

COMMENT

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Advancing breastfeeding research in Afghanistan: opportunities for policy and practice

Muhammad Haroon Stanikzai^{1*} and Omid Dadras²

Abstract

Background Context-specific breastfeeding research has significantly improved infant health outcomes in many low-resource settings. Afghanistan, which has one of the world's highest under-five mortality rates, similarly stands to gain from evidence-based infant and young child feeding (IYCF) interventions. Optimal breastfeeding practices – early initiation, exclusive breastfeeding, and continued breastfeeding – are proven to reduce child mortality and improve child health. Yet Afghanistan lacks robust data on breastfeeding behaviors and determinants; decades of conflict and limited research capacity have left critical evidence gaps, hindering the development of effective, tailored IYCF policies and programs.

Breastfeeding research gaps and priorities in Afghanistan To address these gaps, this commentary presents a theory of change framework that links identified research needs to feasible studies, trackable indicators, and policy impact. The theory of change outlines key assumptions and risk mitigation strategies to guide a sequenced, policy-relevant research program. Based on the identified gaps, six priority research areas are highlighted: (1) assessing mothers' IYCF knowledge and communication channels to inform education campaigns; (2) exploring cultural and religious influences on feeding practices (e.g., rationales for prelacteal feeding); (3) evaluating and adapting proven breastfeeding support interventions (peer support groups, mobile health) for the Afghan context; (4) investigating emerging challenges to optimal breastfeeding (formula marketing, bottle-feeding trends, workplace barriers); (5) strengthening health system and community support for breastfeeding (enhancing healthcare provider training, counseling services, and enforcement of maternity protection policies); and (6) piloting the feasibility of donor human milk banking in select provinces. Collectively, these studies should aim to generate actionable evidence and measurable outcomes to drive improvements in breastfeeding policy and practice.

Conclusion Achieving this research agenda will require investment in local research capacity and strong political commitment. Key recommendations include establishing a multi-stakeholder Breastfeeding Research Working Group under the Ministry of Public Health (MoPH), securing dedicated funding for breastfeeding research in national health programs, and fostering cross-sector partnerships to ensure that new evidence is translated into policy and practice. By aligning research efforts with national priorities, Afghanistan can harness breastfeeding's lifesaving benefits to improve child survival and well-being.

Keywords Breastfeeding, Infant Health, Child Health

*Correspondence:

Muhammad Haroon Stanikzai
haroonstanikzai1@gmail.com

¹ Department of Public Health, Faculty of Medicine, Kandahar University,
District # 10, Kandahar 3801, Afghanistan

² Research Centre for Child Psychiatry, University of Turku, Turku, Finland



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Background

Breastfeeding is the cornerstone of child survival and development, particularly in resource-constrained settings [1]. Globally, an estimated 16% of deaths in children under two are attributable to suboptimal breastfeeding practices [2]. Robust evidence demonstrates that early initiation of breastfeeding, exclusive breastfeeding for six months, and continued breastfeeding alongside appropriate complementary feeding for up to two years or beyond reduce infant mortality, support optimal growth and neurodevelopment, strengthen maternal-infant bonding, and enhance immune function [3, 4]. In 2023, the World Health Organization (WHO) updated its guideline on Infant and Young Child Feeding (IYCF) to reaffirm these three core practices as global public health priorities, alongside new recommendations for protecting breastfeeding from commercial influence, ensuring maternity protection, and enabling workplace lactation support [2, 5]. These indicators serve as benchmarks for tracking progress and guiding national strategies, including Afghanistan's commitments under the National Nutrition Strategy, which incorporates WHO-aligned targets for early initiation of breastfeeding, Exclusive Breastfeeding (EBF), and continued breastfeeding.

Over the past two decades, breastfeeding research has matured into a translational field informing both global policy and local interventions. Context-specific studies in low-resource environments have identified cultural norms, health-system barriers, and community drivers of breastfeeding behaviors, leading to tailored IYCF programs and improved outcomes [3, 6]. In Afghanistan, existing plans, such as the National Nutrition Strategy and the Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCAH) framework, explicitly reference the WHO's IYCF recommendations [7, 8]. Over the years, media platforms have supported the Afghan government in disseminating knowledge about appropriate IYCF practices in the community [9, 10]. Moreover, promoting appropriate IYCF practices is a central component of antenatal care (ANC) and postnatal care (PNC) services [11, 12]. However, gaps remain in generating local evidence to monitor these indicators and address persistent barriers. Strengthening the health research infrastructure and embedding WHO-aligned IYCF monitoring within program evaluation are essential for sustaining high-quality, policy-relevant studies in underserved settings [13]. Nonetheless, financing and budget allocation for breastfeeding research remain an obstacle in Afghanistan [13], confirming similar findings in other low-resource settings [14]. For example, currently, there is no budget for breastfeeding research in the Afghan Ministry of Public Health's yearly budget [13].

Afghanistan's prolonged conflict, spanning the Soviet invasion, the U.S.-led intervention and withdrawal, and ongoing political instability, has eroded health-system capacity and exacerbated poverty, contributing to some of the highest rates of under-five mortality and malnutrition globally [15, 16]. Despite the pivotal role of appropriate IYCF practices in reducing infant mortality [17], published data on breastfeeding patterns, determinants, and program impact in Afghanistan remain scarce. To address this gap, our commentary reviews the current landscape of breastfeeding research in Afghanistan and proposes strategic directions to strengthen the evidence base and inform country-led policy and practice.

In this commentary, we developed a theory of change to link Afghanistan's breastfeeding research gaps to feasible study designs, near-term outputs, measurable outcomes, and ultimate impact on IYCF practices. The theory of change specifies key assumptions, risks, and mitigation measures and is intended to guide a sequenced program of policy-relevant studies rather than a single project. Table 1 summarizes the research gaps, exemplar methods, indicators, and risk-management strategies; Fig. 1 presents the same logic as a schematic causal pathway. Together, these elements operationalize the agenda outlined in the "Future directions" section.

Current status of breastfeeding research in Afghanistan

Health research is foundational to strengthening health systems, yet in many low- and middle-income countries (LMICs) [18], including Afghanistan, it faces persistent barriers such as limited infrastructure, a shortage of trained investigators, and inadequate funding [19]. Contextual challenges in Afghanistan, such as ongoing insecurity, fragmented governance, and scarce research capacity, have further hampered the generation of high-quality health evidence [13]. Publications often appear in local languages with restricted dissemination, and access to modern methodologies and data tools remains confined to a small cadre of university-based researchers and clinicians working in collaboration with international partners [13, 19].

Despite gradual growth in maternal and child health research over the past two decades, breastfeeding research in Afghanistan remains remarkably sparse [20]. A rapid scan of Scopus and PubMed (2000 to July 2025) yielded just four peer-reviewed studies on breastfeeding [7–9, 21]. Of these articles, one study reported that the timely initiation of breastfeeding was below the optimal levels (46.9%) in the country [8]. Another focused on exclusive breastfeeding practices [7], while the remaining two examined complementary feeding practices among both breastfed and non-breastfed

Table 1 Theory of change: linking research gaps to outcomes; indicators, challenges, and mitigation strategies for advancing breastfeeding in Afghanistan

Research gaps	Exemplar study types	Intended near-term outcomes	Core indicators	Key challenges	Mitigation measures
Limited data on maternal knowledge/attitudes	Rapid KAP surveys; focus groups; CHW-assisted household interviews	Tailored IEC and counseling content	% mothers knowing early initiation of breastfeeding/EBF recommendations; % recalling CHW messages	Restricted mobility; low literacy	Female data collectors; pictorial tools; phone-based surveys where needed
Under-studied cultural/religious norms incl. prelacteal feeds	Key-informant interviews with elders/religious leaders; participatory inquiry	Norms shift messaging endorsed by local leaders	Prelacteal feeding prevalence; endorsement of BF messages by leaders	Sensitivities around religious interpretation	Co-design with scholars; use of acceptable religious framing
No local trials of proven interventions	Pragmatic cluster trials/stepped-wedge; implementation research on home-visits, peer support, mHealth	Scalable delivery models for IYCF support	Coverage of immediate skin-to-skin; % mothers receiving ≥2 counseling contacts; intervention fidelity scores	Security, staff turnover, supply chains	Phased roll-out; remote supervision; simple, low-cost kits; integrate into RMNCAH contacts
Emerging challenges (formula use; workplace barriers)	Cross-sectional estimates; policy analyses; employer pilots	Reduced non-medically indicated formula use; early workplace action	Household formula purchase/use; number of facilities with lactation rooms; maternity protection policy status	Marketing pressures; informal employment	Strengthen Code monitoring; employer compacts; advocacy briefs
Health-system support gaps (counseling quality; Code)	Facility assessments; BFHI gap analysis; supportive supervision pilots	Better counseling quality; stronger Code compliance	BFHI step scores; % facilities trained; Code violations logged/actioned	Limited training budgets; weak inspection	Distance learning; integrate checks into routine supervision
Human milk donation/banking feasibility	Feasibility and acceptability studies; small pilot in tertiary hospitals	Protocols for safe donor milk in specific indications	# infants receiving screened donor milk under protocol; safety incidents	Cultural acceptance; biosafety logistics	Stakeholder engagement; start small; strict SOPs and QA

Abbreviations: BFHI Baby-Friendly Hospital Initiative, *CHW* Community healthcare workers, *EBF* Exclusive breastfeeding, *IEC* Information, education and communication, *IYCF* Infant and young child feeding, *KAP* Knowledge, attitude, and practice, *QA* Quality assurance, *RMNCAH* Reproductive, maternal, newborn, child, and adolescent health, *SOPs* Standard operating procedures

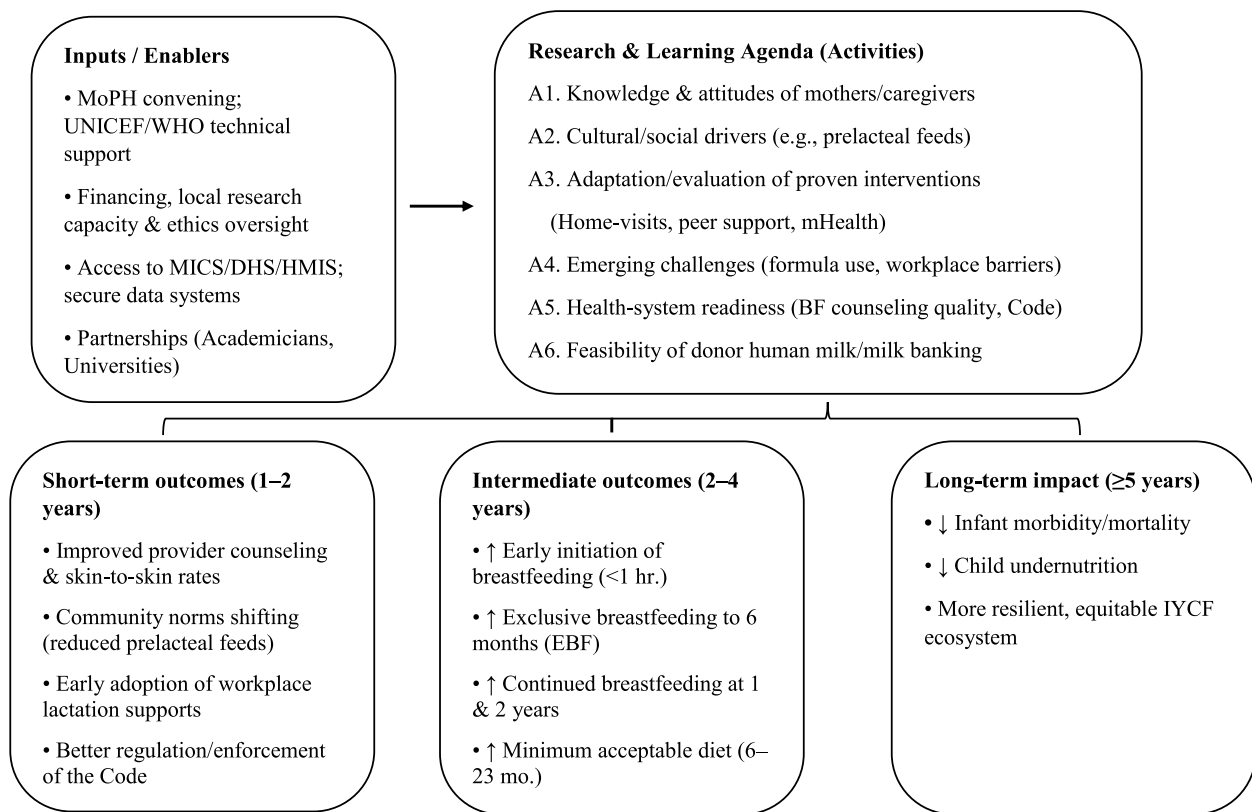


Fig. 1 A schematic causal pathway and outcome measures for advancing breastfeeding research in Afghanistan

children [9, 21]. These studies have also documented several factors influencing IYCF practices, including maternal age and education, residential area, media exposure, child age and sex, and household wealth status [7–9, 21]. Moreover, these studies have indicated that cultural beliefs and practices, misconceptions, and social influences (i.e., prelacteal feeding, late initiation of breastfeeding, and colostrum avoidance) among Afghan women often limit appropriate IYCF practices, which, along with a general lack of education on the topic, poses challenges for improving IYCF practices in Afghanistan [7–9, 21]. These four studies represent the entirety of peer-reviewed research on breastfeeding in Afghanistan to date. A systematic review of randomized controlled trials found that no published research has evaluated interventions to improve early initiation of breastfeeding in the Afghan context [22]. The absence of programmatic or qualitative studies; particularly those exploring cultural beliefs, health-system barriers, or community-led solutions, highlights a critical evidence gap. Addressing this deficit is essential to inform context-appropriate policies and targeted interventions that can improve breastfeeding practices and, ultimately, child health in Afghanistan.

Future directions

Building a robust breastfeeding research agenda in Afghanistan demands systemic reforms to strengthen the nexus between research and policy. Evidence from fragile settings shows that establishing clear research priorities, investing in investigator training, fostering regional and international partnerships, and upgrading research infrastructure are essential to generate actionable findings and improve health-system performance [13]. Against this backdrop, we propose some strategic directions; each priority below maps to a row in Table 1 and a box in the theory of change schematic (Fig. 1), clarifying how proposed studies lead to actionable outputs, trackable indicators, and policy impact:

1. Assess knowledge and attitudes among mothers

There is virtually no data on Afghan women’s understanding of core IYCF practices—early initiation, exclusive breastfeeding, and continued breastfeeding—especially among those with limited formal education. Community-based surveys and mixed-methods studies should quantify knowledge gaps and identify trusted information channels (e.g.,

radio, community health workers), informing tailored education campaigns [8, 17].

2. Explore cultural and religious drivers
Practices such as prelacteal feeding are deeply rooted in local traditions and beliefs, yet remain under-studied in Afghanistan [23]. In-depth qualitative inquiries, focus groups, and key-informant interviews can elucidate the sociocultural and spiritual rationales behind prelacteal feeds and complementary feeding norms, guiding the design of culturally sensitive interventions [7].
3. Evaluate and adapt proven interventions
Home-visit counseling, peer-support groups, and mobile health (mHealth) interventions have demonstrated efficacy in neighboring LMICs [3, 6, 24]. Rigorous cluster-randomized trials or implementation studies are needed to validate and adapt these models for Afghan communities, accounting for security constraints and rural-urban disparities.
4. Investigate emerging challenges to optimal breastfeeding
Bottle-feeding, infant formula use (and marketing), and workplace barriers (limited maternity protection and lack of lactation spaces) are rising threats to early initiation and exclusive breastfeeding in many settings, yet Afghanistan has no recent estimates. We propose a cross-sectional measurement of bottle/formula exposure and prelacteal feeds, a multivariable analysis of socioeconomic/geographic correlates, and a policy/legal review of maternity protections and workplace lactation support (particularly those working in the health sector), complemented by qualitative work with mothers, employers, and health workers.
5. Strengthen health system and community support
Evaluations of existing counseling services at primary-care clinics, through community health workers, and within maternity wards are needed to identify gaps in provider training, supply chains (e.g., breast-milk substitutes regulation), and referral pathways. Pilot studies of supportive supervision and distance-learning modules can build provider capacity.
6. Pilot human milk donation and banking feasibility
In humanitarian contexts, donor human milk can save lives when the maternal supply is insufficient. Feasibility studies should explore cultural acceptance, safety protocols, and logistic requirements for small-scale milk banking in Kabul and select provinces. However, it is essential to note that the current Afghan sociopolitical context may make this initiative less feasible at present.

Policy implications

- National research agenda: The Ministry of Public Health (MoPH) should convene a multi-stakeholder Breastfeeding Research Working Group to prioritize questions, mobilize funding, and integrate findings into the National Health Strategy.
- Financing breastfeeding research: Integrating breastfeeding research into the broader maternal and child health budgets, ensuring that it is recognized as an essential component of national health priorities. Aligning breastfeeding research funding with existing RMNCH programs enables efficient resource utilization and prevents duplication of efforts. To ensure sustainability, long-term strategies should include dedicated budget lines within the national health budget plans and the translation of evidence into policy, thereby securing continuous political and financial commitment to improving breastfeeding practices and outcomes.
- Capacity building: Collaborations with regional research hubs (e.g., University of Dhaka, Aga Khan University) and international agencies (UNICEF, WHO) can deliver targeted fellowships and workshops in IYCF research methods.
- Data integration: Embedding IYCF modules in routine surveillance (DHS, MICS) and leveraging digital registries can ensure continuous monitoring of trends and evaluation of program impact.
- Cross-sectoral partnerships: Engage in collaboration with public and private universities and other research and implementation entities, including clinical practitioners, for evidence generation.
- Monitoring and measurement: Core indicators aligned with WHO/UNICEF IYCF guidance (e.g., early initiation of breastfeeding, EBF to six months, Code compliance markers, BFHI step scores) should be tracked using existing platforms (MICS/DHS, routine facility audits) and study-specific tools (fidelity checklists, supervision logs).

By implementing this multifaceted research agenda with support from government, academia, and donors, Afghanistan can generate the locally relevant evidence needed to design, scale, and sustain interventions that improve breastfeeding practices and child survival.

Conclusion

The theory of change developed in this commentary is conceptual and has not been prospectively validated; therefore, future work should refine it with stakeholder consultation and real-world implementation data. We,

however, have mapped the sparse landscape of breastfeeding research in Afghanistan, highlighting that published research is limited to four studies, addressing only basic indicators of early initiation, exclusive breastfeeding, and complementary feeding. Our review underscores critical gaps, including the absence of qualitative insights into cultural norms, intervention trials, and studies on emerging challenges such as formula use and workplace support. Strengthening Afghanistan's breastfeeding evidence base is not merely academic; it is essential for shaping policies, programs, and health-system investments that respond to local realities. By building research capacity, fostering multi-sectoral partnerships, and embedding IYCF monitoring into routine data systems, stakeholders can ensure that future interventions are both culturally appropriate and sustainably implemented. Such coordinated efforts will be pivotal to improving infant and young child feeding practices and, ultimately, reducing child morbidity and mortality across Afghanistan.

Abbreviations

ANC	Antenatal care
BFHI	Baby-Friendly Hospital Initiative
CHW	Community healthcare workers
DHS	Demographic Health Survey
EBF	Exclusive breastfeeding
HMIS	Health management information system
IEC	Information, education and communication
IYCF	Infant and young child feeding
KAP	Knowledge, attitude, and practice
LMICs	Low and middle-income countries
MICS	Multiple Indicator Cluster Survey
MoPH	Ministry of Public Health
PNC	Postnatal care
QA	Quality assurance
RMNCAH	Reproductive, maternal, newborn, child, adolescent health
SOPs	Standard operating procedures
UNICEF	United Nations Children's Fund
WHO	World Health Organization

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Conceptualization and design: MHS and OD. Writing- original draft: MHS. Writing- review & editing: OD. Both authors have read and approved the final manuscript.

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References

1. Woollard F. Requirements to justify breastfeeding in public: a philosophical analysis. *Int Breastfeed J*. 2019;14:26.
2. UNICEF: Global breastfeeding scorecard; 2023. Available from: <https://www.unicef.org/documents/global-breastfeeding-scorecard-2023>. Accessed June 2025.
3. Roghair R. Breastfeeding: benefits to infant and mother. *Nutrients*. 2024;26;16(19):3251.
4. Ejie IL, Eleje GU, Chibuzor MT, Anetoh MU, Nduka IJ, Umeh IB, et al. A systematic review of qualitative research on barriers and facilitators to exclusive breastfeeding practice in sub-Saharan African countries. *Int Breastfeed J*. 2021;16:44.
5. World Health Organization: Infant and young child feeding; 2023. Available from: <https://www.who.int/news-room/fact-sheets/detail/infant-and-young-child-feeding>. Accessed June 2025.
6. Goldshtein I, Sadaka Y, Amit G, Kasir N, Bourgeron T, Warrier V, et al. Breastfeeding Duration and Child Development. *JAMA Netw Open*. 2025;8(3):e251540–e251540.
7. Stanikzai MH, Tawfiq E, Jafari M, Ezadi Z, Alawi SAS, et al. Exclusive breastfeeding practices in Afghanistan: evidence from the 2022–2023 multiple indicator cluster survey. *J Health Popul Nutr*. 2025;44:220.
8. Tawfiq E, Stanikzai MH, Tareen Z, Alawi SAS, Wasiq AW, Dadras O. Factors influencing early initiation of breastfeeding in Afghanistan: secondary analysis of the Afghanistan MICS 2022–23. *Int Breastfeed J*. 2025;20:30.
9. Rahmani FA, Hamdam P, Sadaat I, Mirzazadeh A, Oliolo J, Naqvi N. A major gap between the knowledge and practice of mothers towards early initiation and exclusive breastfeeding in Afghanistan in 2021. *Matern Child Health J*. 2024;28(9):1641–50.
10. UNICEF. UNICEF teaches importance of exclusive breastfeeding in Afghanistan. Available from: <https://reliefweb.int/report/afghanistan/unicef-teaches-importance-exclusive-breastfeeding-afghanistan>. Accessed August 2025.
11. Stanikzai MH, Tawfiq E, Jafari M, Wasiq AW, Seddiq MK, Currie S, et al. Contents of antenatal care services in Afghanistan: findings from the national health survey 2018. *BMC Public Health*. 2023;23:2469.
12. Tawfiq E, Stanikzai MH, Wasiq AW, Dadras O. Factors influencing early postnatal care use among postpartum women in Afghanistan. *Sci Rep*. 2024;14:31300.
13. Stanikzai MH, Hashim WM, Ahmad RB, Sayam H. Conducting health research in the current Afghan society: challenges, opportunities, and recommendations. *Risk Manag Healthc Policy*. 2023;16:2479–83.
14. Persson LÅ. Breastfeeding in low-resource settings: Not a “small matter.” *PLoS Med*. 2018;15(8):e1002646.
15. Dadras O, Suwanbamrung C, Jafari M, Stanikzai MH. Prevalence of stunting and its correlates among children under 5 in Afghanistan: the potential impact of basic and full vaccination. *BMC Pediatr*. 2024;24:436.
16. Valente M, Lamberti-Castronuovo A, Bocchini F, Shafiq Y, Trentin M, Paschetto M, et al. Access to care in Afghanistan after august 2021: a cross-sectional study exploring Afghans' perspectives in 10 provinces. *Confl Health*. 2024;18:34.
17. Tawfiq E, Stanikzai MH, Jafari M, Tareen Z, Alawi SAS, Ezadi Z, et al. Prevalence and factors associated with mother and newborn skin-to-skin contact in Afghanistan. *PLoS One*. 2025;20(5):e0324758.
18. Franzen SRP, Chandler C, Lang T. Health research capacity development in low and middle income countries: reality or rhetoric? A systematic meta-narrative review of the qualitative literature. *BMJ Open*. 2017;7(1):e012332.
19. Stanikzai MH, Shanawa S, Karimkhil AT, Dadras O. Medical education in Afghanistan: challenges and policy implications. *Adv Med Educ Pract*. 2025;16:477–82.
20. Glass N, Jalalzai R, Spiegel P, Rubenstein L. The crisis of maternal and child health in Afghanistan. *Confl Health*. 2023;17:28.
21. Tawfiq E, Stanikzai MH, Jafari M, Mudaser GM, Ezadi Z, Alawi SAS, et al. Minimum acceptable diet and contributing factors among children aged 6–23 months in Afghanistan: insights from the 2022–2023 Multiple Indicator Cluster Survey. *BMC Nutr*. 2025;11:10.

22. Rifat MA, Chakrabarty M, Alam SS, Ali M, Nasrin SS, Sarkar P, et al. Effectiveness of interventions on early initiation of breastfeeding in South Asia: a systematic review and meta-analysis of randomized controlled trials. *Int Breastfeed J*. 2025;20:43.
23. Temesgen H, Negesse A, Woyraw W, Getaneh T, Yigizaw M. Prolactin feeding and associated factors in Ethiopia: systematic review and meta-analysis. *Int Breastfeed J*. 2018;13:49.
24. Sarkar P, Rifat MA, Bakshi P, Talukdar IH, Pechtl SML, Lindström Battle T, et al. How is parental education associated with infant and young child feeding in Bangladesh? a systematic literature review. *BMC Public Health*. 2023;23:510.

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