionals as opposed to the general public. However, causal interpretation is limited by the study's cross-sectional design. Studies using longitudinal follow-up might provide further insight into the temporal relationships between breastfeeding duration and occupational exposure. In conclusion, institutional hurdles, workload expectations, and inadequate maternity support networks may impede prolonged exclusive breastfeeding, even when female healthcare personnel at Abbasi Shaheed Hospital possess sufficient information regarding optimal breastfeeding practices. Improving the health of mothers and newborns requires addressing these systemic problems.

CONCLUSION: This study investigated breastfeeding behaviors and the problems that female healthcare workers encounter. The findings demonstrated that, despite having enough knowledge about the benefits of breastfeeding, many participants faced considerable challenges in sustaining good practices. Long working hours, insufficient maternity leave, a lack of quiet locations for breastfeeding or expressing milk, and workplace stress were mentioned as significant challenges. Regardless of their medical experience, female healthcare workers frequently failed to exclusively breastfeed due to professional obligations and institutional constraints. This demonstrates a gap between knowledge and practice, which is heavily influenced by environmental and organizational restrictions. The study underlines the importance of supporting workplace practices, such as flexible working hours, prolonged maternity leave, and lactation facilities in healthcare settings. Addressing these problems is critical not only for mothers' well-being, but also for fostering good baby health. However, the small sample size and single-center data set of this investigation hampered its findings. Future studies should cover a bigger and more diverse population in order to better understand and address these issues.

BIBLIOGRAPHY:

1. Infant and young child feeding [Internet]. [cited 2026 Mar 30]. Available from: <https://www.who.int/news-room/fact-sheets/detail/infant-and-young-child-feeding>.
2. Hookway L, Brown A. Barriers to optimal breastfeeding of medically complex children in the UK paediatric setting: a mixed methods survey of healthcare professionals. *J Hum Nutr Diet Off J Br Diet Assoc.* 2023 Oct;36(5):1857–73. doi:10.1111/jhn.13202 PubMed PMID: 37501256.
3. Wu J jiao, Zhang Q ning, Liao S su, Li J hong, Zhang J duan, Huang J zhi. Healthcare providers' perceived barriers to providing breastfeeding support in Northwest rural China. *Int Breastfeed J.* 2024 Apr 3;19(1):22. doi:10.1186/s13006-024-00630-3.
4. Schleiff MJ, Nambiar D, Yimer FN, Varallyay NI, Dalglish SL. Is breastfeeding 'exclusive'? Barriers facing global health professionals and proposed solutions. *PLOS Glob Public Health.* 2025 Mar 26;5(3):e0004377. doi:10.1371/journal.pgph.0004377.
5. Mulcahy H, Philpott LF, O'Driscoll M, Bradley R, Leahy-Warren P. Breastfeeding skills training for health care professionals: A systematic review. *Heliyon.* 2022 Nov 18;8(11):e11747. doi:10.1016/j.heliyon.2022.e11747 PubMed PMID: 36468118; PubMed Central PMCID: PMC9708688.
6. Taylor H. Enablers and barriers to workplace breastfeeding in the Armed Forces: a systematic review. *BMJ Mil Health.* 2023 Aug;169(4):373–84. doi:10.1136/bmjilitary-2020-001724 PubMed PMID: 33593752.

7. Breastfeeding among women employed in Mexico's informal sector: strategies to overcome key barriers | International Journal for Equity in Health | Springer Nature Link [Internet]. [cited 2026 Mar 30]. Available from: <https://link.springer.com/article/10.1186/s12939-024-02147-x>.
8. Women's Perceptions and Experiences of Breastfeeding: a scoping review of the literature | BMC Public Health | Springer Nature Link [Internet]. [cited 2026 Mar 30]. Available from: <https://link.springer.com/article/10.1186/s12889-021-12216-3>.
9. Hoyos-Loya E, Pérez Navarro C, Burrola-Méndez S, Hernández-Cordero S, Omaña-Guzmán I, Sachse Aguilera M, et al. Barriers to promoting breastfeeding in primary health care in Mexico: a qualitative perspective. *Front Nutr*. 2024 Jan 9;10. doi:10.3389/fnut.2023.1278280.
10. Odom EC, Li R, Scanlon KS, Perrine CG, Grummer-Strawn L. Reasons for Earlier Than Desired Cessation of Breastfeeding. *Pediatrics*. 2013 Mar 1;131(3):e726–32. doi:10.1542/peds.2012-1295.
11. Why Mothers Stop Breastfeeding: Mothers' Self-reported Reasons for Stopping During the First Year | Pediatrics | American Academy of Pediatrics [Internet]. [cited 2026 Mar 30]. Available from: https://publications.aap.org/pediatrics/article-abstract/122/Supplement_2/S69/29429/Why-Mothers-Stop-Breastfeeding-Mothers-Self?redirectedFrom=fulltext.
12. Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services [Internet]. [cited 2026 Mar 31]. Available from: <https://www.who.int/publications/i/item/9789241550086>.
13. Capture the Moment | UNICEF [Internet]. 2018 [cited 2026 Mar 31]. Available from: <https://www.unicef.org/reports/capture-moment>.
14. Johnston ML, Esposito N. Barriers and Facilitators for Breastfeeding Among Working Women in the United States. *J Obstet Gynecol Neonatal Nurs*. 2007 Jan 1;36(1):9–20. doi:10.1111/j.1552-6909.2006.00109.x PubMed PMID: 17238942.
15. Persistent Problems and Collective “Response-Ability” - Abrams - 2012 - Public Health Nursing - Wiley Online Library [Internet]. [cited 2026 Mar 30]. Available from: <https://onlinelibrary.wiley.com/doi/full/10.1111/phn.12011>.
16. Tsai SY. Impact of a Breastfeeding-Friendly Workplace on an Employed Mother's Intention to Continue Breastfeeding After Returning to Work. *Breastfeed Med*. 2013 Apr;8(2):210–6. doi:10.1089/bfm.2012.0119 PubMed PMID: 23390987; PubMed Central PMCID: PMC3616406.
17. Mirkovic KR, Perrine CG, Scanlon KS. Paid Maternity Leave and Breastfeeding Outcomes. *Birth*. 2016;43(3):233–9. doi:10.1111/birt.12230.
18. Chai Y, Nandi A, Heymann J. Does extending the duration of legislated paid maternity leave improve breastfeeding practices? Evidence from 38 low-income and middle-income countries. *BMJ Glob Health*. 2018 Oct 11;3(5). doi:10.1136/bmjgh-2018-001032 PubMed PMID: 10.1136/bmjgh-2018-001032.
19. Lindly OJ, Sinche BK, Zuckerman KE. Variation in Educational Services Receipt Among US Children With Developmental Conditions. *Acad Pediatr*. 2015 Sep 1;15(5):534–43. doi:10.1016/j.acap.2015.04.001.
20. “Frustrated,” “Depressed,” and “Devastated” Pediatric Trainees - Avika Dixit, Lori Feldman-Winter, Kinga A. Szucs, 2015 [Internet]. [cited 2026 Mar 31]. Available from: https://journals.sagepub.com/doi/10.1177/0890334414568119?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed.
21. Lactation Accommodation in the Workplace and Duration of Exclusive Breastfeeding - Bai - 2013 - Journal of Midwifery & Women's Health - Wiley Online Library [Internet]. [cited 2026 Mar 31]. Available from:

<https://onlinelibrary.wiley.com/doi/10.1111/jmwh.12072>.

22. Dinour LM, Szaro JM. Employer-Based Programs to Support Breastfeeding Among Working Mothers: A Systematic Review. *Breastfeed Med*. 2017 Apr 1;12(3):131–41. doi:10.1089/bfm.2016.0182.
23. Socioeconomic status and rates of breastfeeding in Australia: evidence from three recent national health surveys - Amir - 2008 - Medical Journal of Australia - Wiley Online Library [Internet]. [cited 2026 Mar 31]. Available from: <https://onlinelibrary.wiley.com/doi/abs/10.5694/j.1326-5377.2008.tb02016.x>.
24. Lau C. Effects of Stress on Lactation. *Pediatr Clin North Am*. 2001 Feb 1;Breastfeeding 2001, Part 1: The Evidence for Breastfeeding48(1):221–34. doi:10.1016/S0031-3955(05)70296-0.
25. Differences Between Exclusive Breastfeeders, Formula-Feeders, and Controls: A Study of Stress, Mood, and Endocrine Variables - Maureen W. Groër, 2005 [Internet]. [cited 2026 Mar 31]. Available from: https://journals.sagepub.com/doi/10.1177/1099800405280936?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed.
26. Breastfeeding: A Bridge to Addressing Disparities in Obesity and Health - Diana E. Ramos, 2012 [Internet]. [cited 2026 Mar 30]. Available from: <https://journals.sagepub.com/doi/full/10.1089/bfm.2012.0076>.
27. Effects of Smoking, Mother's Age, Body Mass Index, and Parity Number on Lipid, Protein, and Secretory Immunoglobulin A Concentrations of Human Milk - Pamela Bachour, Rula Yafawi, Farouk Jaber, Elias Choueiri, Ziad Abdel-Razzak, 2012 [Internet]. [cited 2026 Mar 30]. Available from: <https://journals.sagepub.com/doi/10.1089/bfm.2011.0038>.
28. Sherriff NS. Engaging and supporting fathers to promote breastfeeding: a new role for Health Visitors? *Scand J Caring Sci*. doi:10.1111/J.1471-6712.2010.00850.X.
29. Emmott EH, Mace R. Practical Support from Fathers and Grandmothers Is Associated with Lower Levels of Breastfeeding in the UK Millennium Cohort Study. *PLOS ONE*. 2015 Jul 20;10(7):e0133547. doi:10.1371/journal.pone.0133547.
30. Prior E, Santhakumaran S, Gale C, Philipps LH, Modi N, Hyde MJ. Breastfeeding after cesarean delivery: a systematic review and meta-analysis of world literature123. *Am J Clin Nutr*. 2012 May 1;95(5):1113–35. doi:10.3945/ajcn.111.030254.
31. Kent JC, Prime DK, Garbin CP. Principles for Maintaining or Increasing Breast Milk Production. *J Obstet Gynecol Neonatal Nurs*. 2012 Jan 1;41(1):114–21. doi:10.1111/j.1552-6909.2011.01313.x PubMed PMID: 22150998.
32. Staneva A, Bogossian F, Pritchard M, Wittkowski A. The effects of maternal depression, anxiety, and perceived stress during pregnancy on preterm birth: A systematic review. *Women Birth*. 2015 Sep 1;28(3):179–93. doi:10.1016/j.wombi.2015.02.003.
33. Centers for Disease Control and Prevention. 2013. Strategies to Prevent Obesity and Other Chronic Diseases: The CDC Guide to Strategies to Support Breastfeeding Mothers and Babies. Atlanta, GA: U.S. Department of Health and Human Services, 2013 - PMC [Internet]. [cited 2026 Mar 31]. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC4013182>.

