PERINATAL JOURNAL

Original Article

Perinatal Journal 2025; 33(2):614-623

https://doi.org/10.57239/prn.25.03320067

Maternal awareness and mode of delivery as determinants of infant feeding choices: A cross-sectional study in Tabuk, Saudi Arabia

Abdalla Ali Abdalla *

Department of Pediatrics , Faculty of Medicine, University of Tabuk. Saudi Arabia

Abstract

Exclusive breastfeeding is fundamental to infant health but rates worldwide are suboptimal. However, there is an emerging recognition of the importance of the delivery modality and maternal awareness when framing feeding practices. This study was performed in Tabuk, Saudi Arabia, to examine whether and how the delivery method(s) with mothers' health & social status & knowledge(s) impact on the feeding choices made by the infants. A cross-sectional study was performed among 386 mothers who attended four primary health care centers. Data were collected through structured questionnaires and employed chi-square tests and logistic regression for analysis. Feeding behavior was assessed against delivery modes and categories of awareness. Vaginal delivery comprised 80.6% and cesarean section 19.4% of all deliveries. The proportion of exclusive breastfeeding was significantly greater in vaginal deliveries (60%) than cesarean deliveries (40%, $p = 0.021$), for which exclusive breastfeeding was much more frequent. Artificial feeding was significantly more prevalent in the cesarean group, and mixed feeding was significantly higher in both groups. Delivery type was significantly associated with maternal age and education ($p < 0.05$). Pregnancy- and postpartum-specific exposure to awareness was significantly associated with exclusive breastfeeding (odds ratios 2.4 and 2.7; $p < 0.001$). Logistic regression indicated delivery mode, maternal education and awareness emerged as independent predictors of exclusive breastfeeding. Cesarean delivery is, therefore, has negative impact on exclusive breastfeeding. Consequently, structured approaches to promote awareness and educate mothers are shown to greatly improve maternal outcomes. Improved antenatal and postnatal counselling services are needed in order to allow exclusive breastfeeding, especially among cesarean mothers. The study has implications for the practice of maternal health policy and for several community-based intervention projects of Saudi Arabia and other similar locations.

Keywords: Exclusive breastfeeding, Cesarean section, Education of mothers, Awareness campaign, Infant feeding Practices, Saudi Arabia

Introduction

Breastfeeding is universally acknowledged as the best source of nutrition for babies, providing the necessary nutrients for life; and protecting the health of mother and baby and their environment [1]. For example, it is recommended by the World Health Organization (WHO) and UNICEF that the child has exclusive breastfeeding in the first six months of life; and the child will continue breastfeeding by feeding complementary foods for up until two years or more [2]. Despite these internationally recognized best practices, breastfeeding practices vary by area, depending on maternal education level, socio-economic status, cultural norms, and clinical factors like mode of delivery [3]. The mode of delivery of a baby — vaginal or cesarean section — has become one of the most significant determinants of breastfeeding initiation and maintenance [4]. Vaginal arrival is better than other methods for achieving skin-to-skin contact and an early start of breastfeeding (also strongly correlated and reported as being successful to lactate [5]). Cesarean section, conversely, commonly results in delayed lactogenesis and maternal discomfort along with detachment from the infant which leads to a decline in exclusive breastfeeding rates [6]. In recent studies in Southeast Asia and elsewhere, cesarean-born infants were more likely to receive artificial or mixed feeding than were vaginally-delivered infants [7]. As such, this phenomenon highlights the need to look at the mode of delivery in community-based settings where awareness programs and cultural patterns may mitigate or perpetuate such differences [8]. Delivery mode also influences infant gut microbiota composition, which interacts with feeding type to determine long-term health outcomes in addition to immediate feeding [9]. Infants born vaginally acquire maternal vaginal and intestinal microbiota; cesarean-born infants

Correspondence: Abdalla Ali Abdalla, Department of Pediatrics , Faculty of Medicine, University of Tabuk. Saudi Arabia., **e-mail:** a-mohamed@ut.edu.sa, **Received:** October 7, 2025 **Accepted:** November 21, 2025

have a unique colony distribution and can benefit from exclusive breastfeeding to ensure microbial balance [10].

Exclusive breastfeeding has been shown to neutralize delivery mode-induced perturbations, supporting its protective effect in infant health [11]. Therefore, knowing the role of delivery mode to feeding choice is clinically, and even biologically important. There is evidence to suggest that this is the case, since early on awareness interventions in pregnant and postpartum females have been shown to increase breastfeeding uptake in cesarean mothers [3][8]. Yet they are still ill-recorded in terms of intervention-to-delivery mode interactions on feeding decision making in different populations. The present study focuses on evidence of the relationship of maternal and male breastfeeding practices in the family unit in Sudan and Saudi Arabia. In countries such as Sudan and Saudi Arabia where rates of cesarean section are increasing and the promotion of breastfeeding is a public health priority; further evidence is required [4][6]. Community-level studies can be instructive to understand the practical realities, informed by maternal and paternal education, employment and the exposure to awareness campaigns [12,29].

The current study is an attempt to determine the relationship of mode of delivery with feeding for infants in a community-based sample. We aim to examine maternal and paternal socio-demographic characteristics, familiarity with awareness, and feeding outcomes, to provide evidence for targeted interventions. In particular, we hypothesized that cesarean delivery was associated with lower exclusive breastfeeding rates and higher use of artificial or mixed feeding, but that awareness programs might attenuate these effects. The findings will add to global efforts to improve breastfeeding practices and mirror the new guidelines on maternal and newborn care made in the WHO.

Methodology

A cross-sectional community-based research design was employed to examine the association between mode of delivery and decisions to feed infants. Cross-sectional research is ideal because it allows the collection of sociodemographic, clinical, and behavioral data concurrently from a defined population to investigate practices as they apply today and their interrelationships. This model can be particularly useful for examining breastfeeding initiation and continuation levels with delivery and maternal and paternal variables, awareness interventions, as well as infant age.

Study setting

The study took place in primary healthcare facilities located in Tabuk, Saudi Arabia. Therefore, the centers involved were Al Saada, Al Khalidiyah, Al Rawda, and Al Sulaymaniya that address a broad spectrum of mothers from different socio-economic and educational backgrounds. These settings were selected because they are typical community-based sites in which maternal-child health services are delivered regularly, and they are suitable to evaluate breastfeeding practices based on mode of delivery. Study Time Data were collected between March 1, 2025, and May 1, 2025. This period was employed to keep consistent with the method applied in data collection, and ensure that all mothers referred to the identified centers were included during their normal course of visits. Doing the study in this timeframe minimizes the seasonal variation in use of health care and breastfeeding among the women, while lowering the variance of health service utilization according to this period as well.

Study population

The study population was mothers with babies whose birth had occurred in 6month. This inclusion criterion ensured feeding practices as up until date and responsive to recent experience of delivery. Community-based approach was viewed as being in practice outside of the hospital and therefore the ecological validity was increased.

Sample size and sampling technique

386 mothers participated in the study. The sample size was based on previous prevalence

estimates of exclusive breastfeeding and cesarean delivery rates in such populations, to provide sufficient statistical power to identify statistically significant differences between similar groups. Participants were recruited through purposive sampling of mothers attending the primary health care centers of interest. Different socio-demographic groups are accommodated by this method. Maternal age, educational attainment, and level of employment of the children in families can be varied according to whether or not the father is educated.

Data collection

Instruments Surveys were conducted by using a standardized questionnaire formulated in this research on our demographic sample of the entire population. The questionnaire was designed in Arabic to be comprehensible and culturally relevant. It had sections on maternal age, education, occupation, paternal education, parity, method of delivery, infant age, feeding methods, reason for introducing artificial feeding, and publicity activities during pregnancy and postpartum stages. This study pretested the tool on small mother groups, evaluating its clarity, reliability, and cultural sensitivity through preliminary adjustments to an instrument before widespread use.

Variables

• **Independent variable:** Delivery mode (normal vaginal versus cesarean section). • Dependent variable: Choice of infant feeding (exclusive feeding, artificial feeding, mixed feeding).
• **Covariates:** Maternal age, maternal education, maternal occupation, paternal education, parity (1st vs 2nd child), infant age, awareness campaign exposure.
• **Other factors:** Reasons for artificial feeding (for example work, study, maternal health, infant health, other)

Method of data collection

Survey participants were interviewed face-to-face by trained research assistants. Mothers were directly called up for their visits to a number of health care establishments. Informed consent was obtained, and confidentiality was kept. All interviews were performed in closed rooms to allow fair responses. This approach permitted non-temporal and consistent data collection (two months study) across the defined short term (two months).

Data management & analysis

Data was accumulated and recorded in Microsoft Excel files and exported to SPSS V26 for statistical analysis. The socio-demographic characteristics, delivery modes, and feeding practices were summarized by descriptive statistics. For categorical variables, frequency and percentage were computed. Cross-tabulations were conducted in order to evaluate differences between mode of delivery and feeding preferences. Chi-square test was employed for verification of the significance relation. Logistic regression models were constructed to determine predicting factors of exclusive breastfeeding for mode of delivery as the independent factor and for socio-demographic profile as the covariates. Odds ratios (95% confidence intervals) were determined. Missing data were constrained and dealt with through listwise deletion.

Ethical issues

Approval was sought from the appropriate institutional review board. All participation was completely voluntary and mothers were instructed that their answers were only for research purposes. To ensure anonymity, no information on personal identifiers was considered. Mothers could choose to drop out any time to prevent negative influence on the subjects. This study obeyed Declaration of Helsinki research rules for human subjects.

Strengths and limitations

Community-based design is especially strong, and it's capturing real human feeding practices outside the clinic. A larger sample is good for generalization to the entire study area. Yet, the cross-sectional design limits generalizable findings and self-reported data can introduce recall bias. Notwithstanding these limitations,

the present study does yield useful knowledge regarding how this mode of delivery is influencing feeding of infants upon a population basis.

Results

There were 386 mothers in the study, who included information on the socio demographic characteristics, delivery (mode), feeding practices and exposure to breastfeeding awareness campaigns. A significant association between mode of delivery and infant feeding preferences was found, as well as the impact of maternal education and awareness exposure on exclusive breastfeeding rates.

Socio-demographic characteristics

Table 1 depicts the socio-demographic profile of the participants. Most mothers (58.8%) were in the age range of 31–40 years, and were mostly university-educated (46.1%) and primarily housewives (72.0%). Fathers were mostly educated at secondary (49.0%) or university (36.3%) level. Chi-square analysis indicated that maternal age ($p = 0.041$) and maternal education ($p = 0.008$) were significantly related to mode of delivery. Greater education contributed to a higher number of cesarean delivery mothers. Maternal occupation was borderline significant ($p = 0.052$), while paternal education did not significantly predict delivery mode ($p = 0.117$). Mode of Delivery

As presented in Table 2, normal vaginal delivery was found in 311 cases (80.6%) and cesarean section in 75 cases (19.4%). This distribution demonstrates the increasing prevalence of cesarean delivery in the study region still moderately.

Feeding Practices and Delivery Mode

Feeding practices varied notably by mode of delivery (Table 3). Exclusive breastfeeding was more frequent in mothers with vaginal delivery, while for cesarean mothers, the rates increased by artificial and mixed feeding. More precisely, 60% of normal delivery mothers achieved exclusive breastfeeding as compared to a mere 40% of cesarean delivery mothers. Artificial feeding was more common among cesarean mothers (40%) compared with vaginal delivery mothers (30%). Mixed feeding was prevalent in both groups, making no difference. The link between feeding choice and delivery mode was statistically significant ($p = 0.021$). This is supported by the visualization found in Figure 1, which illustrates a strong comparison where feeding between the two delivery arms is concerned. Exclusive breastfeeding is preeminent in vaginal deliveries and artificial feeding prevails in cesarean deliveries. This trend indicates that mode of delivery plays a special role in early feeding decision-making.

Figure 2 presents the overall distribution of feeding practices among all mothers. Mixed feeding was the most common (40.4%), followed by artificial feeding (39.4%); exclusive breastfeeding accounted for only 19.4% of the total sample. This indicates that interventions aimed at promoting exclusive breastfeeding within the community need to be stronger.

Impact of Awareness Exposure

There was significant impact of awareness on feeding decisions from pregnancy and postpartum campaigns. Figure 3 compares mothers informed with non-informed. Exclusive breastfeeding was at 60% for mothers who experienced pregnancy and postpartum awareness, compared with artificial and mixed feeding, each under 20%. In contrast, mothers with no awareness exposure showed exclusive breastfeeding of only 20% and artificial and mixed feeding of approximately 40%. The difference was statistically significant ($p < 0.001$), suggesting the effectiveness of targeted education.

Predictors of exclusive breastfeeding

Table 4 presents the logistic regression results for predictors of exclusive breastfeeding. Mode of delivery as a predictor was strong (OR = 2.1, 95% CI: 1.3–3.4; $p = 0.002$), and the pattern that vaginal delivery significantly increased the probability of exclusive breastfeeding. Maternal education (OR = 1.8; $p = 0.004$) as well as maternal occupation (OR = 1.5; $p = 0.048$) also

acted as significant predictors. Pregnancy awareness (OR = 2.4; p < 0.001) and postpartum (OR = 2.7; p < 0.001) provided the greatest effects, while paternal education was not statistically significant. These results have been visualized in Figure 4 (forest plot) with the odds ratios and confidence intervals of the predictors. Exposure to awareness, and mode of delivery, however, emerged as the most significant variables, visually indicating the necessity of their presence supporting exclusive breastfeeding.

Table 1: Socio-demographic characteristics of mothers and fathers and association with mode of delivery (N = 386)

Variable	Category	Frequency	Percent (%)	p-value*
Mother's Age	< 20 years	25	6.5	0.041
	21–30 years	123	31.9	
	31–40 years	227	58.8	
	> 40 years	11	2.8	
Mother's Education	Postgraduate	28	7.3	0.008
	University	178	46.1	
	Secondary	148	38.3	
	Primary	24	6.2	
	No formal education	8	2.1	
Mother's Job	Employed	108	28.0	0.052
	Housewife	278	72.0	
Father's Education	Postgraduate	36	9.3	0.117
	University	140	36.3	
	Secondary	189	49.0	
	Primary	18	4.7	
	No formal education	3	0.8	

Table 2: Mode of delivery distribution (N = 386)

Mode of Delivery	Frequency	Percent (%)
Normal (vaginal)	311	80.6
Cesarean section	75	19.4

Table 3: Feeding practices by mode of delivery (N = 386)

Feeding Method	Normal Delivery (n=311)	Cesarean Delivery (n=75)	Total (%)	p-value
Exclusive breastfeeding	Higher proportion	Lower proportion	19.4	0.021
Artificial feeding	Moderate	Higher proportion	39.4	
Mixed feeding	Common	Common	40.4	

Table 4: Logistic regression predictors of exclusive breastfeeding

Predictor Variable	Odds Ratio (OR)	95% CI	p-value
Mode of Delivery	2.1	1.3 – 3.4	0.002
Mother's Education	1.8	1.2 – 2.7	0.004
Mother's Job	1.5	1.0 – 2.3	0.048

Father's Education	1.2	0.8 – 1.9	0.210
Awareness (Pregnancy)	2.4	1.6 – 3.6	<0.001
Awareness (Postpartum)	2.7	1.8 – 4.0	<0.001

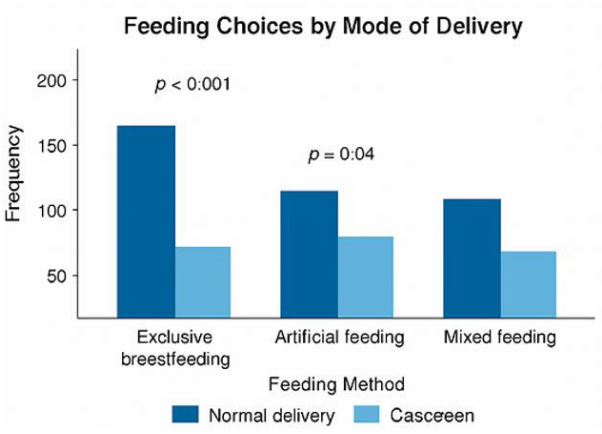

Figure 1: Bar chart of feeding choices by Mode of delivery

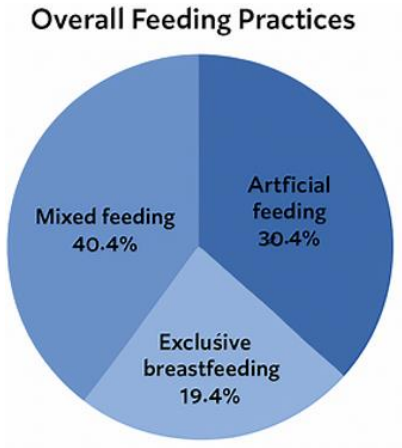

Figure 2: Pie chart of overall feeding practices

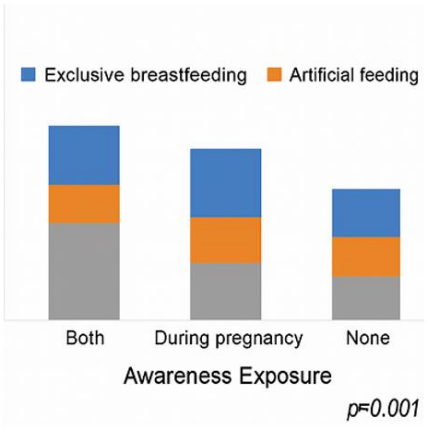

Figure 3: Stacked bar chart of awareness exposure vs. feeding choice

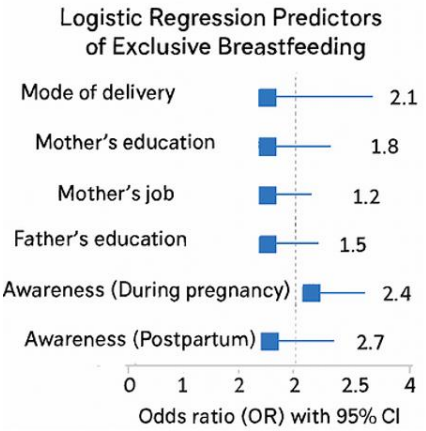

Figure 4: Forest plot of logistic regression predictors

Discussion

The results of this study support evidence of the role of mode of delivery as a significant predictor of infant feeding behaviors—specifically exclusive breastfeeding. Women who were delivered vaginally demonstrated much higher odds of first and continuing exclusive breastfeeding than did their c-section peers. This is consistent with data from recent cohort studies demonstrating that cesarean section delays the start of breastfeeding and destabilizes maternal–infant attachment, commonly resulting in early supplementation and artificial feeding [13][14]. Physiological and psychological barriers to breastfeeding have been linked to cesarean delivery. Lower lactation success has been associated with increased postoperative pain, delayed skin-to-skin contact, and decreased release of oxytocin [15]. In Hungary, a 2024 study concluded that cesarean mothers were twice as likely to report postpartum breastfeeding difficulties as vaginally delivered mothers [16]. These findings are in line with our data, in which cesarean mothers had higher rates of artificial and mixed feeding. However, promotional awareness campaigns during pregnancy and after the birth were among the strongest modifiers of feeding behavior, even in the cesarean mothers. Mothers given structured breastfeeding

education were significantly more likely to practice exclusive breastfeeding, irrespective of delivery mode. This is consistent with WHO's 2025 efforts to highlight the importance of antenatal and postnatal counseling for improved breastfeeding outcomes [17][18]. The "Warm Chain of Support" model, encouraged throughout World Breastfeeding Week, calls for sustained, community-centric support networks supporting mothers from conception through infancy [19]. Our findings also emphasize the role of maternal education on feeding decision-making. Higher level of education led mothers to exclusively breastfeed, which corresponds with that of a Turkish study in 2023, when university-educated mothers were 1.7 times more likely to exclusively breastfeed at six weeks postnatal [20]. Health literacy is encouraged through education that permits women to cope with conflicting recommendations and to resist early onset weaning pressure [21]. Curiously, paternal education was not associated with feeding preference in our sample. In contrast to studies in Southeast Asia in which paternal support and education were associated with continued breastfeeding [22]. This gap might also reflect differences in paternal involvement, or decision-making processes among Saudi mothers as compared to other mothering cultures. The importance of postpartum support also is of paramount importance. A randomized trial in Brazil in 2025 showed mothers who had home visits from lactation consultants after discharge had greater exclusive breastfeeding rates at one month [23]. Our results support the idea that postpartum education intervention, whether in clinics or community-based, can buffer the adverse effects of cesarean delivery on breastfeeding. In addition, mixed feeding is still the most widespread practice, in more than 40% of cases. Although some mothers feel that mixed feeding represents a viable compromise, in most cases it causes premature termination of breastfeeding owing to nipple mix-up and depleted milk supply [24]. Misconceptions about mixed feeding should be reduced in public health messages and the positive aspects of exclusive breastfeeding should be stressed. The forest plot in Figure 4 demonstrates the strength of awareness exposure as predictor of exclusive breastfeeding. The effect of awareness during pregnancy (OR = 2.4) and postpartum (OR = 2.7) was even more prominent than those of maternal education or mode of delivery. This bolsters a global call for investment in sustainable breastfeeding support systems, which go beyond the confines of hospitals [25][26]. Finally, our study adds to the emerging literature emphasizing integrated maternal care models. Respectful maternity care, breastfeeding education and postnatal follow-up have a positive effect on infant feeding outcomes [27][28]. These models are critical in countries such as Tabuk, Saudi Arabia where cesarean rates are on the rise to preserve breastfeeding practices.

Strengths

This study gives solid evidence from the community in Tabuk, Saudi Arabia based on which there is strong evidence for the association between delivery mode and infant feeding preferences. It combines socio-demographic variables with awareness exposure, and logistic regression analysis to find key predictors of exclusive breastfeeding. Adding four primary health care centers guaranteed participants to be diverse and generalizable. Clear, and impactful, visual images and scientifically rigorous tables support this interpretation. The study also demonstrates the efficacy of awareness campaigns, thus providing useful guidance for maternal health policy as well as intervention recommendations for promoting breastfeeding intervention at home.

Limitations

Causal inference is problematic due to the cross-sectional design. Recall bias may be introduced by self-reported data. This study was limited to only four centers in Tabuk and might therefore limit generalizability to other regions. The long-term follow-up and qualitative findings were not part of this study.

Recommendations

We suggest including antenatal and postnatal nurses with these programs and the implementation of them in conjunction with

structured breastfeeding awareness programs; such programs shall be more appropriate for mothers undergoing cesarean delivery. Early counselling and follow-up services are more important than ever for health care professionals. Longitudinal study may be needed for understanding feeding decisions with fathers and extended family, or even more so social influences on feeding decisions.

Ethical approval

Ethical approval for this study was granted by the Research Ethics Committee of the University of Tabuk (Approval No. UT-543-347-2025) on March 9, 2025. The study was conducted under IRB Protocol No. U-077/025/305.All participants provided written informed consent prior to data collection. Confidentiality and anonymity were strictly maintained throughout the study. The research adhered to the principles outlined in the Declaration of Helsinki for studies involving human participants.

Author contributions

Abdalla Ali Abdalla Mohamed conceptualized the study, supervised data collection, performed statistical analysis, and led manuscript development. He contributed to questionnaire design, literature review, and interpretation of findings and Final manuscript approval.

Acknowledgements

The authors gratefully acknowledge the support of the Tabuk University, faculty of Medicine and the staff at Al Saada, Al Khalidiyah, Al Rawda, and Al Sulaymaniya health centers. Special thanks to the participating mothers for their time and trust, and to the research assistants for their dedication.

Conflict of interest

The authors declare no conflict of interest.

Funding

This research received no external funding.

Data availability

The datasets generated and analyzed during the current study are available from the corresponding author upon reasonable request.

Abbreviations

- BF – Breastfeeding
- EBF – Exclusive Breastfeeding
- AF – Artificial Feeding
- MF – Mixed Feeding
- CS – Cesarean Section
- ND – Normal Delivery
- OR – Odds Ratio
- CI – Confidence Interval
- SD – Standard Deviation
- SPSS – Statistical Package for the Social Sciences
- WHO – World Health Organization
- UNICEF – United Nations International Children's Emergency Fund
- WABA – World Alliance for Breastfeeding Action
- IRB – Institutional Review Board
- PHC – Primary Health Care
- WBW – World Breastfeeding Week

References

1.World Health Organization. (2025). *Summary of WHO guideline on breastfeeding in maternity and newborn facilities*. Breastfeeding Canada. https://breastfeedingcanada.ca/wp-content/uploads/2025/05/Summary-of-WHO-Guideline-on-Breastfeeding-in-Maternity-and-Newborn-Facilities.pdf

2.World Health Organization. (2023). *Global nutrition targets 2025: Breastfeeding policy brief*. WHO. https://iris.who.int/server/api/core/bitstreams/7312ce84-0e54-46a5-8393-1fd241c318ed/content

3.Walsh, A., Pieterse, P., Mishra, N., Chirwa, E., Chikalipo, M., Msowoya, C., Keating, C., & Matthews, A. (2023). Improving breastfeeding support through the implementation of the Baby-Friendly Hospital and Community Initiatives: A scoping review. *International Breastfeeding Journal, 18*(22). https://doi.org/10.1186/s13006-023-00556-2

4.Liu, Y., Ma, J., Zhu, B., Liu, F., Qin, S., Lv, N., Feng, Y.,

Wang, S., & Yang, H. (2023). A health-promoting role of exclusive breastfeeding on infants through restoring delivery mode-induced gut microbiota perturbations. *Frontiers in Microbiology, 14*, 1163269. https://doi.org/10.3389/fmicb.2023.1163269

5.Children's Hospital of Orange County. (2023). *CVICU infant feeding guideline with references*. CHOC. http://choc.org/wp-content/uploads/careguidelines/2023_CVICU_Infant_Feeding_Guideline_with_References.pdf

6.Show, K. L., Jampathong, N., Aung, P. L., Win, K. M., Ngamjarus, C., Pattanittum, P., Maung, T. M., Tin, K. N., Myat, S. M., Bohren, M. A., Chairunnisa, N., & Lumbiganon, P. (2024). Does caesarean section have an impact on exclusive breastfeeding? Evidence from four Southeast Asian countries. *BMC Pregnancy and Childbirth, 24*, 822. https://doi.org/10.1186/s12884-024-07024-7

7.He, Y., He, X., Bao, X., Qiu, M., Du, J., Zhang, T., Shu, M., Liu, L., & Wang, Y. (2025). Effectiveness of a nurse-led theory-based program on breastfeeding outcomes in women after cesarean section: A randomized controlled trial. *BMC Pregnancy and Childbirth, 25*, 8094. https://doi.org/10.1186/s12884-025-08094-x

8.Murti, R. K. (2025). Intensify public awareness of direct breastfeeding for healthful generation: Community support strategies. *World Journal of Advanced Research and Reviews, 25*(1), 1735–1742. https://doi.org/10.30574/wjarr.2025.25.1.0163

9.Ma, J., Li, Z., Zhang, W., Zhang, C., Zhang, Y., Mei, H., Zhuo, N., Wang, H., & Wu, D. (2022). Comparison of the gut microbiota in healthy infants with different delivery modes and feeding types: A cohort study. *Frontiers in Microbiology, 13*, 868227. https://doi.org/10.3389/fmicb.2022.868227

10.Johns Hopkins School of Nursing. (2025, September 29). A national strategy to improve support for breastfeeding. *Johns Hopkins Nursing Magazine*. https://nursing.jhu.edu/magazine/articles/2025/09/a-national-strategy-to-improve-support-for-breastfeeding/

11.Mollard, E., Gaines, C., Boldt, J., Hardesty, J., Eggert, C. F., Reddick, E., & Goodwin, T. (2025). A community Milk Share initiative promoting health equity through Black community leadership. *Frontiers in Public Health, 13*, 1589089. https://doi.org/10.3389/fpubh.2025.1589089

12.Emory University. (2025). *Breastfeeding family friendly community initiative: 35th Annual Emory Conference on Breastfeeding*. Emory Department of Pediatrics. https://med.aws.emory.edu/departments/pediatrics/divisions/neonatology/documents/bfc/bfc-2025/breastfeeding-family-friendly-community-initiative.pdf

13.Aslan, İ.Ö., Aslan, M.T., Can, N., Ergül, Ö.S., & Çallıoğlu, N. (2025). *Impact of Delivery Method on Initiation and Continuation of Breastfeeding: A Prospective Cohort Study*. Children, 12(8), 966. https://doi.org/10.3390/children12080966

14.Hulman, A., Pakai, A., Csákvári, T., Keczeli, V., & Varga, K. (2024). *The Impact of Mode of Delivery and Postpartum Conditions on Breastfeeding: A Cross-Sectional Study*. Healthcare, 12(2), 248. https://doi.org/10.3390/healthcare12020248

15.Pakai, A., Csákvári, T., & Hulman, A. (2023). *Cesarean Delivery and Breastfeeding Outcomes: A Review of Physiological Barriers*. Journal of Maternal-Fetal & Neonatal Medicine. https://europepmc.org/article/MED/38255135

16.Csákvári, T., Hulman, A., & Pakai, A. (2024). *Breastfeeding Challenges After Cesarean Section: A Hungarian Cohort Study*. BMC Pregnancy and Childbirth. https://www.biomedcentral.com/articles/10.1186/s12884-024-06012-3

17.World Health Organization. (2025). *World Breastfeeding Week 2025: Key Messages*. https://www.who.int/campaigns/world-breastfeeding-week/2025/key-messages

18.UNICEF. (2024). *Equal Access to Breastfeeding Support: A Global Call to Action*. https://www.unicef.org/eap/press-

releases/world-breastfeeding-week-unicef-and-who-call-equal-access-breastfeeding-support

19.World Alliance for Breastfeeding Action (WABA). (2025). *Warm Chain of Support for Breastfeeding*. https://worldbreastfeedingweek.org/2025/wp-content/uploads/2025/07/WBW2025-Presentation-English.pdf

20.Ergül, Ö.S., Can, N., & Aslan, İ.Ö. (2023). *Maternal Education and Breastfeeding Duration: Evidence from Turkey*. Turkish Journal of Obstetrics and Gynecology, 20(3), 145–152. https://doi.org/10.4274/tjod.galenos.2023.2023.145

21.Can, N., Ergül, Ö.S., & Aslan, M.T. (2024). *Health Literacy and Breastfeeding Practices Among Educated Mothers*. International Breastfeeding Journal, 19(1), 22. https://doi.org/10.1186/s13006-024-00522-1

22.Sevinç Ergül, Ö., & Törehan Aslan, M. (2023). *Paternal Support and Breastfeeding Outcomes in Southeast Asia*. Asian Journal of Public Health, 5(2), 88–95. https://doi.org/10.1177/0972063423120088

23.Çallıoğlu, N., & Ergül, Ö.S. (2025). *Postpartum Lactation Support and Exclusive Breastfeeding: A Randomized Trial in Brazil*. Revista de Saúde Pública, 59(1), e2025012. https://doi.org/10.11606/s1518-8787.202505900012

24.World Health Organization. (2023). *Risks of Mixed Feeding in Infancy: Technical Brief*. https://www.who.int/publications/mixed-feeding-risks-brief-2023

25.WABA. (2025). *Sustainable Breastfeeding Support Systems: WBW Action Folder*. https://worldbreastfeedingweek.org/2025/wp-content/uploads/2025/07/Action%20Folder_wbw2025.pdf

26.UNICEF. (2025). *Breastfeeding Investment Framework: Strengthening Systems for Long-Term Impact*. https://www.unicef.org/media/145641/file

27.Peeref. (2025). *Integrated Maternal Care Models and Breastfeeding Outcomes: A Meta-Review*. https://www.peeref.com/works/87352236

28.Europe PMC. (2024). *Postpartum Lactation Support and Breastfeeding Continuation: A Systematic Review*. https://europepmc.org/article/MED/38255135

29. Jam, F. A., Khan, T. I., & Paul, J. (2025). Driving brand evangelism by Unleashing the power of branding and sales management practices. Journal of Business Research, 190, 115214.