

Behaviour change communication for child feeding in social assistance: A scoping review and expert consultation

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Abstract

To increase the effectiveness of social assistance on child nutrition, programmes are increasingly combined with behaviour change communication for improved infant and young child feeding (BCC for IYCF). Unfortunately, there is limited knowledge about which BCC strategies are most effective when combined with social assistance. A systematic scoping review and an expert consultation was conducted to (1) describe the landscape of BCC for IYCF strategies used in social assistance within low- and middle-income countries and (2) to examine the effects of these BCC strategies on IYCF practices and child nutrition. Ten quantitative, three qualitative and four mixed methods studies were reviewed and complemented by 12 expert consultations carried out between August and October 2020. In most of the studies attendance in BCC for IYCF was conditional for receiving social assistance, although experts agreed that this conditionality may be counterproductive. A variety of BCC strategies were used with two being most common—group sessions with pre-determined topics and individual counselling. Context-specific adaptation, interactive delivery and building on existing IYCF knowledge emerged as crucial but was perceived as economically infeasible in social assistance programmes. Given the variety of BCC strategies and inconsistency in outcomes, it is impossible to draw conclusions regarding effectiveness. Nevertheless, tentative evidence suggests that the promotion of existing nutrition services, educational group sessions and individual counselling may be effective in improving IYCF. BCC for IYCF can make social assistance more beneficial, but may increase costs, demands on beneficiaries, and deviate from the original focus of the programmes.

KEYWORDS

behaviour change communication, child feeding, developing countries, nutritional status

1 | INTRODUCTION

Social protection—and in particular social assistance programmes (Bastagli et al., 2016)—has never been more important than during the current COVID-19 pandemic, which is plunging many countries into

devastating crises. Social protection is commonly defined as ‘all public and private initiatives that provide income or consumption transfers to the poor, protect the vulnerable against livelihood risks and enhance the social status and rights of the marginalised; with the overall objective of reducing the economic and social vulnerability of poor, vulnerable and

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marginalised groups' (Devereux & Sabates-Wheeler, 2004). Social assistance—the focus of this paper—is one type of social protection and usually includes noncontributory cash transfers, vouchers or in-kind transfers to individuals or households in need (White et al., 2015; Bastalgi, 2011). There is an urgent need for comprehensive social assistance responses to safeguard young children from the downstream impacts of COVID-19, especially in low- and middle-income countries (LMIC) (Carducci et al., 2021).

Social assistance has been found to improve food security and dietary diversity, however, it has only a limited impact on the nutritional outcomes of children (de Groot et al., 2017). To increase the effects on nutrition, especially during the crucial first 1000 days of life, social assistance programmes are increasingly combined with behaviour change communication (BCC), designed to improve infant and young child feeding (IYCF) [hereafter behaviour change communication for infant and young child feeding (BCC for IYCF)] (Hypher et al., 2019).

BCC for IYCF is defined as the use of communication strategies to promote the sustained uptake of improved IYCF behaviours and practices, with the ultimate aim of improving child nutrition (Warren et al., 2020). BCC for IYCF on its own has been shown to be effective in improving recipients' knowledge of, and attitude towards, better child feeding behaviours (Graziose et al., 2018). However, especially poor families often struggle to translate the IYCF advice into practices because of a lack of financial resources (e.g., to purchase more diverse diets) (Warren et al., 2020) and time (e.g., to exclusively breastfeed) (Kimani-Murage et al., 2015). Poverty forces many mothers to go back to working long hours and do other chores shortly after delivery, giving them insufficient time to practise optimal IYCF (Ahishakiye et al., 2019; Kimani-Murage et al., 2015; Nguyen et al., 2011). Linking social assistance programmes with BCC for IYCF may enable poor families to address the economic and time constraints that prevent them from adopting improved practices (Alderman, 2015). While there is interest in leveraging the impact of social assistance on child nutrition by adding BCC for IYCF, there is only limited knowledge about the different BCC strategies that may be used in social assistance programmes and their respective effectiveness on IYCF practices and nutrition outcomes (Little et al., 2021). Although, separately, well-designed social assistance and well-designed BCC for IYCF programmes can have positive effects on various proximal and distal determinants of child nutrition, field evidence (see e.g., Nisbett et al., 2016) shows that finding ways to implement these quite different programme modalities—often drawing separately on different types of social protection and nutrition expertise—is not simple and not always effective. As such, attention to what such strategies can do when combined at scale and in the same programmatic context is still an important research question which provides additional insights to some of the high-profile pilots in the literature (see e.g., Hoddinott, Ahmed, Karachiwalla, et al., 2018).

Previous reviews have identified best practices for the design and implementation of BCC for IYCF in LMIC (Pelto et al., 2016; Webb Girard et al., 2020); however, no previous attempts have been made to synthesise the evidence on BCC for IYCF integrated with social assistance. This paper aims to address this gap by presenting

Key message

- Findings suggest that integrating BCC for IYCF in social assistance programmes can be beneficial for young children, however, it may increase the costs of the programme, create additional demands on beneficiaries and may deviate the original focus of the programme.
- Most BCC for IYCF in social assistance programmes used two different behaviour change strategies (with group session with pre-determined topics and individual nutrition counselling being most common). However, there is limited evidence on what BCC strategies (as part of social assistance) change behaviours most effectively.
- Formative research is important for the design and implementation of context-specific BCC that builds on existing IYCF knowledge but can be time- and resource-consuming to develop and may thus be economically infeasible within social assistance programmes.

the results of a systematic scoping review and expert consultation to (1) describe the landscape of behaviour change strategies currently used for BCC for IYCF in social assistance programming within LMIC and (2) to examine the effects of these BCC strategies on IYCF practices and child nutrition outcomes.

2 | METHODS

We conducted a systematic scoping review—a type of synthesis that uses a systematic approach to identify and map evidence that is diverse in methods and/or disciplines (Peters et al., 2015). To ensure a transparent and rigorous process we followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses—Extension for Scoping Reviews (PRISMA-ScR) checklist (Tricco et al., 2018). The checklist for this review paper is presented in Supporting Information Appendix A. This review was complemented with a consultation of experts in social protection and IYCF.

2.1 | Literature search

A systematic literature search was performed between April and August 2020 using a range of electronic databases, namely ASSIA, Science Direct, PubMed, JSTOR, PsychInfo and Google scholar. To minimise publication bias, both peer-reviewed journal articles and grey research literature, including published full evaluation reports, were considered. We applied broad search terms, using combinations of ('infant and young child feeding') AND ('behaviour change communication' or 'child feeding counselling') AND ('cash transfer' or 'food transfer' or 'social assistance'). We only focus on the following types of social assistance

programs: cash transfers (conditional or unconditional) and in-kind transfer (usually food transfer or food vouchers).

2.2 | Inclusion and exclusion criteria

Studies were included if they (1) described or assessed BCC for IYCF integrated with social assistance; (2) were published after January 1994; (3) used established quantitative or qualitative research methods or a mixed-methods approach; (4) presented evidence from LMIC. Articles were excluded if they focussed (1) solely on social assistance without BCC for IYCF or (2) exclusively on BCC for IYCF not integrated with social assistance programmes; (3) did not provide evidence on LMIC. Also excluded were nonempirical papers (e.g., editorials).

2.3 | Data screening

Titles and abstracts of identified records were independently assessed by two coauthors (IB and JM). Full-text copies of any studies thought to potentially meet the inclusion criteria were obtained, read in full and assessed. Disagreements were resolved through discussion.

2.4 | Data extraction, analysis and screening

A standardized data extraction form was developed and piloted with two studies (IB and JM). The following data were then extracted from all full-text studies that met the inclusion/exclusion criteria by one reviewer (JM): author, study setting, study design, study population, characteristics of social assistance programme, strategy/ies for BCC for IYCF, results related to IYCF and nutritional status. The second reviewer (IB) cross-checked the data extracted from all included studies. Disagreements were resolved through discussion.

Data extraction for retrieved qualitative and mixed methods studies followed the same extraction form as quantitative studies, except for the results field. We employed a stepwise thematic approach to extract data for this field (Lucas et al., 2007). This approach involved an iterative process of reading and rereading of the studies, the independent identification of themes concerning experiences of and views on the implementation and impact of the BCC for IYCF (IB and JM), the comparison and merging of these initial themes into one list and finally a summary into overarching themes (in discussion with all authors). Our scoping review set out to map available evidence on BCC for IYCF integrated with social assistance. It was not designed to critically appraise and rate the identified evidence, especially as we expected that the quality of the evidence was likely to vary greatly.

To assess the effectiveness of the different BCC strategies, a percentage effectiveness 'ratio' was calculated as the ratio of the number of times each type of BCC strategy was used in a study

that improved IYCF practices or nutritional status outcomes (i.e., height-for-age; weight-for-height or weight-for-age). These were then divided by the number times they were a component of all quantitative studies, including noneffective ones. This approach has been used previously to assess the effectiveness of BCC strategies (Martin et al., 2013; Michie et al., 2011). To give an example for the ratio calculation: in five studies individual home-based counselling was used as a BCC strategy. In three of those studies (3/5) a significant and positive change in IYCF practices was reported. Consequently, we concluded that individual counselling had a 60% effectiveness ratio with regard to changing IYCF practices.

2.5 | Expert consultation

Additionally, we conducted 12 expert consultations with IYCF and social protection experts who are involved in the design, implementation and/or evaluation of BCC for IYCF integrated with social assistance.

Twelve experts were identified and selected through professional networks using an iterative and snowball process. We initially contacted 14 stakeholders and 12 agreed to participate. Participants were professional staff in large international organisations and academics. All experts had extensive experiences in working in LMIC. Interviews were conducted via Zoom between August and October 2020 (by all authors), guided by a semi-structured topic guide (see Supporting Information Appendix B) and audio-recorded (with consent). Interviews transcripts were analysed (by IB and JM) using an inductive data-driven content analysis approach (Schreier, 2012). At the start of the analysis each transcript was read several times to identify initial patterns (Bryman & Hardy, 2004). Three transcripts were then carefully read line-by-line for initial open coding and to inform a preliminary coding scheme that guided the coding of the remaining nine transcripts. In the process, codes were repeatedly amended or merged as necessary. Codes were then sorted into initial categories based on relations and interlinks. These categories were further merged if possible (Morse & Field, 1995). Themes were integrated with the scoping review findings to provide further depths and insights. The Institute of Development Studies Research Ethics Committee approved the consultations.

3 | RESULTS

Of the 185 citations (excluding duplicates) identified, 10 quantitative (Aubra et al., 2019; Bliss et al., 2018; Ferré & Sharif, 2014; Hoddinott, Ahmed, Karachiwalla, et al., 2018; Hoddinott, Ahmed, & Roy, 2018; Kandpal et al., 2016; Kronebusch & Damon, 2019; Raza et al., 2018; Renzaho et al., 2017; Zhang et al., 2018), 3 qualitative (Gram et al., 2019; Molyneux & Thomson, 2011; Théodore et al., 2019) and 4

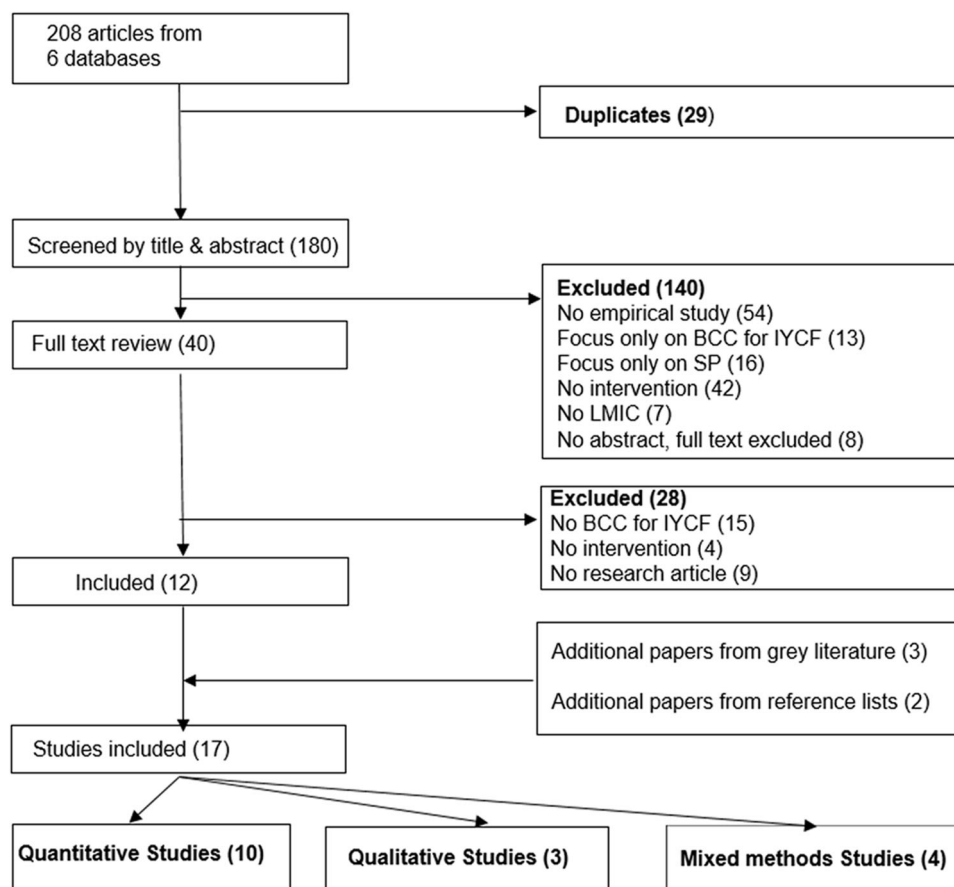


FIGURE 1 Flow chart depicting search strategy and article inclusion. *Note:* No research article means that no empirical research was presented. *Source:* Authors' own. BCC, behaviour change communication; IYCF, infant and young child feeding

mixed methods studies (Alam et al., 2020; Gilligan et al., 2020; Huda et al., 2018; Nisbett et al., 2016) met the inclusion criteria (Figure 1).

3.1 | Description of the included studies

Twelve studies were published during the last 3 years (2018–2020), suggesting a very recent development of interest in the topic. The remaining studies were published between 2011 and 2017. An overview of key characteristics of the identified studies is provided in Table 1. Seven studies occurred in Bangladesh, two in Nepal, two in Mexico and one study each in the Philippines, China, Mali, Niger and Ethiopia. One study focused on social assistance in Peru and Bolivia (and Ecuador, but as this programme did not include BCC for IYCF it was not included in the review) (Molyneux & Thomson, 2011). Two studies assessed the same social assistance programme in Bangladesh but focused on different aspects of it (Hoddinott, Ahmed, Karachiwalla, et al., 2018; Hoddinott, Ahmed, & Roy, 2018). Similarly, two studies used different methodological approaches to study the same national social assistance programme in Mexico (Kronebusch & Damon, 2019; Théodore et al., 2019).

3.2 | Characteristics of the social assistance programmes

Most programmes ($n = 8$) included conditional cash transfers (CCT) (conditional upon attendance of BCC sessions in seven programmes), four were unconditional cash transfer programmes (UCT), two programmes provided conditional cash and/or food, one unconditional cash or food and two unconditional in-kind transfers (usually livestock or other income-generating asset). In 12 (out of 17) programmes the cash or in-kind transfer was targeted exclusively at the mothers (or other adult female), with the aim of improving her access to resources. In the other five programmes no specific household member was targeted. Duration and frequency of social protection transfers varied greatly, ranging from only four transfers over a period of 3 months (in an emergency cash transfer programme in Niger (Bliss et al., 2018), to monthly payments over several years until graduation from the programme (Gilligan et al., 2020; Nisbett et al., 2016; Théodore et al., 2019). Most social protection programmes were pilot or small-scale programmes ($n = 9$), six were established government-led national-scale programmes.

TABLE 1 Selected studies with BCC for IYCF integrated with social assistance programmes

First author, year; country	Study design	Social assistance; duration	BCC for IYCF			Mode of delivery of individual counselling	Mode of delivery of individual counselling	Community-based activities	Others
			Group sessions with pre-determined topics	Individual counselling	Mode of delivery of individual counselling				
Renzaho, 2017; Nepal	Quasi-experimental	Monthly UCT plus child grant (3 times per year); total time-period not given	✓ (Monthly, 12 times per year)	NA	NA	NA	Awareness-raising event; Cooking demonstrations; Assistance to identify local food sources	Radio programme; System support for health and nutrition services	
Hoddinott, 2018b; Bangladesh	Factorial RCT	Monthly CCT and/or food transfer; over 24 months	✓ (Weekly, 52 times per year)	✓ (Home visit if group session was missed)	PNW	PNW	Awareness-raising event	NA	
Hoddinott, 2018a; Bangladesh	Factorial RCT	Monthly CCT and/or food transfer; over 24 months	✓ (Weekly, 52 times per year)	✓ (Home visit if group session was missed)	PNW	PNW	Awareness-raising event	NA	
Kandpal, 2016; Philippines	RCT	Bimonthly CCT; total time-period not given	✓ (Monthly, 12 times per year)	NA	NA	NA	NA	System support for health and nutrition services	
Zhang, 2018; China	RCT	Monthly CCT; over 12 months	✓ (Bimonthly, 24 times overall)	NA	NA	NA	Printed educational material	NA	
Kronebusch, 2019; Mexico	Quasi-experimental	Monthly CCT; total time-period not given	✓ (Monthly, 12 times per year)	NA	NA	NA	Fortified food supplements	NA	
Molyneux, 2011; Peru, Bolivia	Qualitative study	Peru: bimonthly CCT; over 48 months Bolivia: bimonthly CCT; over 33 months	✓ (Monthly, 12 times per year)	NA	NA	NA	Printed educational material (Peru)	Growth monitoring; Health checks	
Gram, 2019; Nepal	Qualitative study	Monthly UCT; up to a maximum of 7 months	✓ (Monthly, 12 times per year)	NA	NA	NA	NA	NA	
Ferre, 2014; Bangladesh	Quasi-experimental	Bimonthly CCT; total time-period not given	✓ (Monthly, 12 times per year)	NA	NA	NA	NA	Growth monitoring	

(Continues)

TABLE 1 (Continued)

First author, year; country	Study design	Social assistance; duration	BCC for IYCF			Mode of delivery of individual counselling	Mode of delivery of individual counselling	Others
			Group sessions with pre-determined topics	Individual counselling	Community-based activities			
Nisbett, 2016; Bangladesh	Quasi-experimental/qualitative study	One-time UC in-kind asset transfer	✓ (Monthly, 12 times per year)	PNW	✓ (Monthly, 12 times per year)	PNW	NA	Micronutrient supplementation; Deworming
Aubura, 2019; Mali	RCT	Up to 24 CCT; over a maximum of 32 months	✓ (Monthly, 12 times per year)	CHW	NA	NA	Community gardens; Cooking demonstrations	Micronutrient supplementation; Screening and treating acute malnutrition
Alam, 2020; Bangladesh	Quasi-experimental/qualitative study	Monthly UCT; over 6 months	✓ (Once, in the beginning of intervention)	PNW	✓ (Fortnightly over 6 months)	PNW and mobile phone	NA	Support for home-gardening
Bliss, 2018; Niger	Quasi-experimental	Three CCT; over 3 months	✓ (3 times)	PNW	NA	NA	Cooking demonstrations	NA
Huda, 2018; Bangladesh	Pre-post design/qualitative study	Monthly UCT; over 6 months	NA	NA	✓ (Every two weeks for 24 weeks)	PNW and mobile phone	NA	Pre-recorded BCC voice messages
Raza, 2018; Bangladesh	RCT	One time UC in-kind asset transfer	NA	NA	✓ (Frequency not reported)	CHW	Awareness-raising event	Promotion of the up-take of nutrition services
Gilligan, 2020; Ethiopia	Quasi-experimental/qualitative study	Monthly UCT or food transfer; over 12 months	✓ (Monthly, 12 times per year)	CHW	NA	NA	Cooking demonstrations; Nutrition clubs at school	Promotion of the up-take of nutrition services
Theodore, 2019; Mexico	Qualitative study	Bimonthly CCT; total time-period not given	✓ (Monthly, 12 times per year)	Doctor, nurse at PHC	NA	NA	NA	Fortified nutritional supplements

Abbreviations: BCC, behaviour change communication; CCT, conditional cash transfer; CHW, Community Health Worker; IYCF, infant and young child feeding; PHC, Primary Health Care Facility; PNW, nutrition worker employed by programme; RCT, randomised control trials; UC, unconditional; UCT, unconditional cash transfer.

TABLE 2 Behaviour change strategies used in BCC for IYCF in the studies found

Behaviour change strategies used	No. of studies
Group session with pre-determined topics	15
Individual nutrition counselling (face-to-face or via mobile phone)	6
Community-based cooking demonstrations	4
Community-based awareness-raising event for IYCF	4
System support for existing nutrition and health services (mainly capacity building) ^a	2
Provision of fortified foods	2
Provision of nutrients supplements (e.g., micronutrients powders)	2
Growth monitoring and health checks	2
Establishment of a community garden to cultivate nutritious foods	1
Establishment of nutrition clubs in schools	1
Identification and treatment of acute malnutrition	2
Radio programmes to raise awareness of IYCF	1
Assist mothers to identify nutritious local food sources	1
Pre-recorded BCC voice messages send to mother's mobile phone	1
Distribution of printed material with IYCF information	2
Deworming treatment	1
Support for home gardening	1
Promotion of the up-take of existing nutrition services ^a	1

Abbreviations: BCC, behaviour change communication; IYCF, infant and young child feeding.

^aSystem support includes efforts to improve service delivery capacity and quality, whereas the promotion of services increases awareness of the availability of services but does not improve service delivery.

3.3 | Description of behaviour change strategies currently used for BCC for IYCF in social protection programming

The identified BCC for IYCF included in social assistance programmes applied a total of 18 behaviour change strategies (Table 2). We understood a behaviour change strategy as an approach used by the BCC to change IYCF behaviours and practices. Most BCC used two strategies, with the maximum number of strategies used being six (Renzaho et al., 2017) and the minimal number being one (Gram et al., 2019).

The attendance of sessions with BCC for IYCF was a condition in 7 of the 17 identified studies (10 of those were conditional programmes), although it was a soft condition in most programmes (i.e., beneficiaries were not dropped from the programme when they missed sessions). In the other studies, mothers were strongly

encouraged to attend the BCC (group and/or individual) sessions. All interviewees in the expert consultation unanimously agreed that participation in BCC for IYCF should not be conditional as this can create additional stress, especially for already overburdened mothers:

It is often not easy to get to the session and if the penalty is high [i.e., loss of cash transfers] it creates a psychological burden for women. This is not considered enough in design. Especially as there is an assumption that women have free time to go to meetings. (Expert, female)

Several experts also feared that behaviour change promoted by conditional BCC for IYCF may only be short-lived. In their view, people will only adhere to improve in IYCF behaviours and practices if they made changes out of interest and free will.

A common shortcoming in the design of the BCC for IYCF (based on both the review findings and the expert consultation) was that the content was insufficiently adapted to the local context. This could substantially reduce the perceived value of the BCC and often led to limited engagement (Molyneux & Thomson, 2011; Nisbett et al., 2016; Théodore et al., 2019). Context-specific adaptation of the BCC content was identified as especially important for national-scale programmes in which the BCC for IYCF was implemented across a wide diversity of social and cultural contexts (Kandpal et al., 2016; Nisbett et al., 2016; Théodore et al., 2019). For example, one study from Mexico highlighted that many communities in this specific context were based on strict patriarchal structures in which mothers receive traditional knowledge of child feeding from their mothers-in-law. Mothers often felt that the biomedical knowledge of IYCF that they had received during the BCC sessions differed from the traditional knowledge. To prevent intra-household tensions mothers preferred to follow the traditional knowledge (Molyneux & Thomson, 2011). While context-specific BCC for IYCF was important, many experts emphasised that it could be both time-consuming and costly to develop it, especially for large programmes:

BCC is complicated and there are often many barriers in the specific context that need to be considered. You need to do it well, not just a 1-hour session on nutrition. But whatever you do, it always required more money and capacity than is usually available. (Expert, female)

The evidence from the review suggests that the content for the BCC was frequently designed with the assumption that mothers lack knowledge of IYCF. However, baseline research (qualitative and quantitative) in the retrieved studies (Adubra et al., 2019; Gilligan et al., 2020; Nisbett et al., 2016; Théodore et al., 2019), and several ($n = 4$) of the interviewed experts, highlighted that deficient knowledge was usually not the reason for suboptimal IYCF practices. One of the experts went further and suggested that BCC for IYCF would only be a valuable addition to social assistance if there was a

clear indication (e.g., based on formative research) that the target population lacked knowledge:

BCC for IYCF can be useful but it depends on where you start. It is only really helpful if knowledge is a restricting factor in your context. In our programme in Ghana, the baseline showed that the knowledge for IYCF was already quite good, so this situation wouldn't benefit much from improving IYCF knowledge. (Expert, male)

3.3.1 | Community-based group sessions were the most commonly used BCC strategy

All but two (Huda et al., 2018; Raza et al., 2018) BCC interventions included educational group sessions with pre-determined topics as a strategy to change IYCF. In some interventions the group sessions only covered IYCF (and here usually breastfeeding and complementary feeding). In other BCC interventions a wide variety of topics including hygiene behaviours, intra-household conflict management (Kandpal et al., 2016), family planning (Kronebusch & Damon, 2019; Molyneux & Thomson, 2011; Théodore et al., 2019), use of oral rehydration salts (ORS) (Bliss et al., 2018) and gender development (Gilligan et al., 2020; Kandpal et al., 2016) were additionally covered.

Group sessions differed with regard to their frequency, with sessions happening monthly ($n = 10$), bi-monthly ($n = 1$), weekly ($n = 2$), three times ($n = 1$) and only once at the start of the programme ($n = 1$). Similarly, the total number of sessions varied greatly from three or less sessions in total ($n = 2$) to more than 50 sessions in total ($n = 2$).

Most group sessions ($n = 13$) took place at a central place within the community (either outside under a tree or in or next to the community health center). In three programmes beneficiaries had to travel outside of their community to attend the sessions (Molyneux & Thomson, 2011; Zhang et al., 2018). Evidence from several of the qualitative studies and the expert consultations suggests that the location of the group-based BCC sessions can have a bearing on whether beneficiaries attend regularly. For instance, in their multi-country study Molyneux and Thomson (2011) found that many mothers—and especially those who lived in remote and isolated communities (e.g., in indigenous tribal areas in Bolivia)—welcomed the opportunity to travel outside of their communities to attend the sessions. The women perceived participation in the sessions as a welcome increase in their freedom and mobility, even if it added to their list of duties and obligations. However, for women in other studies (Bliss et al., 2018; Gram et al., 2019; Huda et al., 2018; Nisbett et al., 2016) attending group-based sessions, even if those were organised within their community, could pose a challenge. Identified reasons included limited social mobility beyond their home; time pressure due to household chores, care commitments and paid work; and poor road infrastructure that made travel difficult.

Most group sessions were conducted by nutrition workers employed by the social assistance programme (PNW) ($n = 9$), four programmes worked with existing community health workers (CHW) and two programmes worked with doctors or nurses from the nearest large health facility (e.g., hospital). According to the expert interviews ($n = 5$), social assistance programmes increasingly draw on existing community-based services and platforms (e.g., CHW employed by the government). This approach enables rapid scale-up of the programme, as parts of the supporting structure are already in place at a national level. Moreover, the government could more easily take over the programme in the future if desired. However, working with an existing workforce also created additional tasks for already overstretched CHW. This could negatively affect the quality of the BCC, for instance:

More and more we are working with community frontline workers [...]. But this is something we are still unsure about, particularly at scale. When working with government workers, we find that our typical, desired nutrition worker to beneficiary ratio is impossible. (Expert, male)

Group sessions varied with regard to the quality and techniques used for the delivery of the BC messages. Many group sessions were delivered using a top-down lecture-style format with limited or no interactions with the beneficiaries (Kronebusch & Damon, 2019; Molyneux & Thomson, 2011; Renzaho et al., 2017; Théodore et al., 2019; Zhang et al., 2018). In several of the qualitative studies mothers described this delivery style as 'boring', 'not useful' and 'too difficult to follow'.

Similarly, several of the interviewed experts highlighted how important and also difficult it was to implement BCC for IYCF in an engaging and interactive manner. One expert explained that a personalised and highly interactive approach may be most effective in changing behaviours:

What has worked for our BCC programmes is to bring in the mentor lens, with someone who knows the beneficiaries and takes them along step-by-step. (Expert, male)

The group sessions in two programmes (Hoddinott, Ahmed, Karachiwalla, et al., 2018; Hoddinott, Ahmed, & Roy, 2018b) were based in part on the Alive & Thrive initiative (Alive & Thrive, 2021) and used a variety of intensive, interactive techniques including role play, demonstrations, Q&A sessions. In another programme a participatory learning and action (PLA) approach was employed (Gram et al., 2019). Thereby, facilitators guided open discussion on a wide variety of nutrition-related topics using a pictorial manual. However, implementation modalities of the PLA meetings gradually became more structured (in an interactive process and with consent of all group members). This inadvertently created multiple, interlocking forms of social pressure on, and control over, beneficiaries and how and for what they spent the cash transfer (Gram et al., 2019).

3.4 | Individual nutrition counselling was the second most commonly used BCC strategy

Individual nutrition counselling of mothers was included in six BCC interventions (Alam et al., 2020; Hoddinott, Ahmed, Karachiwalla, et al., 2018; Hoddinott, Ahmed, & Roy, 2018; Huda et al., 2018; Nisbett et al., 2016; Raza et al., 2018). In five of those interventions counselling took place at beneficiaries' homes and in one via calls to the mobile phones that beneficiaries had received from the programme (Huda et al., 2018). Counselling was done by PNW ($n = 5$) or CHW ($n = 1$) (Raza et al., 2018). Individual counselling was usually focussed on conveying simple, standardised messages on optimal IYCF (Alam et al., 2020; Huda et al., 2018; Nisbett et al., 2016; Raza et al., 2018). A more individualised, tailored counselling approach was employed in only two programmes (Hoddinott, Ahmed, Karachiwalla, et al., 2018; Hoddinott, Ahmed, & Roy, 2018) and here only if beneficiaries did not attend a group session and PNW checked up on them individually.

The expert interviews can help to explain why nutrition counselling in social assistance is often limited to the one-way provision of generic IYCF information. Several experts ($n = 3$) reflected on how, in their organisations, BCC for IYCF was often simply added to the existing tasks of the case managers of social assistance programmes. While this appeared to be a cost-effective approach, many managers felt ill prepared and too overwhelmed to provide tailored nutrition counselling. Consequently, the focus of the counselling had to be narrowed down to the communication of a few simplistic and generic key messages (which is likely to reduce the effectiveness of the counselling on IYCF practices).

The authors of two studies (Alam et al., 2020; Huda et al., 2018) also highlighted that intensive individual counselling combined with other behaviour change strategies (e.g., group sessions) is likely to be most effective in improving IYCF practices, but is also most expensive and difficult to implement, especially at scale. This sentiment was shared by four of the interviewed experts. The experts also felt that including comprehensive nutrition counselling could potentially change the focus of the entire social assistance programme (which was not always perceived as desirable):

The more you add [to a social assistance programme], the more difficult it is to deliver [...] not just adding a few generic sessions on nutrition. But adding more can change the nature of the programme completely. (Expert, male)

3.5 | Effects of the BCC strategies on IYCF practices and child nutrition outcomes

The second aim of this review was to assess which BCC strategies as part of social assistance were most effective in improving IYCF practices and nutrition outcomes.

Of the 17 studies identified, only 12 used a counterfactual design (meaning an experimental or quasi-experimental design with a control group) and reported on the effectiveness of the BCC for IYCF integrated with a social assistance on IYCF outcomes. In only five of these studies the additional effectiveness of adding BCC for IYCF to an existing programme was assessed (by using a control group that received social protection transfers only) (Adubra et al., 2019; Gram et al., 2019; Huda et al., 2018; Kronebusch & Damon, 2019; Nisbett et al., 2016). In six of the remaining studies social assistance plus BCC for IYCF was compared to a control group that did not receive an intervention; consequently, it was impossible to determine whether potential impacts on IYCF practices can be attributed to the BCC, the social assistance or a combination of the two. In another study a cash transfer was added to an existing nutrition programme (Bliss et al., 2018). Given the small sample size we decided to include all 12 studies in the effectiveness assessment.

Of the 12 studies, six studies were randomised control trials (RCT) (Adubra et al., 2019; Hoddinott, Ahmed, Karachiwalla, et al., 2018; Hoddinott, Ahmed, & Roy, 2018; Kandpal et al., 2016; Raza et al., 2018; Zhang et al., 2018) and six used a quasi-experimental design [and here difference-in-difference (DiD), propensity score matching (PSM) or both] (Alam et al., 2020; Bliss et al., 2018; Gilligan et al., 2020; Kronebusch & Damon, 2019; Nisbett et al., 2016; Renzaho et al., 2017). From those studies, seven studies reported on changes in IYCF knowledge, seven studies reported data on IYCF practices (and here three on breastfeeding practices, four on dietary diversity, one meal frequency and four on nutrients intake) and eight studies reported on the nutritional status of children (six of those studies reported height-for-age, weight-for-age, and weight-for-height; one reported only height-for-age and one only weight-for-age). Most IYCF knowledge, practice and nutritional status outcomes were reported for only one to two studies and there was thus insufficient data to identify any specific patterns between the quantity of BCC strategies used and positive IYCF outcomes (Table 3). Hoddinott, Ahmed, Karachiwalla, et al. (2018) Hoddinott, Ahmed, and Roy (2018) specifically assessed the effectiveness of a combination of frequent, interactive group sessions, individual home-based counselling and community awareness-raising on mothers' IYCF knowledge. They found that mothers increase in IYCF knowledge was particularly significant during the first year of the BCC intervention but that the growth in knowledge declined considerably in the second year of the programme.

Table 4 presents the effectiveness ratios for BCC strategies used in studies that reported on changes in IYCF practices. To guarantee that the ratio was meaningful and to satisfy our criterion that there was at least some 'evidence' of effectiveness, we required that a BCC strategy must have been used in two or more studies. Consequently, we excluded four unique BCC strategies that appeared only once in studies that reported on changes in IYCF practices [i.e., distribution of printed material (Zhang et al., 2018); provision of fortified foods (Kronebusch & Damon, 2019); deworming (Nisbett et al., 2016) and nutrition clubs at schools (Gilligan et al., 2020)]. One BCC strategy (promotion of the uptake of existing health services) achieved a 100%

TABLE 3 Studies included in effectiveness assessment with number of BCC strategies used

Author, year; (ref)	No. of BCC strategies used	IYCF know ledge	IYCF practices				Nutritional status
			Breastfeeding	Dietary diversity	Meal frequency	Nutrients intake	
Renzaho, 2017	6	NA	NA	NA	NA	NA	1
Hoddinott, 2018	3	1	NA	NA	NA	NA	NA
Hoddinott, 2018;	4	1	NA	NA	NA	1	NA
Kandpal, 2016	2	NA	NA	NA	NA	NA	1
Zhang, 2018	2	1	NA	1	NA	NA	NA
Kronebusch, 2019	2	NA	NA	NA	NA	1	NA
Ferre, 2014	2	1	NA	NA	NA	NA	1
Nisbett, 2016	3	0	0	0	NA	1	0
Adubra, 2019	5	1	NA	0	0	0	0
Bliss, 2018	2	NA	NA	NA	NA	NA	1
Raza, 2018	1	NA	1	NA	NA	NA	1
Gilligan, 2020	4	1	1	1	NA	NA	0

Abbreviations: 0, no statistically significant positive outcome; 1, statistically significant positive outcome ($p < 0.05$); BCC, behaviour change communication; IYCF, infant and young child feeding; NA, outcome not reported.

TABLE 4 Effectiveness ratios for BCC strategies on IYCF practices

Behaviour change strategies used	IYCF practices				Ratio ^a
	Breastfeeding	Dietary diversity	Meal frequency	Nutrients intake	
Group session with pre-determined topics	1/2	2/4	0/1	3/3	6/10 (0.6)
Individual home-based counselling	1/2	0/1		2/2	3/5 (0.6)
Provision of nutrients supplements		0/2	0/1	2/2	2/5 (0.4)
Promotion of up-take of existing services	2/2				2/2 (1.00)

Abbreviations: BCC, behaviour change communication; IYCF, infant and young child feeding.

^aRatio of positive outcomes using this BCC strategies/all studies that used this strategy and reported outcome.

effectiveness ratio (and here effectiveness in improving breastfeeding practices). Two BCC strategies (group sessions with pre-determined topics and individual home-based counselling) had 60% effectiveness ratios with regard to changing IYCF practices. The provision of nutrient supplements had a 100% effectiveness ratio with regard to improving nutrients intake.

Table 5 presents the effectiveness ratios for BCC strategies that were used in studies that reported changes in the nutritional status of children. Given the small sample size of studies that reported nutritional status outcomes ($n = 8$) and the criterion that a BCC strategy must have been used in two or more studies to show meaningful effectiveness, we decided to summarise all studies that reported a positive change in at least one anthropometry measure. Providing system support for existing health and nutrition services (e.g., by providing training for frontline workers or equipment) achieved a 100% effectiveness ratio with regard to

TABLE 5 Effectiveness ratios for BCC for IYCF strategies on anthropometry

Behaviour change strategies used	Anthropometry ratio ^a
Group session with pre-determined topics	4/7 (0.6)
Individual home-based nutrition counselling	1/2 (0.5)
Practical food preparation demonstration	2/3 (0.7)
Support for existing services	2/2 (1.00)
Provision of nutrients supplements	0/2 (0)
Promotion of up-take of existing services	1/2 (0.5)

Abbreviations: BCC, behaviour change communication; IYCF, infant and young child feeding.

^aRatio of positive outcomes using this BCC strategies/all studies that used this strategy and reported nutritional status outcome/s (including weight-for-height; weight-for-age and/or height-for-age).

significant changes in the nutritional status of children, however, it should be noted that this strategy was only used in two programmes. Practical cooking demonstrations had a 70% effectiveness ratio and group sessions achieved a 60% effectiveness ratio. Individual nutrition counselling and the promotion of the uptake of existing health & nutrition services achieved effectiveness ratios of 50% each, whereas the provision of micronutrients had no effect on children's nutritional status.

4 | DISCUSSION

Although there is already a good understanding of what works when it comes to BCC for IYCF in LMIC (Graziuse et al., 2018; Lamstein et al., 2014; Webb Girard et al., 2020), there is limited evidence on how best and most effectively to integrate BCC for IYCF with social assistance programming to improve IYCF practices and child nutrition outcomes (Little et al., 2021)

Our results suggest that a variety of BCC strategies were used in combination with social assistance—with group sessions with pre-determined topics and individual nutrition counselling being the most common strategies. Limited context-specific adaptation, passive or top-down one-way delivery and a failure to design the BCC based on existing IYCF knowledge in the target communities were common shortcomings in the design and implementation of BCC for IYCF in social assistance programmes. All these shortcomings have previously been reported in the BCC for IYCF literature and have been shown to reduce the effectiveness of BCC for IYCF considerably (Kim et al., 2018; Locks et al., 2015; Rabhani et al., 2020; Raymond et al., 2018). For example, cluster-randomised programme evaluations in Bangladesh and Vietnam compared generic nutrition counselling in which nutrition workers provided standard IYCF information (similar to the counselling provided in the reviewed studies) with an intensive and tailored counselling approach (Menon et al., 2016). In both contexts, the intensive counselling had significant greater impact on IYCF practices than the standard approach (Hoddinott, Ahmed, & Roy, 2018). Of course, it needs to be noted that both evaluations were based on the Alive & Thrive package where the entire focus was on IYCF and BCC for IYCF was a major component. Furthermore, these programs also had other components—social/community mobilization and mass media—and were designed based on situation analyses and formative research, and purposely designed to be implemented at scale. The link between the quality and intensity of nutrition counselling and its impact was corroborated by others (Kim et al., 2018, 2020). However, while siloed BCC for IYCF interventions may have the capacity and resources to design context-specific and well-tailored BCC for IYCF (Bonvecchio Arenas et al., 2019; Gonzalez et al., 2019; Webb Girard et al., 2020), our findings suggest that this may be economically and logistically infeasible within a social assistance programme. Previous literature (including literature from other sectors) has also identified that a competition for scarce overall programme resource and tensions between multiple partners (at all levels) with their specific expertise and goals (e.g., social protection

and BCC for IYCF expertise) are common challenges for integrated multi-sectorial programmes (such as programmes that combine social assistance with BCC for IYCF) (Bamberger, 2000; Harris & Buchsbaum, 2014; MacLean et al., 2010; Nordhagen et al., 2019). To facilitate an effective and sustainable integration of different programme components a collaborative and coordinated programme design and an integrated managerial implementation approach has been recommended (Matturi & Pain, 2016; Nordhagen et al., 2019).

Our study further found that receiving social assistance was conditional upon attendance in the BCC for IYCF in most studies. This contrasted with recommendations from the interviewed experts who all stressed that conditional participation in BCC could be counterproductive as it might create additional maternal stress (that could negatively affect child-caring practices) and often only resulted in short-lived changes in IYCF practices. Potential ethical, social and human rights concerns related to conditionality in social assistance programming have previously been discussed in the literature (Baird et al., 2014; Dornan & Porter, 2013; Standing, 2014). Molyneux (2006) further highlighted those conditions were often imposed on mothers only—thus re-enforcing traditional, gendered divisions of labour and aggravating existing gender inequities further. Further research is needed to identify how best to motivate mothers to regularly attend BCC sessions without making it a condition.

Most BCC for IYCF was delivered by nutrition workers employed by the social assistance programme; however, experts highlighted that there was growing interest in linking with the existing health infrastructure and delivering BCC for IYCF through CHWs. The interviewed experts and the literature (Goudet et al., 2018; López-Ejeda et al., 2019) emphasised that working with CHWs could be a cost-effective and easily scalable approach to deliver BCC for IYCF. However, other studies also point out that CHWs may require more capacity, resources and support to enable and motivate them to address the ever-growing health and nutrition challenges in their communities (including the dual burden of malnutrition and NCDs, COVID and other emerging infectious diseases) (Delisle et al., 2017; Mhlongo et al., 2020; Schneider et al., 2016). This finding suggests that layering of different services rather than integration of IYCF BCC or other health-related intervention into social assistance programming may be more effective and should be considered depending on context.

With regard to the effectiveness of specific BCC strategies we found some tentative evidence (as it is only based on a small number of studies) that the promotion of the uptake of existing health and nutrition services had a positive impact on breastfeeding practices and that both group sessions and individual counselling positively influenced various IYCF practices. With regard to improving children's nutritional status, practical food demonstrations, group sessions and providing support to existing services were most effective, whereas nutrient supplementations were not. This finding corroborates existing literature on the effectiveness of different BCC strategies on IYCF practices (Fabrizio et al., 2014; Kennedy et al., 2018).

This is the first systematic scoping review to integrate qualitative and quantitative evidence with the findings of an expert consultation

to gain insights in BCC for IYCF combined with social assistance. Using multiple evidence sources allowed a better understanding of the current practices and challenges in designing and implementation programmes that aim to integrated BCC for IYCF with social assistance. Given the small sample size and the variety in the characteristics of the BCC for IYCF it is important to interpret these findings carefully. Our analysis was also limited by the fact that our knowledge about the BCC for IYCF interventions focused entirely on the descriptions provided in the identified studies. The level of details provided in the descriptions varied across studies, which could have influenced our analysis. Based on the available data it is impossible to draw definite conclusions with regard to the effectiveness of specific BCC strategies as part of social assistance programmes. The BCC was also integrated within a wide variety of social assistance programmes including emergency programmes and long-term graduation programmes. All these features limit the comparability of the different BCC for IYCF interventions and makes it unclear which BCC strategy/ies contributed to the observed effectiveness.

5 | CONCLUSIONS

Combining BCC for IYCF with social assistance programmes has been proposed as a promising approach to address one of the most common barriers to a change in IYCF practices, namely a lack of financial resources and time. Our findings suggest an increasing interest in the integration of BCC for IYCF and social assistance; however, they also highlight an urgent need for more robust research to learn how best and most cost-effectively integrate existing evidence-based BCC for IYCF strategies with social assistance programming—in both the design and implementation phases. Funders, designers, and implementers of social assistance programmes also face a difficult trade-off. While including BCC for IYCF has the potential to make a social assistance programme more comprehensive and beneficial for the well-being of young children, it may also increase the burden on and costs of the programme (both in the design and implementation phase), create additional demands on and stress for beneficiaries (especially in case of conditional attendance in BCC) and may also deviate the original focus of the programme.

AUTHOR CONTRIBUTIONS

Inka Barnett, Keetie Roelen and Nick Nisbett designed the study. Inka Barnett and Jessica Meeker conducted the literature search and selected the studies for inclusion. Inka Barnett and Jessica Meeker contributed equally to the data extraction and evidence synthesis. All authors conducted expert interviews. The analysis of the interviews was carried out by Inka Barnett and Jessica Meeker. All authors contributed to the interpretation of the data and the writing of the manuscript and approved the final version.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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