

Maternal Knowledge and Attitudes Toward Exclusive Breastfeeding: Evidence from a County Hospital in Kenya

Poornima Ramasamy

Department of Nursing

University of Eastern Africa, Baraton, P.O. Box 2500-30100, Eldoret, Kenya

Abstract

Background: Exclusive breastfeeding during the first six months supports infant health, yet mothers may experience informational, cultural, and socioeconomic obstacles. This study examined mothers' ratings of breastfeeding knowledge, attitudes, and perceived barriers at a child welfare clinic in Uasin Gishu County, Kenya. **Methods:** A descriptive cross-sectional study was conducted at Uasin Gishu County Hospital, Eldoret. Thirty of 40 maternal questionnaires were returned (75.0%). The research project also reports eight completed healthcare-provider interviews from 12 selected participants (66.7%). Questionnaires used five-point response categories. Results were summarized as frequencies, percentages, and weighted item means recalculated from the reported counts; no inferential analysis was possible from the summary data.

Results: Among 30 surveyed mothers, 15 (50.0%) were married and 14 (46.7%) had secondary education. Twenty-six (86.7%) gave one of the two highest ratings to knowledge of the importance of breastfeeding, while 16 (53.3%) did so for knowledge of infant-feeding options. Socio-cultural influences were endorsed (strongly agree/agree) by 17 (56.7%), economic factors by 15 (50.0%), and maternal perceptions by 19 (63.3%). Healthcare-provider interviews identified family support, work, education, and care-related factors as potential influences. The study did not measure a directly calculable participant-level exclusive-breastfeeding prevalence. **Conclusion:** Respondents generally rated basic breastfeeding knowledge positively but reported potential barriers involving social norms, economic circumstances, and maternal perceptions. Tailored counselling and family-inclusive support may help address these concerns. Findings are exploratory because the sample was small and key study records were inconsistent.

Keywords: exclusive breastfeeding; maternal knowledge; breastfeeding attitudes; perceived barriers; child welfare clinic; Uasin Gishu; Kenya

Date of Submission: 16-08-2026

Date of Acceptance: 17-10-2026

I. INTRODUCTION

Exclusive breastfeeding (EBF) means that an infant receives breast milk without other liquids or foods, including water, except indicated oral rehydration solution, vitamins, minerals, or medicines. The World Health Organization recommends EBF for approximately the first six months, followed by safe, nutritionally adequate complementary foods and continued breastfeeding to two years or beyond (World Health Organization [WHO], 2003). Breastfeeding is important to infant nutrition and protection against common infectious diseases, especially where safe water and health services are limited (Arifeen et al., 2001). (World Health Organization [WHO], 2003; World Health Assembly, 2001).

The decision to breastfeed exclusively takes place within a wider social and economic environment. Employment obligations, maternal confidence about milk supply, guidance from relatives, clinical counselling, and local norms may shape feeding decisions. Breastfeeding-promotion interventions, including peer support, can improve breastfeeding outcomes, although effectiveness depends on local implementation (Imdad et al., 2011; Sudfeld et al., 2012). Evidence from diverse settings also describes variation in initiation and continuation of breastfeeding practices (Cai et al., 2012; Duong et al., 2004). (Imdad et al., 2011; Sudfeld et al., 2012).

At the interpersonal level, maternal infant-feeding decisions can involve partners and older relatives; at the service level, messages received during antenatal visits, delivery, and postnatal contacts may influence mothers' understanding. The parent project also considered socioeconomic constraints, work demands, delivery setting and anxiety about milk adequacy. Its research questions were specifically descriptive: what women know, how they view breastfeeding-related matters and which barriers they perceive. (Duong et al., 2004; Ulak et al., 2012).

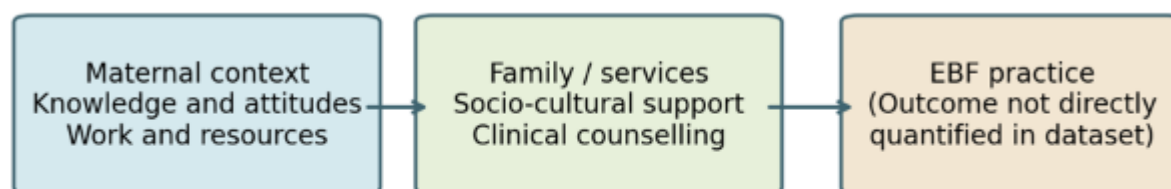
The source research project described concern about breastfeeding practices among mothers attending child welfare services in Uasin Gishu County, Kenya. However, its background clinic-wide estimates could not

be validated against primary clinic records in the supplied material. Accordingly, this manuscript focuses on the respondent data actually presented in the project rather than treating the background estimate as a study outcome.

The rationale for this descriptive study was the gap between breastfeeding recommendations and the challenges mothers may encounter when putting them into practice. The original report described low clinic-wide EBF figures as contextual motivation, but it did not give a source register, collection period or precise infant eligibility criteria for those figures. The article therefore does not interpret them as measured results or compare them statistically with national survey estimates. (Cai et al., 2012; Lauer et al., 2004).

This study aimed to describe (1) mothers' self-rated knowledge of EBF, (2) their ratings of attitudes relevant to breastfeeding, and (3) their agreement with proposed barriers to EBF among attendees at Uasin Gishu County Hospital.

The project conceptualised breastfeeding practice in relation to maternal education, knowledge, attitudes, cultural influences, and barriers. Figure 1 translates that framework into a clearer structure for publication. In the source, the actual dependent outcome of exclusive breastfeeding practice was not measured in a manner permitting a respondent-level prevalence calculation.



Conceptual pathways from the original project; arrows do not represent tested effects.

Figure 1. Conceptual framework derived from the original project: proposed maternal and contextual pathways to EBF practice. The arrows are explanatory, not tested causal relationships.

II. MATERIALS AND METHODS

2.1 Study design and setting

A facility-based descriptive cross-sectional design was used. The study was undertaken in the child welfare clinic at Uasin Gishu County Hospital along Uganda Road in Eldoret, Kenya. The tables in the underlying project identify the dataset as 2019; precise collection dates were not supplied. (World Health Organization, 2003).

Uasin Gishu County lies in Kenya's Rift Valley region, and Eldoret serves a population that includes urban and surrounding communities. The study site was a routine child-welfare service rather than a population-based surveillance setting. Findings therefore characterise attendees who answered the questionnaire and are not population prevalence estimates for Uasin Gishu County.

2.2 Participants and sampling

The intended respondents were mothers attending the child welfare clinic and healthcare providers working at the study hospital. The project indicates that mothers were selected over a four-day period using a procedure described as random selection, while healthcare providers were purposively selected. Forty maternal questionnaires were distributed and 30 suitable questionnaires were returned. In addition, 12 healthcare-provider interviews were reportedly planned and eight completed. Descriptions of the overall sample size elsewhere in the project disagree (50 versus 58); therefore, the observed maternal analytic sample of 30 is used consistently for questionnaire tables.

Mothers who attended during the recruitment period and were willing to participate were eligible under the project description. Those declining participation were excluded. No probability-sampling frame, selection interval or non-responder comparison is reported; accordingly the procedure is described conservatively as facility-based recruitment rather than a verified representative random sample. Healthcare-provider recruitment was purposive.

2.3 Instruments and data collection

The project used a questionnaire containing demographic items and five-point items covering knowledge, attitudes, and perceived barriers. The response anchors differed across sections: knowledge items ranged from very dissatisfied to very satisfied; attitudes from very poor to excellent; and barrier items from strongly disagree to strongly agree. Structured or semi-structured interviews were also reported for healthcare providers. The original material contains only a narrative overview of the interviews, not individual transcripts or a coding framework.

The four knowledge domains assessed self-ratings of importance, feeding options, benefits and exclusive breastfeeding. Three attitude items assessed feeding options, healthcare workers and place of delivery. Five proposed barrier items covered HIV-status disclosure, socio-cultural influences, economic factors, maternal age and maternal perceptions. The wording should be cross-checked with original administered questionnaires because the report's appendices and tabulations do not establish the validity of these constructs.

2.4 Data quality and ethics

The investigators described supervisory review of the questionnaire for face validity, literature-based content review, and pilot testing in the Pioneer community before data collection. No numerical reliability coefficient is reported. The source project states that consent was sought, anonymity was maintained through coded questionnaires, and institutional ethics review and facility authorization were requested. Approval numbers, actual approval dates, and consent documentation were not available in the supplied file and should be verified before submission.

2.5 Statistical analysis

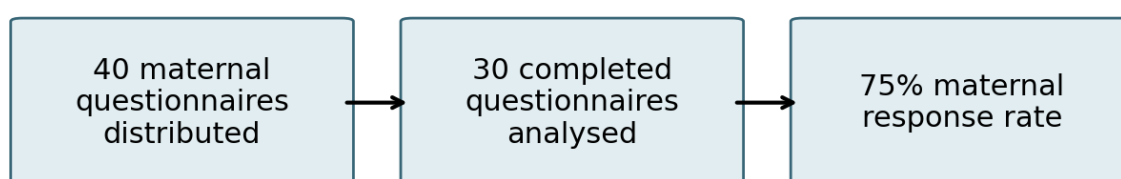
The study originally used Microsoft Excel for frequencies and percentages. For this manuscript, frequencies were transcribed from the project tables, percentages were recalculated with a denominator of 30 where possible, and five-point weighted means were recalculated using the published cell frequencies: $\text{mean} = (5n_5 + 4n_4 + 3n_3 + 2n_2 + n_1)/N$. These scores represent responses to self-report rating items, not validated objective knowledge scores. No tests of association, multivariable models, or EBF prevalence calculations are reported because the required individual-level data and feeding-history outcome were not supplied.

For transparency, the reconstructed mean for each five-point item was calculated by summing weighted counts and dividing by 30; for example, the importance-of-breastfeeding item equals $(15 \times 5 + 11 \times 4 + 2 \times 3 + 2 \times 2 + 0 \times 1)/30 = 4.30$. Some item means printed in the original tables are inconsistent with their frequencies. This article uses reconstructed values and displays every frequency so readers can audit the calculation.

III. RESULTS

3.1 Participation and participant characteristics

Thirty of 40 maternal questionnaires were analysable, giving a maternal response rate of 75.0%. Separately, eight of the 12 anticipated healthcare-provider interviews were completed (66.7%). All 30 questionnaire respondents were female. Half were married, and secondary education was the most common reported educational level. The age categories shown in the original table total only 26 women, leaving four of 30 respondents unclassified; the original table nevertheless incorrectly labels the age total as 30.



Provider interviews separately reported: 8 of 12 planned (66.7%).

Figure 2. Maternal questionnaire participation, with provider interviews reported separately. Counts from the project results chapter.

Table 1. Sociodemographic characteristics of maternal questionnaire respondents (N = 30)

Characteristic	Category	n	% of 30
Age (years)	20–25	3	10.0
	26–30	3	10.0
	31–35	7	23.3
	36–40	9	30.0
	Above 41	4	13.3
	Not accounted for in source age table	4	13.3
Marital status	Single	7	23.3
	Married	15	50.0
	Divorced	3	10.0
	Widowed	5	16.7

Education	Primary	5	16.7
	Secondary	14	46.7
	University	11	36.7
Occupation	Student	7	23.3
	Civil servant	11	36.7
	Housewife	3	10.0
	Business	5	16.7
	Other	4	13.3

Note. Age counts add up to 26 in the research project. The final age row is an arithmetic discrepancy category, not a verified questionnaire response. Percentages are based on N=30.

3.2 Self-rated knowledge of breastfeeding

The most favourable ratings concerned knowledge about the importance of breastfeeding: 26 of 30 respondents (86.7%) selected ratings of 4 or 5. The corresponding number was lower for knowledge of infant-feeding options (16 of 30, 53.3%). These figures reflect perceived familiarity, not objectively assessed comprehension.

Table 2. Distribution of self-rated breastfeeding knowledge (N = 30)

Item	5	4	3	2	1	Mean /5
Importance of breastfeeding	15	11	2	2	0	4.30
Infant-feeding options	10	6	5	6	3	3.47
Benefits of breastfeeding	14	7	4	4	1	3.97
Exclusive breastfeeding	11	12	1	5	1	3.90

Note. Cells are frequencies, not the inconsistent percentages printed in the original project. A high score denotes a more favourable self-rating. Means were recalculated from cell frequencies.

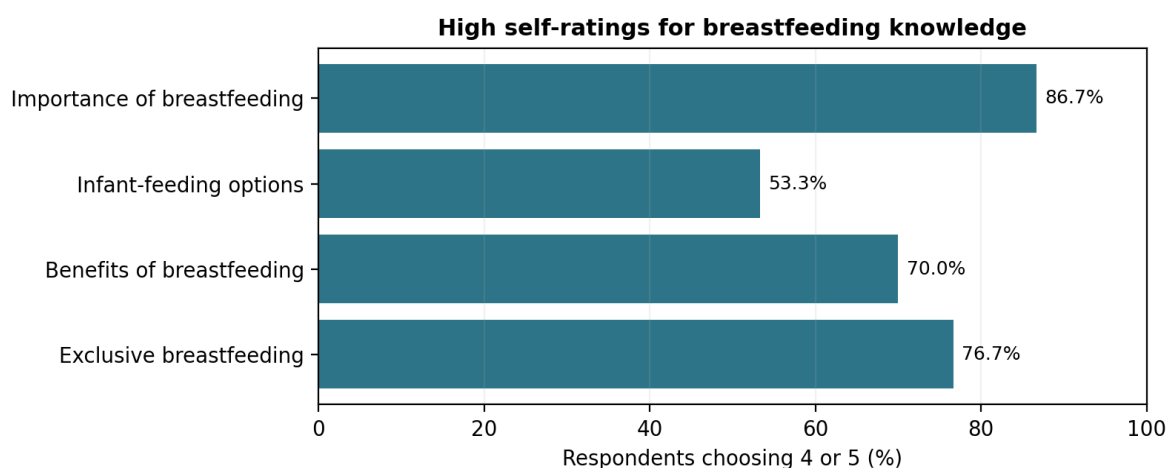


Figure 3. Proportion of mothers selecting a favourable self-rating (4 or 5) for each knowledge item (N = 30). Source frequency counts used.

3.3 Ratings of attitudes related to breastfeeding

Favourable responses (4 or 5) were given by 19 of 30 women (63.3%) for feeding options, 20 (66.7%) for health workers, and 24 (80.0%) for place of delivery. The phrasing of these items concerns perceived quality or attitude toward a topic and does not directly measure intention to breastfeed exclusively.

Table 3. Maternal attitude ratings (N = 30)

Item	5	4	3	2	1	Mean /5
Attitude toward feeding options	11	8	5	4	2	3.73
Attitude toward health workers	11	9	3	4	3	3.70
Attitude toward place of delivery	10	14	2	2	2	3.93

Note. Ratings: 5 = excellent, 4 = good, 3 = fair, 2 = poor, 1 = very poor. Means were recalculated from source frequencies.

3.4 Perceived barriers to exclusive breastfeeding

Strong agreement or agreement was reported for disclosure of HIV status as an influence by 16 (53.3%), socio-cultural influences by 17 (56.7%), economic factors by 15 (50.0%), maternal age by 20 (66.7%), and

maternal perceptions by 19 (63.3%) respondents. These are endorsements of proposed influences, not measured causal effects or statistical associations with actual EBF behaviour. The HIV-status item does not establish participants' HIV status.

Table 4. Agreement that proposed factors influence EBF (N = 30)

Proposed factor	SA	A	FA	D	SD	Mean /5
Disclosure of HIV status	6	10	8	4	2	3.47
Socio-cultural influence	10	7	2	5	6	3.33
Economic factors	6	9	1	10	4	3.10
Maternal age	11	9	3	4	3	3.70
Maternal perceptions	7	12	2	6	3	3.47

Note. SA = strongly agree; A = agree; FA = fairly agree; D = disagree; SD = strongly disagree. All rows total 30. Means recalculated from frequencies; these do not establish significant predictors.

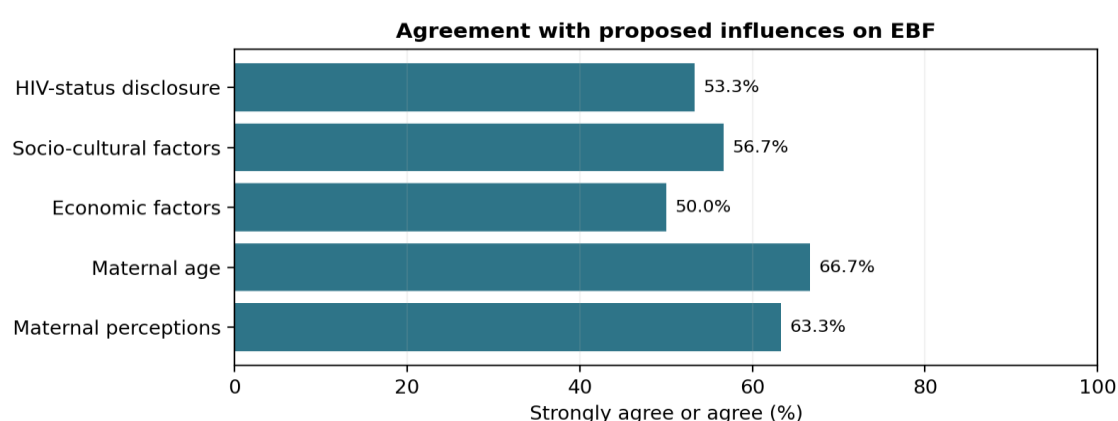


Figure 4. Share of respondents agreeing or strongly agreeing that each listed factor influences exclusive breastfeeding (N = 30). Recalculated from source counts; descriptive perceptions only.

3.5 Healthcare-provider interview summary

The project's interview summary described social class, maternal education, age, parental support, partnership and employment status, parity, place of delivery, smoking during pregnancy, and the presence of breastfeeding-supportive facility policies as possible considerations. Respondents also mentioned residence, cultural or religious practices, living arrangements, antenatal care, home delivery, and professional attendance at birth. Because verbatim statements, participant identifiers, item counts, and a documented qualitative analytical process were unavailable, these descriptions are presented only as a source-reported contextual summary and not as formal qualitative themes.

The provider summary cannot be analysed as thematic interview evidence at respondent level. The article retains it as contextual material, not as an independent quantitative confirmation of maternal survey findings. Future work should preserve de-identified transcripts, specify a coding process, and report illustrative quotations with consent.

IV. DISCUSSION

The findings show a contrast between relatively favourable self-ratings of general breastfeeding knowledge and less consistent self-ratings of awareness of infant-feeding options. Although most respondents expressed confidence in the importance and benefits of breastfeeding, this does not mean that correct EBF duration, feeding techniques, or appropriate clinical responses to breastfeeding challenges were understood. The questionnaire did not include an objective knowledge test, so the distinction between perceived and demonstrated knowledge is important. Earlier studies have also distinguished breastfeeding initiation and continued exclusive breastfeeding (Duong et al., 2004; Agampodi et al., 2007).

The contrast between 26/30 (86.7%) endorsing strong perceived knowledge of breastfeeding importance and 16/30 (53.3%) doing so for infant-feeding options points to a possible gap between general awareness and practical confidence. Importantly, the original instrument asks women to rate their knowledge; it does not test whether they correctly identify the duration of exclusive breastfeeding, acceptable medications, management of breastfeeding difficulties, or appropriate complementary-feeding practices. Therefore these counts should not be

labelled objectively “knowledgeable” or “not knowledgeable.” Health education on feeding options and appropriate practices remains relevant to breastfeeding promotion (Imdad et al., 2011).

The respondents also identified social and practical influences. Approximately half or more agreed that socio-cultural, economic, and maternal-perception factors could affect exclusive breastfeeding. Such concerns are plausible in view of research on infant-feeding behaviours in resource-constrained environments and evidence supporting breastfeeding counselling and promotion (Imdad et al., 2011; Sudfeld et al., 2012). Nonetheless, no causal inference can be made from a cross-sectional questionnaire asking respondents whether certain factors matter.

Of the five proposed influence items, maternal age drew the most high agreement ratings (20/30; 66.7%), followed by maternal perceptions (19/30; 63.3%) and socio-cultural influences (17/30; 56.7%). These are respondents’ opinions about potential influences, not statistical demonstrations of association. The HIV-status-disclosure item should be interpreted especially carefully because individual HIV status was not collected or disclosed in the reported analytical dataset.

Attitude-related responses were generally favourable toward places of delivery and health workers, though notable minorities selected less favourable categories. This suggests that support should address the quality and continuity of counselling, rather than assuming that positive attitudes toward services are enough to sustain exclusive breastfeeding. Health workers may have opportunities to involve partners and influential family members in education, especially where early supplementation is culturally normalized. These are programmatic implications, not interventions tested by this study. Peer and facility-based breastfeeding support has been evaluated in prior research (Sudfeld et al., 2012; Imdad et al., 2011).

For attitudes, the highest positive response proportion concerned place of delivery (24/30; 80.0%). Interpretation is restricted because the question does not specify whether respondents evaluated their experience, preference, or perceived importance of delivery location. A more explicit, validated attitudinal instrument would improve construct validity in a follow-up study.

Employment demands and perceptions of insufficient breast milk were also mentioned in the parent project’s interpretation and background discussion. However, no corresponding participant-level outcome table quantified either issue. These points should therefore be treated as contextual possibilities requiring additional measurement. Likewise, the project’s assertions about early introduction of complementary foods, initiation within one hour, and low local EBF prevalence cannot be verified from the provided results and are not presented here as demonstrated findings. The broader published literature links feeding practices with infant health outcomes, but this project did not measure those outcomes (Arifeen et al., 2001; Kalanda et al., 2006).

The underlying research project also discusses the possible importance of grandparents, spouses, paid work, maternity leave and perceived insufficient milk supply. These themes are consistent with the project’s conceptual background but cannot be assigned numerical prevalence within this sample unless the original questionnaires or provider interview records are recovered. For example, agreement that “economic factors” can influence breastfeeding (15/30) is not equivalent to demonstrating that financial circumstances caused a particular mother to discontinue EBF. Studies in other settings have documented variation in infant-feeding practices and the relevance of maternal circumstances (Almeida et al., 1999; Ulak et al., 2012).

A principal methodological concern is that the project did not supply a direct participant-level definition or measurement of EBF practice, such as a 24-hour feeding-recall indicator among infants under six months or a documented history of exclusivity for the first six months. Consequently, the title’s term “barriers” should be understood as perceived barriers and the results do not establish why particular mothers did or did not exclusively breastfeed. This limitation also prevents analysis of the project’s proposed knowledge–practice and attitude–practice hypotheses.

Furthermore, although a hypothesis section appears in the parent project, no cross-tabulation linking maternal knowledge or attitudes to measured breastfeeding practice is available. It would be inappropriate to report correlations, odds ratios, p-values, or determinants from these aggregate counts. The descriptive results instead identify priorities for prospective, more rigorously measured investigation.

4.1 Strengths and limitations

The study provides facility-based descriptive information on multiple potentially relevant dimensions and includes a supplementary provider perspective. Important limitations are the small maternal sample (N = 30), single-facility recruitment, non-response, inconsistent description of provider and total samples, an age-frequency discrepancy, unvalidated self-rating scales, and the absence of raw data or measured EBF status. Recall and social-desirability biases may also be present. The source project’s printed means and several percentages are inconsistent with its frequency counts; this manuscript prioritizes the frequency counts and recalculated summaries. Findings should not be generalized to all mothers in Uasin Gishu County or Kenya.

Because recruitment took place at a single clinic over four days, selection bias and seasonal variation cannot be ruled out. The study did not record infants’ ages in the reported results, and responses about broad

influences should not be interpreted as verified reasons for individual early supplementation. Likert-type question wording and response anchors also limit comparisons across domains. The healthcare-provider comments were summarised in the parent report without participant quotations, denominators for individual themes, or a documented qualitative analytic procedure.

V. CONCLUSION

Among 30 women attending the child welfare clinic at Uasin Gishu County Hospital, self-rated knowledge of the importance of breastfeeding was generally favourable, whereas confidence about infant-feeding options was more varied. Respondents perceived social, economic, maternal-age, and maternal-perception factors as relevant to EBF. The data identify areas for education and further investigation, but they cannot establish EBF prevalence, causal determinants, or associations between reported knowledge and actual practice.

VI. RECOMMENDATIONS

Clinical programmes could strengthen practical counselling on EBF duration, attachment and positioning, milk-supply concerns, and the safe introduction of complementary feeding at approximately six months. Breastfeeding support could also include partners and other family decision-makers, taking account of cultural norms and work-related barriers. Future research should collect infant age and detailed feeding-history information, define a measurable EBF outcome, use a larger justified sample, evaluate questionnaire reliability, and assess associations with appropriate statistical procedures. These programmatic directions are consistent with global infant-feeding guidance and breastfeeding-promotion evidence (World Health Organization, 2003; Imdad et al., 2011; Sudfeld et al., 2012).

REFERENCES

- [1] Agampodi, S. B., Agampodi, T. C., & Piyaseeli, U. K. D. (2007). Breastfeeding practices in a public health field practice area in Sri Lanka: A survival analysis. *International Breastfeeding Journal*, 2, Article 13. <https://doi.org/10.1186/1746-4358-2-13>
- [2] Almeida, R. M., de Marins, V. M., & Valle, J. (1999). Breastfeeding, socio-economic conditions and nutritional status of children younger than 12 months in Brazil. *Annals of Tropical Paediatrics*, 19(3), 257–262. <https://doi.org/10.1080/02724939992338>
- [3] Arifeen, S., Black, R. E., Antelman, G., Baqui, A., Caulfield, L., & Becker, S. (2001). Exclusive breastfeeding reduces acute respiratory infection and diarrhea deaths among infants in Dhaka slums. *Pediatrics*, 108(4), Article e67. <https://doi.org/10.1542/peds.108.4.e67>
- [4] Cai, X., Wardlaw, T., & Brown, D. W. (2012). Global trends in exclusive breastfeeding. *International Breastfeeding Journal*, 7, Article 12. <https://doi.org/10.1186/1746-4358-7-12>
- [5] Duong, D. V., Binns, C. W., & Lee, A. H. (2004). Breast-feeding initiation and exclusive breast-feeding in rural Vietnam. *Public Health Nutrition*, 7(6), 795–799. <https://doi.org/10.1079/PHN2004609>
- [6] Imdad, A., Yakoob, M. Y., & Bhutta, Z. A. (2011). Effect of breastfeeding promotion interventions on breastfeeding rates, with special focus on developing countries. *BMC Public Health*, 11(Suppl. 3), Article S24. <https://doi.org/10.1186/1471-2458-11-S3-S24>
- [7] Kalanda, B. F., Verhoeff, F. H., & Brabin, B. J. (2006). Breast and complementary feeding practices in relation to morbidity and growth in Malawian infants. *European Journal of Clinical Nutrition*, 60(3), 401–407. <https://doi.org/10.1038/sj.ejcn.1602330>
- [8] Lauer, J. A., Betrán, A. P., Victora, C. G., de Onís, M., & Barros, A. J. D. (2004). Breastfeeding patterns and exposure to suboptimal breastfeeding among children in developing countries: Review and analysis of nationally representative surveys. *BMC Medicine*, 2, Article 26. <https://doi.org/10.1186/1741-7015-2-26>
- [9] Sudfeld, C. R., Fawzi, W. W., & Lahariya, C. (2012). Peer support and exclusive breastfeeding duration in low- and middle-income countries: A systematic review and meta-analysis. *PLOS ONE*, 7(9), Article e45143. <https://doi.org/10.1371/journal.pone.0045143>
- [10] Ulak, M., Chandyo, R. K., Mellander, L., Shrestha, P. S., & Strand, T. A. (2012). Infant feeding practices in Bhaktapur, Nepal: A cross-sectional, health facility based survey. *International Breastfeeding Journal*, 7, Article 1. <https://doi.org/10.1186/1746-4358-7-1>
- [11] World Health Assembly. (2001). Infant and young child nutrition (Resolution WHA54.2). World Health Organization
- [12] World Health Organization, & United Nations Children's Fund. (2003). Global strategy for infant and young child feeding. World Health Organization.