

Effectiveness and Implementation Analysis of Interventions to Improve Exclusive and Early Initiation of Breastfeeding in West Africa



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Why this Evidence Note Is Needed

Transform Nutrition West Africa has identified key priorities for future action in the West Africa region. It has done so in consultation with stakeholders, including researchers, NGOs, members of civil society and the private sector, and representatives from government, the United Nations, and donor agencies. Consultations involved capturing, documenting, and learning from implementation experiences, and accelerating equitable program coverage of mother, infant, and young child interventions at scale. Stakeholders specifically identified the need for contextualization and implementation of interventions to promote breastfeeding.

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This evidence note therefore aims, first, to assess the highest quality evidence available on interventions promoting early initiation of breastfeeding (EIBF) and/or exclusive breastfeeding (EBF) within the West Africa context, and, second, to better understand what features of intervention implementation will contribute most effectively to success so that they can be harnessed and scaled up.

Context of Exclusive Breastfeeding and Early Initiation of Breastfeeding in West Africa

Promoting optimal breastfeeding has been proven to be an essential public health strategy. It benefits the child significantly in terms of child growth, cognitive development, and obesity prevention; it also benefits the mother in the short and long term, including in cancer prevention (1, 2). The World Health Assembly has set a global target of 50 percent exclusive breastfeeding (EBF) by 2025; however, only the South Asia region (57 percent) and the Eastern and Southern Africa regions (56 percent) are on track to meet this target, while the Western and Central Africa regions trail behind (31 percent) (3). Even across the African continent, EBF prevalence and trends have varied between 2000 and 2017; currently, only 18 out of 49 countries are on track to meet or exceed the global EBF target (4). In West Africa, EIBF prevalence ranges from 33.6 percent in Senegal to 73.8 percent in Niger (3).

Effective breastfeeding interventions as identified by previous systematic reviews (5–8) include: the Baby Friendly Hospital Initiative (BFHI), peer counsellor support through home visits, counselling by telephone

support, group counselling, education and/or support, and community awareness campaigns. The greatest improvements in EBF and EIBF are achieved when programs are implemented concurrently in a combination of settings, rather than piecemeal or in isolation; programs should be implemented through health systems, at home, and within the community (5, 9). The available evidence, however, is often focused on high-income settings and therefore is not always transferable to low- and middle-income countries (LMICs); furthermore, there is often limited detail reported on features of implementation such as the beliefs and perceptions of participants or the types of intervention modifications that took place. Understanding the contextual factors of intervention implementation is essential in determining how translatable an intervention is to another context or how an intervention may be scaled up. To respond to stakeholders' request (including UNICEF West Africa, Alive & Thrive), Transform Nutrition West Africa undertook a systematic review of randomized controlled trials (RCTs) that had been conducted in low- and middle-income countries (LMICs) in order to assess the effectiveness and implementation of EBF and EIBF promotion programs.

Key messages

- Nine studies report on interventions on exclusive breastfeeding (EBF) in the region; of these, four also report on early initiation of breastfeeding (EIBF). Overall, the interventions are found to be effective, although the level of effectiveness and the implementation approaches are highly heterogeneous.
- The quality of reporting of studies is generally good, although there are some concerns due to absence of information, which creates uncertainty over potential bias.
- Detailed implementation analysis reveals missed opportunities for sharing the lessons and experiences of implementation; such sharing of information would benefit implementers in the region.
- Studies that stand out in terms of scalability do so through providing detailed analysis of cost effectiveness and thorough reporting of the tailoring and modifications that occurred during the intervention.

Exclusive breastfeeding (EBF) is defined as the infant receiving only breast milk for the first six months of life. This can include expressed milk or milk from a wet nurse, but no other food or liquids, not even water. ORS can be given, as can drops and syrups such as vitamins, minerals, and medicines.

Early initiation of breastfeeding (EIBF) is defined as the infant receiving breast milk within the first hour of life.

Approach to Capturing and Assessing Evidence

This evidence note reports specifically on the West Africa results, which formed part of the broader systematic review of RCTs across LMICs. A study protocol providing detailed information on the review methodology, including search approaches, eligibility criteria for inclusion of interventions, quality appraisal, and the approach for both implementation and meta-analysis was developed. Initial searches were carried out to find RCTs only. Effectiveness analysis (meta-analysis) and quality assessment was carried out for included RCTs. The implementation analysis was further informed by subsequent searches for papers that had been published in relation to a particular study which addressed, for example, its process evaluation and/or protocol, and the qualitative studies. Final searches were conducted in 2019 and there were no date restrictions for published RCTs. While the full systematic review analysis included 85 interventions across 30 LMICs (forthcoming paper), this brief reports only on the 9 interventions conducted in the West Africa region. A meta-analysis was performed for each outcome. To estimate the effect of interventions on breastfeeding outcomes, we used the risk ratio (RR) between intervention and control groups. RRs were calculated from the raw data provided by the study; meta-analysis was performed in Stata Statistical Software (StataCorp. 2019. *Stata Statistical Software: Release 16*. College Station, TX: StataCorp LLC) and we reported pooled RR and a corresponding 95 percent confidence interval (CI) for each outcome. Quality was assessed using the Cochrane risk-of-bias

tool (Version 2)¹. To assess implementation, the TiDieR framework² was used, with some additional domains (referred to as the TiDieR+ framework), to capture contextual factors such as wider intervention settings and participant needs.

Overall Characteristics of the Included Interventions for West Africa

The nine included studies took place in Burkina Faso (n = 4), Ghana (n = 2), Guinea-Bissau (n = 1), and Nigeria (n = 2). Five of the nine studies reported on EBF only, and four reported on both EBF and EIBF; none reported only on EIBF. Interventions included training of healthcare providers (n = 2), access to professional support (n = 3), access to breastfeeding education and information (n = 3), and a peer support program (n = 2). The RCTs applied either a clustered (n = 6) or individual (n = 3) RCT design. The target populations were pregnant women (n = 7) and mothers of babies 3 months and under (n = 1) or 12 months and under (n = 1). The number of participants ranged between 231 and 16,329 and the age of participating women ranged from 15 to 50 years of age. Studies took place in rural (n = 4), urban (n = 3), or peri-urban settings (n = 1); one study did not report this information. The interventions occurred in health centers (n = 3), at home (n = 2), in the community (n = 1), or in a combination of settings (n = 3) (see Annex 1).

1 <https://methods.cochrane.org/bias/resources/rob-2-revised-cochrane-risk-bias-tool-randomized-trials>

2 <https://www.equator-network.org/reporting-guidelines/tidier/>

Quality of Studies

Study quality was assessed through the Cochrane risk-of-bias assessment tool. This tool assesses domains of bias, focusing on different aspects of trial design and reporting. The type of risk-of-bias assessment used differs slightly between individual and cluster RCTs and, in the latter case, employs an additional assessment category that is related to participant identification and recruitment. Included studies were therefore assessed by type of RCT and were given an assessment of either “low risk of bias”, “some concerns”, or “high risk of bias”. Our findings showed that four studies showed a low risk of bias, there were some concerns about the bias of four studies, and one study had a high risk of bias (**Table 1 and 2**). Across all studies, *measurement of outcome* is the domain in which there is the highest reported risk of bias. This high risk score is mostly due to gaps in the information reported in the studies, which leads to uncertainty over bias. Some concerns were also noted for three studies in the *deviated from the intended interventions* domain; this was also generally due to the gaps in information which did not allow for a “low concern” score (10, 11), or noncompliance with the assignment of particular groups or subgroups to trial categories (received/did not receive interventions) due to communication errors (12). Lastly, for the individual RCTs there were some concerns for the selection of the reported result domain (**Table 2**).

Table 1. Risk of bias for individual randomized controlled trials

STUDY	OUTCOME	DOMAINS OF STUDY BIAS					
		Randomization process	Deviations from intended interventions	Missing outcome data	Measurement of the outcome	Selection of the reported result	Overall
Aidam, Pérez-Escamilla, Lartey (2005)	EBF	+	+	+	–	?	–
Daniele et al. (2018)	EBF	+	?	+	+	+	?
Davies-Adetugbo et al. (1997)	EBF	+	?	+	?	?	?

SOURCE: Transform Nutrition West Africa, Effectiveness and Implementation Analysis of Interventions to Improve Exclusive and Early Initiation of Breastfeeding in West Africa

NOTE: EBF = exclusive breastfeeding.

+	?	–
Low risk	Some concerns	High risk

Table 2. Risk of bias for cluster randomized controlled trials

STUDY	OUTCOME	DOMAINS OF STUDY BIAS						
		Randomization process	Participation identification/ recruitment	Deviations from intended interventions	Missing outcome data	Measurement of the outcome	Selection of the reported result	Overall
Cresswell et al. (2010)	EBF and EIBF	+	+	+	+	+	+	+
Flax et al. (2014)	EBF and EIBF	+	+	+	+	+	+	+
Kirkwood et al. (2013)	EBF and EIBF	+	+	?	+	?	+	?
Nikièma et al. (2017)	EBF and EIBF	+	+	+	+	+	+	+
Tylleskar et al. (2011)	EBF	+	+	+	+	+	+	+
Jakobsen et al. (1999)	EBF	+	+	+	+	?	+	?

SOURCE: Transform Nutrition West Africa, Effectiveness and Implementation Analysis of Interventions to Improve Exclusive and Early Initiation of Breastfeeding in West Africa

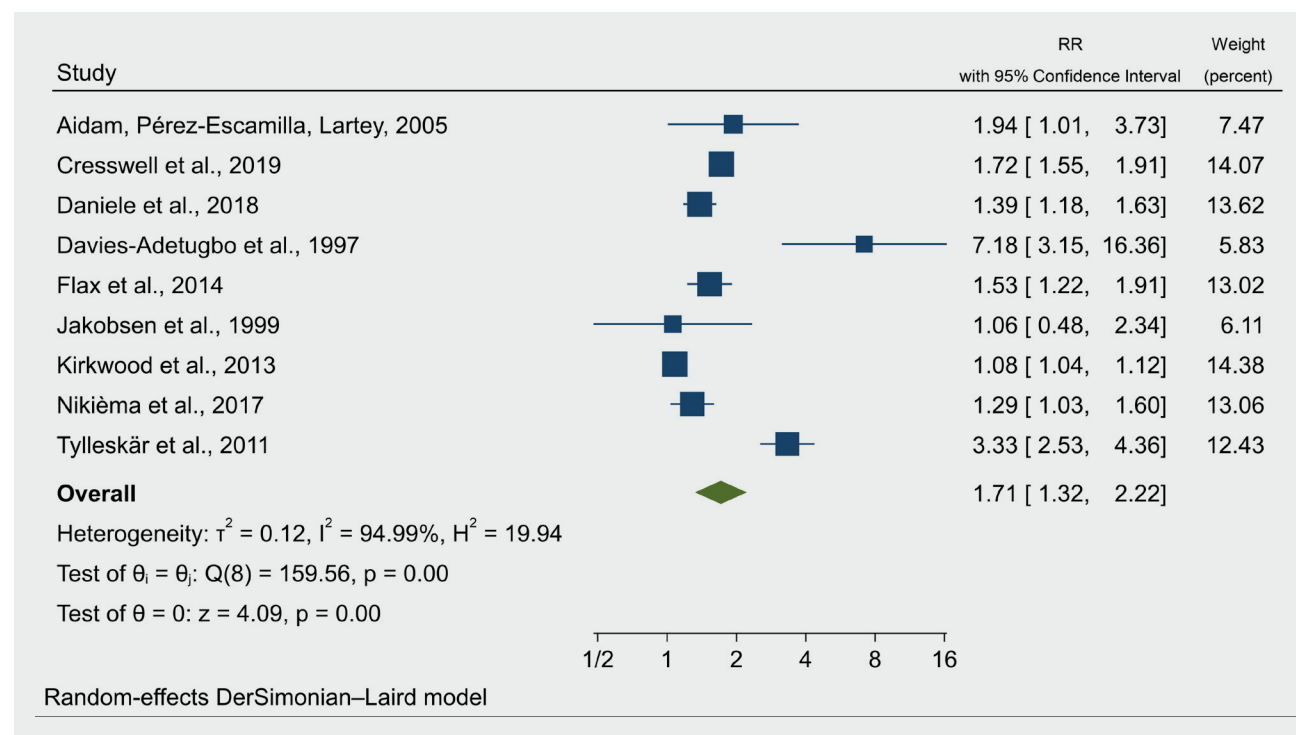
NOTE: EBF = exclusive breastfeeding; EIBF = early initiation of breastfeeding.

+	?	–
Low risk	Some concerns	High risk

Effectiveness of Interventions on Exclusive Breastfeeding and Early Initiation of Breastfeeding

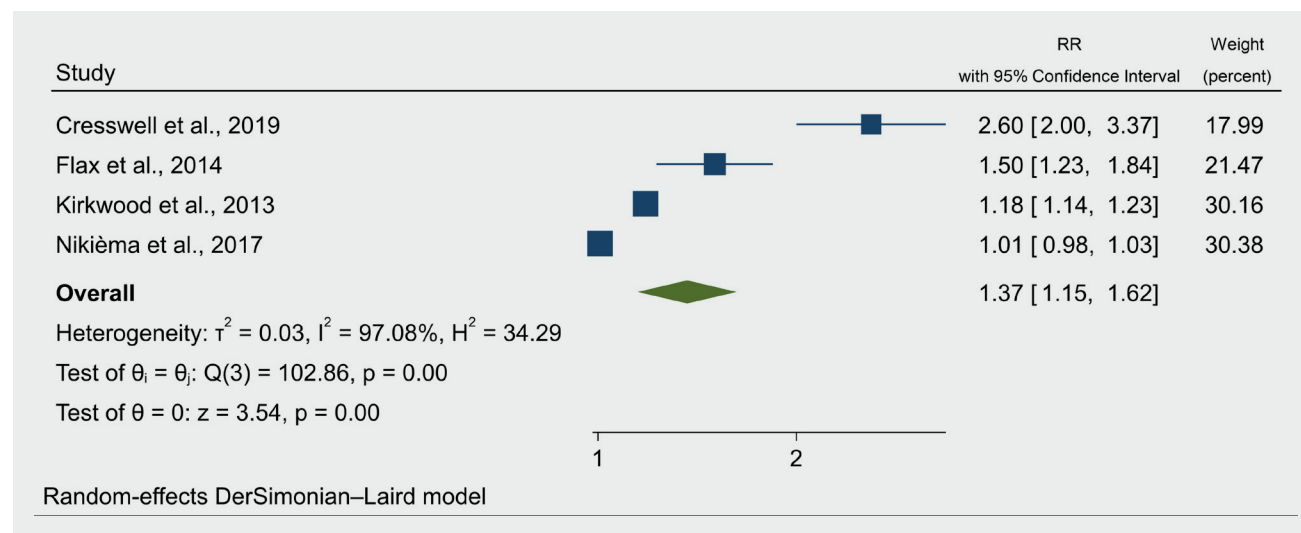
The meta-analysis to assess the effect of the interventions on EBF was conducted for all retained studies ($n = 9$). As an effect of all nine interventions, EBF increased significantly by 71 percent (RR 1.71; 95 percent CI: 1.32–2.22) (**Table 3**), with high statistical heterogeneity (95 percent). Pooled results from four interventions showed that as an effect of those interventions, EIBF rates increased by 37 percent (RR 1.37, 95 percent CI: 1.15–1.62) (**Table 4**), with high statistical heterogeneity (97 percent). (The high heterogeneity of these pooled results is explored in the implementation analysis.)

Table 3. Effect of interventions on exclusive breastfeeding



SOURCE: *Transform Nutrition West Africa, Effectiveness and Implementation Analysis of Interventions to Improve Exclusive and Early Initiation of Breastfeeding in West Africa*

Table 4. Effect of interventions on early initiation of breastfeeding



SOURCE: Transform Nutrition West Africa, *Effectiveness and Implementation Analysis of Interventions to Improve Exclusive and Early Initiation of Breastfeeding in West Africa*

Implementation Analysis

The key features of intervention implementation are summarized below across 14 domains as included in the TiDieR+ framework. Overall, there is high variability in how interventions are designed, implemented, and reported. Some domains are well reported, including good coverage of, for example, the intervention materials utilized and the procedures followed; others are less well reported across studies, with gaps in information about, for example, the costs associated with the intervention and the modifications that occurred throughout its implementation. Only three studies reported on participants' knowledge, beliefs, and perceptions regarding breastfeeding and the degree to which they constitute barriers to its implementation (see domain 5 below: intervention recipients) (10, 13, 17). Two studies stand out, however, for reporting a detailed cost-effectiveness analysis (11, 18). One of these stands out even further for also reporting modifications and the planned and actual tailoring that took place within the intervention (see domains 10 and 11 below, tailoring and modifications) (11). This allows for realistic insights into the operations of the intervention, which is highly useful for implementers in the region.

TiDieR+ framework: Domains of intervention implementation

1. Intervention types

The nine studies describe the following four general types of intervention: training of healthcare providers (13, 14), providing access to professional support (10, 12), providing access to breastfeeding education and information (15, 17), and peer support programs (11, 18).

2. Rationale

Seven of the nine studies (11, 13-18) describe the rationale, although two of them do not present a detailed reasoning as to why the study was undertaken. Generally, the theory/rationale is related to desired behavior change, interpersonal/patient-centered communication, improved access/removal of barriers to care, improved social capital and self-efficacy, and local integration of the intervention.

3. Materials and procedures

All nine studies give in-depth descriptions of the materials used. Most studies report use of intervention materials such as leaflets/booklets on breastfeeding, counselling cards, and illustrations. Seven of the nine studies used training manuals adapted from the WHO, UNICEF or other organizations (10-12, 14-16, 18); these were often adapted to the local context based on formative research (10, 15, 16, 18). Six of the nine studies report on the availability of these materials, which were generally provided as reference or supplementary material (10, 12, 14-16, 18).

Intervention procedures are reported for all studies, though the procedures and the level of detail in which these are described varies between studies. For breastfeeding education/information interventions (15-17), women generally received education prenatally and/or perinatally, followed by home visits. In one case, breastfeeding education sessions were integrated into a microcredit program, and messages, voice recordings, and interactive songs and dramas were used to reinforce these messages (16). For those interventions that provided access to professional support ($n = 2$), one study conducted group counselling with male partners, couple counselling during pregnancy, and couple counselling postpartum just before facility discharge (12). The other study provided three education sessions, one in the primary care facility, and two during postpartum home visits (10). For interventions offering peer support ($n = 2$), peer counsellors received seven to nine days of training; they conducted one or two home visits during a woman's pregnancy and three or four postpartum home visits. One of these interventions offered specific education to mothers with low birth weight (LBW) babies, as well as referral to hospital for very LBW babies (11); the other intervention referred mothers with difficulty breastfeeding to trained health workers (18). For interventions that entailed the training of health professionals ($n = 2$), one was delivered

by government health workers and community health workers (CHWs) (13), the other was delivered only by government health workers (14); both consisted of prenatal and postnatal interpersonal communication sessions. One study included more detailed nutrition guidance, including instruction in food preparation during the complementary feeding period.

The majority (n = 8) of control groups received routine care or (n = 1) different health-related education (15).

4. Intervention providers

In only seven studies are the structural characteristics of the implementing organization reported, and the level of description varies widely from one study to the other. Some studies describe the physical structures/facilities utilized in delivery, while others give a very detailed description of the historical context of the implementing organization and how it interacts with local partners and/or with the existing health system landscape.

In general, studies describe a high level of local partnership. All studies describe interventions which either include a local partner as implementer or have close linkages with local stakeholders. Some studies also include an array of experts from different disciplinary backgrounds and some report working through the existing health system. Intervention providers included: health service providers (n = 3) (12, 14, 15), community members/leaders (n = 2) (11, 16), CHWs (n = 2) (10, 17), peers (n = 1) (18) and multiple providers (n = 1) (13). Most intervention providers were women with positive breastfeeding experience that lived in the community where the intervention was taking place. For some interventions that utilize existing networks of CHWs, these women were already active in the community through sharing health messaging and performing routine health services such as child immunization (10, 17).

Training of implementers is described in seven of the nine studies (10-15, 18). The length of training generally ranged from one to nine consecutive days; training sessions usually were interactive, involving a mixture of classroom-type learning and discussions, practical sessions, and role plays. Trainings were delivered by a variety of trainers including lactation consultants, BFHI master trainers, a pediatrician, the study team, and district health managers; in one case, the training of trainers was incorporated into implementation practices. While the content differed depending on the objectives of the interventions, two studies explicitly mention that training was conducted in the local language or had adapted its guidelines to suit the local context (10, 18). Only two studies describe the nature/quality of contact among implementation staff; in one instance, this is more related to quality assurance of data gathered, having been ensured through the use of a Personal Digital Assistant programme (13) and, in the other case, the supervision structure is described in detail, including adaptations that were made to implementation in order to improve supervision (11).

5. Intervention recipients

While all interventions report some level of socioeconomic information, only three of the nine studies report specific information regarding participant beliefs, knowledge, and perceptions regarding breastfeeding. When this is reported, the information has often been gathered through formative/baseline research. Reported items include how participants obtain information about breastfeeding (elderly relatives) (17), their intentions around early initiation and duration of breastfeeding, their opinions about prelacteal feeding and whether or not to feed colostrum to the baby ($n = 1$) (13). Furthermore, whether participants perceived that breastmilk alone was insufficient to feed the baby ($n = 1$) (10). Reasons for terminating breastfeeding were also described in one study; these included illness of the child and/or mother, a mother's new pregnancy, and determination of the length of the breastfeeding period by ethnicity (17).

6. Mode of delivery

All interventions occurred face to face, though one intervention also utilized SMS and voice messages (16). Interventions were delivered to either individual mothers ($n = 4$) (10, 14, 17, 18), groups of mothers ($n = 1$) (16), the family ($n = 1$) (11), a combination of individuals and groups ($n = 2$) (12, 15), or a combination of groups and family ($n = 1$) (13).

In eight of the nine studies, there is a description of the nature of the contact between participants and intervention providers, most of which are described as interactive. Interactions ranged from a minor level of interactivity (for example, participants were encouraged to ask questions) to higher levels of interaction where members of the wider community were called on to create community support/mobilization for breastfeeding; these could include partners, mothers-in-law, and grandmothers (13). Other levels of interaction included: demonstrations of how to position the baby to the breast (10); facilitated group discussion where the study team takes a step back and participants initiate decision-making (16); and a patient-centered approach (14) wherein the intervention responds to the specific issues raised by participants.

7. Intensity of intervention

Most studies were conducted during the prenatal and postnatal period ($n = 6$) (11, 12, 14-16, 18), while three took place during only the postnatal period (10, 13, 17).

There was a large variation among the studies in the number of times the intervention was delivered; this included a single monthly session ($n = 1$); a single monthly session, twice-weekly SMS messages, and follow-up voice messages ($n = 1$); and prenatal and postnatal education sessions and home visits which usually consisted of one or two prenatal sessions and three to nine home visits. The length of the education sessions and home visits is described in five of the nine studies and ranges from 10 minutes ($n = 1$) to 1 hour ($n = 1$), with three studies including education sessions of 20 to 30 minutes.

8. Implementation setting

Intervention settings included: health centers ($n = 3$) (12, 14, 17), homes ($n = 2$) (11, 18), community settings ($n = 1$) (16), combinations of home and health center ($n = 2$) (12, 13), and combinations of home and hospital ($n = 1$) (15). Most studies simply describe the physical setting (level of infrastructure, physical features such as road quality, and geographical features such as distance to a health center). One study reports on the inspection of participant homes for signs of non-breastfeeding such as bottles (15).

9. Cost

Two studies report detailed cost-effectiveness analyses; these include estimates of the overall intervention costs, Disability Adjusted Life Years (DALYs) averted, and Years of Life Lost (YLL) (11, 18). Minor details of costs are reported in four studies (11-15); these include simple reporting that the intervention does not require costly technology/innovations ($n = 1$), the cost of incentives to encourage participation, such as covering travel costs or giving locally appropriate gifts ($n = 2$), or reporting that no incentives/topping up of health care wage took place ($n = 1$). Two studies do not report on any costs.

10. Tailoring

Six studies report on how interventions were personalized. Five studies report taking an approach that responds to the needs/concerns/issues facing participants (10, 11, 13-15); this included prioritizing home visits to mothers who were struggling ($n = 1$) (13), problem-solving for specific breastfeeding issues raised by mothers ($n = 3$) (10, 14, 15), continuous monitoring of infants and the referral of very LBW infants to health facilities; and the removal of specific barriers faced by mothers in accessing the health facility ($n = 1$) (11). One intervention involved the dramatization of health messages; these dramas were entirely created by participants and were therefore their personal interpretation of the health messages (16).

11. Modifications

Four of the nine studies report modifying the intervention (11, 13, 14, 16). These modifications ranged from very small tweaks of the intervention to larger modifications of actual implementation practices. One study reports that due to poor cell phone coverage, two intervention groups came together to share health SMS/voice messages instead of using the cell phone messages as was originally planned (16). One intervention dropped four of its study locations upon learning that a very similar intervention was already taking place in these communities (13). Budget constraints are also identified as a reason for modification; in one case, they resulted in reducing intervention components such as the frequency of home visits (11), and in another, home visits were dropped altogether ($n = 1$) (14).

12. How well was intervention implemented (planned and actual)

Five of the nine studies report on how they plan to assess adherence or fidelity of implementation (11, 12, 14, 16, 17).

Planned activities include: collecting routine data such as participant names and ID numbers during education sessions ($n = 1$); the creation of drama and songs by participants to demonstrate understanding of health messages ($n = 1$); supervision of implementation by study authors to ensure uniform delivery ($n = 1$); measuring CHW coverage and quality of visits and compliance with referral processes ($n = 1$), and finally, measuring the adequacy of the intervention through interviewing participants and asking about the counselling they received ($n = 1$).

Four studies report on the actual adherence or fidelity of the intervention (11, 12, 14, 16). This is most often reported through coverage indicators such as the percentage of participants who attended meetings, how often groups met, attendance of growth-monitoring sessions, attendance of antenatal consultation, percentage of women who received home visits, and so on, depending on the details of the intervention. Fewer studies sought to answer why coverage was or was not satisfactory; this was reported in two studies, in one of which non-compliers were interviewed (11). The most common reason for noncompliance was the family's perception that their baby was not severely ill and would improve spontaneously. In one study, low coverage of the postnatal counselling session was due to participants giving birth in nonparticipating hospitals (12).

13. Ethics

All studies report the source of their ethical approval and no studies report any conflicts of interest. Six of the nine studies have a trial registration number by which they are registered with clinicaltrials.gov; for the remaining three studies, we could not retrieve a trial registration number in clinicaltrials.gov or any other trial register.

14. Outer setting

Seven studies report on an element of the outer setting (10, 11, 13-16), with substantial variation in the type of information reported. One study reports that promotion of breastfeeding was being intensified in the country's hospitals and clinics during the intervention period, and that one study hospital was on its way to becoming a BFHI hospital (16); it was felt that these factors may have facilitated the successful intervention results. Another study reports on the activities of a breastfeeding program in Nigeria (10). One study reports on cell phone ownership across sub-Saharan Africa and within Nigeria; this is relevant to the intervention context as health messages are delivered through SMS and voice messages (16). One study describes Ghana's National Insurance Scheme, detailing how it pertains to newborn health (11). Two studies in Burkina Faso describe health infrastructure; one states that there are a limited number of healthcare providers in health facilities who are available on a daily basis to interact with patients (14) and the other describes how the intervention integrated its activities into the existing health infrastructure (13). The latter study, also reports that the impacts of seasonality might have resulted in slightly different results if the study had been conducted at a different time of the year (13).

Triangulation of Analysis to Explain Outliers

Three studies are outliers, either for showing very strong effects (8) or because they show no effect on EBF (17) or EIBF (14). These are explored in greater detail in relation to quality and implementation features.

Davis-Adetugbo and colleagues found the highest impact for EBF interventions (10); this study, however, causes some concerns over the risk of bias, particularly in the domains of *deviations from intended intervention*, *measurement of the outcome*, and *selection of the reported results*. Concerns around quality are mainly due to the lack of reporting of key information in

the RCT; however, the two qualitative publications associated with this specific RCT provided additional insights on these concerns. Reported information on implementation that may have positively impacted effectiveness includes: the adaptation of training materials for community health workers to suit non-hospital-based primary care and rural settings; incorporation of the intervention into the local health system; the assessment of perceptions of EBF through formative research (for example, the perception as to whether or not breastmilk alone is sufficient); problem-solving counselling sessions which responded to mothers' issues (such as attachment and positioning of the infant). Even though lack of reporting caused concerns regarding quality of the study, the

implementation analysis does clearly show a rigid approach to implementing the intervention.

The Jakobsen et al. (1999) study found no impact on EBF (17). When examined further, however, the quality assessment highlighted some concerns in relation to the *measurement of outcome reporting*. These concerns arise due to the lack of reporting on whether outcome assessors were aware of the intervention taking place. Alongside the RCT publication, one additional qualitative publication was linked to this study; it was embedded in, and delivered through, the local health system and gathered detailed information regarding perceptions of breastfeeding. EBF information was provided orally to mothers on preset topics, with no

reported adaptation or tailoring to mothers' needs. According to this study, traditional beliefs may outweigh advised weaning practices; this was felt to explain why early weaning (and therefore non-exclusive breastfeeding) remained the same for the intervention and control groups.

In relation to EIBF, the Nikiéma et al. (2017) study found no effect of the intervention (14); it does, however, show high effectiveness for EBF. This study did not present any concerns on the risk-of-bias assessment. A closer look at the implementation analysis—specifically domain 12, *how well was intervention implemented (planned and actual)*—revealed that only 22.4 percent of mothers received counselling on early breastfeeding practices, compared to 75.7 percent of mothers who reported receiving counselling on EBF practices, thus likely explaining the intervention's lack of effect on EIBF.

Conclusions

Interventions to improve EBF and EIBF in West Africa were shown to be effective, with higher impact found for EBF than for EIBF (71 percent and 37 percent, respectively). There is, however, a high degree of heterogeneity in both the effectiveness and implementation of these interventions. Heterogeneity can be explained by the highly variable intervention approaches used, including variability in participants, study design, and risk of bias. In general, there is a low or mixed level of concern for the risks of bias across studies. This mixed-level quality is predominantly due to incomplete and/or ambiguous reporting, which hampered study quality.

The added value of this review has been the incorporation of additional resources such as process reports and qualitative studies. Their inclusion has acted to demystify the implementation process of the RCTs and thereby facilitate the scale up of effective

interventions in the region. Studies varied hugely in their level of reporting, with limited information in some key domains such as the beliefs and perceptions of intervention recipients, costing, modifications, planned vs. actual intervention delivery, and wider contextual factors. Few studies report extensively across all domains of implementation, which limits the ability to scale up such interventions and, importantly, to learn from experiences of adversity.

Further investment in interventions in the region, especially for EIBF, is recommended. Such future interventions should aim to incorporate and report context-specific factors in greater detail in relation to both the intervention and other elements such as the political landscape; this will facilitate implementation at scale.

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II. Annex I.

General Characteristics Table

STUDY	TYPE OF RANDOMIZED CONTROLLED TRIAL	COUNTRY	INTERVENTION DESCRIPTION	GEOGRAPHIC SETTING	INTERVENTION SETTING	OUTCOMES OF INTEREST	TARGET POPULATION	NUMBER OF PARTICIPANTS (NUMBER OF CLUSTERS)	AGE RANGE
Aidam, Pérez-Escamilla, Lartey 2005 (13)	Individual	Ghana	Access to breastfeeding education and information	Urban	Hospital and home	Exclusive breastfeeding (EBF)	Pregnant women	231	NR
Cresswell et al. 2019 (11)	Cluster	Burkina Faso	Training of healthcare providers	Rural	Health center and home	EBF and early initiation of breastfeeding (EIBF)	Mothers with infants 12 months or under	2,288 (21 clusters)	15–49 years
Daniele et al. 2018 (10)	Individual	Burkina Faso	Access to professional support	Urban	Primary health center	EBF	Pregnant women	1,144	15–49 years
Davies-Adetugbo et al. 1997 (8)	Individual	Nigeria	Access to professional support	Rural	Health center and home	EBF	Mothers with infants 3 months or under	169	15–44 years
Flax et al. 2014 (14)	Cluster	Nigeria	Access to breastfeeding education and information	NR	Community	EBF and EIBF	Pregnant women	461 (79)	15–45 years
Jakobsen et al. 1999 (15)	Cluster	Guinea-Bissau	Access to breastfeeding education and information	Suburban	Local health center	EBF	Pregnant women	1,226 (86)	About 25 years
Kirkwood et al. 2013 (9)	Cluster	Ghana	Peer support program	Rural	Home	EBF and EIBF	Pregnant women	16,329 (98)	15–45 years
Nikiéma et al. 2017 (12)	Cluster	Burkina Faso	Training of healthcare providers	Urban	Health center	EBF and EIBF	Pregnant women	2,301 (12 clusters)	14–50 years
Tylleskär et al. 2011 (16)	Cluster	Burkina Faso	Peer support program	Rural	Home	EBF	Pregnant women	794 (24)	20–30 years

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