Infant and young child feeding learning sessions during savings groups are feasible and acceptable for HIV-positive and HIV-negative women in Malawi

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Abstract

Based on formative research, HIV-positive women in Lilongwe District, Malawi receive little infant and young child feeding (IYCF) counselling postpartum and want more support for IYCF from their husbands. To address these gaps, we implemented a behaviour change communication intervention promoting IYCF in village savings and loan associations (VSLAs) that included HIV-positive and HIV-negative women. The intervention consisted of 15 IYCF learning sessions facilitated by VSLA volunteers during regular VSLA meetings and included four sessions to which husbands were invited. We assessed the feasibility and acceptability of the intervention through learning session participation logs, structured observations of learning sessions, and in-depth interviews with HIV-positive and HIV-negative VSLA members, husbands of members, and VSLA volunteers. Nine VSLA volunteers conducted learning sessions with approximately 300–400 women, about one quarter of whom were lactating, and 25–35 men. VSLA volunteers consistently communicated technical information correctly, followed the learning session steps, and used visual aids. Sessions averaged 46 min, with <20% of observed sessions completed within the recommended time (20–25 min). Key themes from interviews were the following: (a) learning sessions were useful; (b) including HIV-positive and HIV-negative women in the sessions was acceptable; (c) information learned during sessions encouraged families to change IYCF practices; (d) IYCF messages were shared with others in the community; and (e) male participation was low because men considered VSLAs and IYCF to be women's activities. In conclusion, integrating IYCF learning sessions into VSLAs was feasible and acceptable for mixed groups of HIV-positive and HIV-negative women. Future research should test other strategies for involving men in IYCF.

KEYWORDS

behaviour change communication, breastfeeding, complementary feeding, HIV, IYCF, microfinance

1 | INTRODUCTION

Optimal infant and young child feeding (IYCF) practices, including exclusive breastfeeding, minimum dietary diversity, and minimum meal

frequency, contribute to child survival and healthy growth and development (Black et al., 2013). Exclusive breastfeeding means an infant receives only breast milk from birth to 6 months. Dietary diversity is the consumption of ≥ 4 food groups in 24 hr, and minimum meal

frequency is the consumption of solid or semisolid food ≥ 3 times in 24 hr by breastfed children aged 6–23 months (WHO et al., 2008). Sixty-one percent of children in Malawi are exclusively breastfed and, in Lilongwe District, 40% receive minimum dietary diversity and 25% receive minimum meal frequency. (National Statistical Office (Malawi) & ICF, 2017). Population-based estimates of IYCF practices among HIV-positive women in Malawi are not available. However, a study in Lilongwe District with HIV-positive women who had children 0–23 months showed that 75% of their children were exclusively breastfed, 41% had minimum dietary diversity, and 40% had minimum meal frequency (Flax et al., 2016). Given that the goal is for all infants and young children to be fed according to the optimal guidelines, these figures show that there are major gaps in IYCF practices in the general population and among HIV-positive women.

In this study, we focused on HIV-positive women because guidelines for breastfeeding in the context of HIV changed several times during the last 15 years and little is known about factors influencing IYCF practices of these women (WHO et al., 2003; WHO et al., 2007; WHO et al., 2010). We conducted formative research to identify challenges with IYCF practices among HIV-positive women, who they want to support their feeding behaviours, and how their retention in care or loss to follow-up could influence their IYCF practices. We found that HIV-positive women in Malawi trust the IYCF advice they receive from health workers at the clinic, but there is little communication on IYCF, especially on complementary feeding practices, during postnatal prevention of mother-to-child transmission (PMTCT) visits (Flax et al., 2016). HIV-positive women in Lilongwe District would like to have more support for IYCF from their husbands or sisters (Chintalapudi et al., 2018; Flax et al., 2016).

Retention in PMTCT is critical for limiting vertical transmission through breastmilk and can potentially contribute to IYCF promotion and better IYCF practices. Although retention is improving in Malawi, recent estimates indicate that one-quarter to one third of women enrolled in PMTCT are lost to follow-up (Government of Malawi, 2018; Haas et al., 2017; Hoffman et al., 2017; Martinez Perez et al., 2014; Ng'ambi et al., 2016; Tentani et al., 2014). HIV-positive women who stop participating in PMTCT tend to continue breastfeeding although they are no longer taking antiretroviral therapy, thereby putting their children at risk of HIV transmission (Flax, Hamela, et al., 2017).

To address these gaps, we designed a community-based intervention to improve IYCF communication to HIV-positive women. The intervention was intended to reach HIV-positive women with IYCF messages in their communities, provide messaging to both HIV-positive and HIV-negative women, generate social support for optimal IYCF practices in a group setting, and include the women's husbands or male partners in IYCF learning sessions. The intervention built on previous projects that integrated IYCF learning sessions into meetings of women's microfinance groups (Flax et al., 2014; McKnelly & Dunford, 1998, 1999). The aim of the study was to test the feasibility and acceptability of IYCF learning sessions incorporated into regular Village Savings and Loan Association (VSLA) meetings attended by mixed groups of HIV-positive and HIV-negative women.

Key messages

- Integrating infant and young child feeding learning sessions into regular VSLA meetings is a feasible and acceptable strategy for behaviour change communication in mixed groups of HIV-positive and HIV-negative women.
- Participants found the sessions useful, reported changing their IYCF behaviours, and shared the information with others in their communities.
- Male participation in designated sessions was low because they considered VSLAs and IYCF to be women's activities. Strategies to engage men in separate IYCF activities alongside a VSLA intervention should be tested.

2 | METHODS

2.1 | Setting

This study was conducted in the southern part of Lilongwe District, Malawi. The area is rural and inhabited mainly by subsistence farmers from the Chewa ethnic group. The study was a collaboration between the University of North Carolina, UNC Project-Malawi, and CARE, an international non-governmental organisation. CARE supported the formation of VSLAs in the district and implemented a pilot project under LIFT II (Livelihoods and Food Security Technical Assistance), funded by the United States Agency for International Development, to integrate HIV-positive women into existing VSLA groups as a way of increasing their access to financial services and improving the livelihoods of at-risk community members.

VSLAs provide savings and loan services to people with very modest incomes who do not have access to established banking and lending systems. VSLA members often use the loans to pay household expenses and school fees, start a small business, or cover health care and funeral costs. The membership is more than 70% female. There are some male members, and men also participate indirectly by giving their wives money to deposit for saving. VSLAs are led by volunteers who live in or near the communities they serve. They are trained in the VSLA methodology and receive a bicycle to facilitate their movement between villages.

VSLAs meet regularly, usually at weekly intervals, so that members can either contribute money to the groups' fund or pay back their loans with interest. Interest is typically 15–30% and is agreed upon by VSLA members and written into the group's constitution. To facilitate their participation, HIV-positive members integrated into the groups had a lower interest rate (0–5%), and they were also given interest-free access to the group's social support fund when they needed money for transportation to the health facility. VSLAs were consulted on their readiness to support the integration of HIV-positive women into the groups, and the HIV-positive women were already known to

and trusted by group members. Consequently, the VSLAs were willing to adjust their constitutions to accommodate their new HIV-positive members with low or interest-free loans and jealousy related to differential interest rates was not an issue.

2.2 | Intervention

The intervention consisted of seven breastfeeding and eight complementary feeding learning sessions facilitated by VSLA volunteer leaders during their regular weekly VSLA meetings. The learning sessions were designed as 20–25-min interactive sessions that utilized adult learning techniques and built on and reviewed messages from earlier sessions. The intent was for them to be short additions to existing meetings. Learning sessions were adapted from modules originally developed by Freedom from Hunger and used as part of their Credit with Education programme (MkNelly & Dunford, 1998, 1999). We modified them to include messages for HIV-positive women, make them suitable for the Malawi context (e.g., types of foods locally available), and invite husbands and other community members to be present at some sessions. In addition, we replaced the generic visual aids that accompanied the modules with selected IYCF counselling cards from Malawi's national set. Table 1 shows topics covered and messages included in the learning sessions. We gave each VSLA volunteer a copy of the learning session modules in Chichewa and the associated counselling cards, printed in colour and laminated.

We conducted separate 3-day training workshops on the breastfeeding and complementary feeding modules. The workshops were conducted in Chichewa and attended by nine VSLA volunteers, four government health surveillance assistants, and one VSLA supervisor. The training included a review of the learning sessions, and each VSLA volunteer had a chance to practice facilitating them. The VSLA volunteers decided during the first training that they would conduct the learning sessions weekly. The intervention was implemented from June to December 2015.

2.3 | Data collection

We collected several types of data: training pretest/post-test results; logs of learning session participation; structured observations of VSLAs conducting learning sessions; and in-depth interviews with HIV-positive and HIV-negative VSLA members, husbands who participated in learning sessions, VLSA volunteers, and their supervisor. Data collection tools are found in the Supporting Information. Our goal was to use the different data sources to provide a comprehensive picture of the feasibility and acceptability of the intervention and fidelity of intervention implementation.

VSLA volunteers and their supervisor completed training pretests/post-tests at both training workshops. VSLA volunteers kept monthly logs of learning sessions to document the number of members in the group, the number of women and men present, and the number of pregnant or breastfeeding women present. This information was collected on paper forms and then compiled in Excel files for analysis.

One of the authors (JC) conducted the structured observations. The observation form was a checklist of actions that VSLA volunteers were trained to do when leading learning sessions, including those related to technical content, session management and organisation, facilitation and teaching skills, and attitudes displayed. Data were transferred from the paper observation forms to an Excel file for analysis. We planned to conduct two observations of each VSLA volunteer but completed only one observation with two of them because some sessions were delayed for community events. Therefore, we conducted a total of 16 observations.

Four experienced interviewers were trained to conduct in-depth interviews with nine VLSA volunteers and their supervisor; nine HIV-positive female VLSA members; nine HIV-negative female VLSA members; and seven husbands of VLSA members. The female VLSA members were selected because they had a child 0–23 months of age when the learning sessions started. Those who were HIV-positive were identified with the assistance of the VSLA volunteers. Separate question guides were used with each type of participant and covered topics such as their participation in the VSLA, their experiences with the IYCF learning sessions, new IYCF information learned, their feelings about integrated IYCF messaging for HIV-positive and HIV-negative mothers, changes in IYCF practices (for female VSLA members only), if/how new information was shared with others in the community, involvement of husbands in the IYCF learning sessions, and suggestions for improving the sessions. The guides were developed in English and translated into Chichewa. Interviews were conducted with individual participants in a private location near the VSLA meetings (e.g., school or church). Interviews were digitally recorded, transcribed verbatim in Chichewa, and then translated into English by the interviewers.

All participants provided written or thumb-printed informed consent. We obtained ethical approval for the study from the institutional review board at the University of North Carolina and from the National Health Sciences Research Committee in Malawi.

2.4 | Data analysis

We analysed pre/post data by calculating the percentage of participants who correctly answered 80% of the questions as well as the mean number correct. We used learning session logs to calculate descriptive statistics on the number of sessions conducted and how many of each type of person was present. We also analysed observation data descriptively by calculating the percentage of observations during which different types of actions took place.

We analysed in-depth interviews using thematic content analysis (Gibbs, 2007). Two research assistants at the University of North Carolina developed codebooks for each type of participant using deductive codes based on the questions in each interview guide. Codebooks are found in the Supporting Information. The transcripts were coded in Dedoose (version 8.0.42). One of the research assistants used the coded data to generate data matrices with summaries or quotations of each theme listed by participant (Miles & Huberman, 1994).

TABLE 1 Infant and young child feeding learning session topics and messages

Topics	Messages
Breastfeeding	
<ol style="list-style-type: none"> 1. The relationship between breastfeeding and child health 2. Comparing local breastfeeding beliefs and practices to recommended practices 3. Breastfeed as soon as the child is born 4. Give only breastmilk until the child is 6 months 5. Helping mothers give only breastmilk until the child is 6 months 6. How to breastfeed better 7. Start giving the child food at 6 months 	<ul style="list-style-type: none"> • Start breastfeeding immediately—within 1 hr of birth—to make sure the baby gets the first “yellow milk,” or colostrum. • A baby does not need any other foods, drinks, water, or even traditional foods, before or after colostrum. • Give only breastmilk—no other food or drinks, not even water—until the baby is 6 months. • Breastfeed the baby often, during the day and night, whenever the baby wants. • Allow the baby to empty one breast before offering the other breast. • When the child is 6 months old, start to give thick, soft mushy foods. • Continue breastfeeding until the child is at least 2 years. • Mothers with HIV should follow the same breastfeeding recommendations as other mothers as long as they take antiretroviral drugs every day while breastfeeding. • Make sure the baby's head and body are in a straight line while breastfeeding. • The baby is well attached if his/her mouth is wide open, lower lip is curled back, and the baby's chin is touching the mother's breast. • Put a little breastmilk on sore nipples at the end of the feed. • Place cold cloths on swollen breasts between feedings and remove a little milk from the breasts by hand.
Complementary feeding	
<ol style="list-style-type: none"> 1. Breastfeeding and feeding to help children grow well 2. Learning how to eat 3. Actively participate in feeding children to help them learn to eat 4. Frequency and quantity of food from 6 to 11 months 5. Preparing nutritious foods 6. Feeding at 12 months and beyond 7. Food hygiene and feeding during illness (protecting your food/protecting your child) 8. Helping your community raise healthy children 	<ul style="list-style-type: none"> • Children 6–23 months are more likely than other children to get sick and to be malnourished. • Continuing to breastfeed is a good way to help protect children 6–23 months from illness and malnutrition. • It is safe for HIV-positive mothers to continue breastfeeding their children from 6 to 23 months, if the mother takes antiretroviral drugs daily. • Other foods given to children 6–23 months should add to—not replace—breastfeeding. • Children 6–11 months are learning to eat—just as they are learning to crawl, stand, and walk. • They should be given soft, thick foods that they can keep in their mouths and chew without problems. • Giving them foods that they can easily eat helps to make sure they get enough to eat at each meal. • Take time to talk to and encourage the child during feeding. • Feed slowly and patiently. • Put the food in a separate dish so you can see how much the child eats. • Actively participate in feeding young children but do not force children to eat—instead, gently bring the child's attention back to eating. • Teach these practices to other members of your family who feed the child. • Feed 6-month olds mashed, pureed, or soft (but not watery) foods 2 times each day. • Feed 7- to 9-month olds mashed, pureed, or soft (but not watery) foods 3 times each day. • Feed 9- to 11- month olds 4 times each day. • Feed 6-month olds a total of 3 or more tablespoons of food at each meal. • Feed 7- to 9-month olds half a cup of food at each meal. • Feed 9- to 11-month olds three-quarters to 1 cup of food at each meal. • Adding a little oil makes food more nutritious—The child gets more energy from the food. • Offer a variety of foods as the child gets older—Doing this adds taste as well as a variety of nutrients to the child's diet. • As foods are added, mix them with the maize porridge/oil mixture or cut them in small pieces to give to the child. • Add new foods one at a time to ensure they do not make the child sick. Give a new food for 4 days before adding another new food. • Mix the new food with foods that already were given and did not cause problems for the child. <p>For children 12–23 months:</p> <ul style="list-style-type: none"> • Children should be eating small chunks and pieces of the same food that other family members eat. • Feed the food first and then breastfeed. • Continue to participate in feeding, monitoring the kind and amount of food the child eats. • Feed the child 4–5 times a day (including meals and snacks). • Offer the child one cup or more of food at each meal. • All mothers should continue to breastfeed their children who are 12–23 months. • HIV-positive mothers who breastfeed should continue to take antiretroviral drugs every day. • Add oil to food—It provides energy

(Continues)

TABLE 1 (Continued)

Topics	Messages
	<ul style="list-style-type: none"> • Feed vitamin A-rich foods several times a week, such as mango, papaya, pumpkin, orange sweet potato, carrots, and dark green leafy vegetables. Vitamin A protects children from illnesses. • Feed foods that are rich in iron, such as fish, meat, beans, and dark green leafy vegetables, each day. Iron helps fight illness and helps children grow well. • Feed fruits and vegetables, such as oranges, lemons, tomatoes, okra, avocado, papaya, and mango, each day. They have Vitamin C, which helps children use iron better. • Use iodized salt in cooking. Iodine in the salt helps children develop so they do well in school. • Wash hands—children's and caregivers'—with soap and water before preparing food, before eating, and before feeding young children. • Use clean utensils—bowls, cups, and spoons—to prepare and serve food. • Never use bottles to feed young children. • Cover uneaten food to protect it from flies. • Keep the area around your home clean. It is especially important to clean up faeces. • Serve foods immediately after preparation and while they are still hot. • Reheat all cooked foods before serving them again. Food should be reheated until it is too hot to eat. Allow it to cool slightly before eating. • Sick children often do not want to eat. • During illness, breastfeed frequently, increase liquids, and offer frequent small meals, including the child's favourite foods. • After illness, try to feed the child more often and more than usual. A good way to do this is to give her an extra meal each day for at least 2 weeks after she gets better.

3 | RESULTS

3.1 | Characteristics of participants

VSLA participants were 33 ± 6 years and had 4 ± 2 children. HIV-positive VSLA participants were members of the VSLA for 1 year or less, whereas HIV-negative VSLA members were members for an average of 4 years. Husbands were 39 ± 12 years, and all of them were VSLA members. VSLA volunteers were 41 ± 5 years. Eight were female and two were male. VSLA volunteers were literate with either an upper primary or lower secondary level of education. All had children of their own.

3.2 | Training pretest/post-test

The training increased VSLA volunteers' and health surveillance assistants' knowledge of breastfeeding and complementary feeding. The percentage of participants who scored at least 80% on the pretests and post-tests increased from 14% to 71% for breastfeeding and from 50% to 79% for complementary feeding. The mean pretest and post-test scores were 10.2 ± 2.3 and 12.9 ± 1.4 out of 15 for the breastfeeding training and 7.3 ± 1.7 and 9.0 ± 1.3 out of 10 for the complementary feeding training.

3.3 | Learning session participation

VSLA volunteers ($n = 9$) conducted breastfeeding learning sessions in an average of 41 VSLAs with a total of 531 members and complementary feeding learning sessions in 37 VSLAs with a total of 478 members. On average, 386 women and 32 men attended breastfeeding sessions, and 304 women and 26 men attended complementary feeding sessions (Table 2). Approximately 26% of women attending breastfeeding sessions and 25% attending complementary feeding sessions were lactating. Approximately two-thirds to three-quarters

of the members were present on average, but attendance fluctuated at different sessions because of other community activities. In addition, three of the VSLA volunteers reported conducting learning sessions with different numbers of groups (e.g., Learning Session 1 with seven groups and Learning Session 5 with six groups). Participation was slightly lower during complementary feeding than breastfeeding sessions because VSLA volunteers conducted the sessions in fewer groups.

3.4 | Observations of learning sessions

Observations of learning sessions showed that fidelity of the technical content was high. Volunteers consistently communicated technical information correctly (100%), completed all learning session steps (94%), and used visual aids (84%). However, only 19% of the observed sessions were completed within the recommended time, 20–25 min, which was the target so as not to interfere with usual savings-related activities during the meetings. On average, observed session were 46 ± 19 min. Despite the VSLA volunteers' plan to conduct learning sessions weekly, the interval between sessions was variable and ranged from 1 to 3 weeks. Delays were related to funerals and weddings that occurred on meeting days.

3.5 | In-depth interviews

The key themes that emerged from the in-depth interviews across VSLA volunteers, VSLA members, and husbands of VSLA members were the following: (a) the learning sessions were useful and enjoyable; (b) including HIV-positive and HIV-negative women in the sessions was acceptable; (c) the information learned during sessions encouraged families to change IYCF practices; (d) IYCF messages were shared with others in the community; and (e) most men did not participate in the sessions. VSLA volunteers also described their experiences

TABLE 2 Number of village savings and loan association members and number of participants at infant and young child feeding learning sessions during village savings and loan association meetings

Learning session	Number of members ^a	Number of participants			
		Women ^b	Breastfeeding women	Men	Total
Breastfeeding					
Session 1	555	380	97	26	406
Session 2	547	409	105	39	448
Session 3	562	386	100	38	424
Session 4	553	418	101	30	448
Session 5	531	400	93	27	427
Session 6	513	363	95	29	392
Session 7 ^c	458	344	105	39	383
Average	531	386	99	32	418
Complementary feeding					
Session 1	490	311	94	22	333
Session 2	490	345	74	23	368
Session 3	500	358	85	60	418
Session 4	500	319	78	21	340
Session 5 ^c	485	299	77	20	319
Session 6 ^c	471	277	83	30	307
Session 7 ^c	471	281	65	18	299
Session 8 ^c	415	243	55	16	259
Average	478	304	76	26	330

^aNumber of members fluctuated because three village savings and loan association (VSLA) volunteers conducted sessions in variable numbers of VSLA groups and one did not report activities for some sessions.

^bWomen includes breastfeeding women.

^cData missing from one VSLA volunteer.

with the programme and gave recommendations for improving implementation. All participants voiced their desire for the sessions to continue and to cover additional topics, such as caring for children up to 5 years of age, nutrition for other target groups, and HIV stigma.

VSLA members and husbands who participated liked having IYCF learning sessions during VLSA meetings and found the learning sessions useful. For example, an HIV-positive member with a 24-month-old child said, "We learn so much from the learning sessions that we have in the VSLA. We learn about feeding our children a balanced diet. So, it's a good thing." Similarly, a husband with one child explained, "This is a very important program. Before it was introduced, we didn't know a lot of things [about child feeding], but now we have been enlightened." All husbands interviewed were happy to learn information that could contribute to the health and well-being of their children. Members uniformly appreciated the work of the VSLA volunteers who led the sessions. An HIV-negative member with a 17-month-old child explained, "The learning sessions are conducted very well because they teach us how to get involved. We listen and do as we are taught so that our children grow healthy."

VSLA members liked having IYCF messages for both HIV-positive and HIV-negative women, and the HIV-positive women felt comfortable and accepted. For example, one HIV-positive woman with an 8-month-old child said, "Whether a person is positive or negative, they have to cooperate in the groups without discriminating one another. We have to be as if we are all normal." An HIV-positive member with a 26-month-old child explained,

They don't discriminate against me. This is because [the VSLA volunteer] clearly explained to them. So, we are well integrated and there is not any kind of discrimination. It's different from before because people were discriminating against us and we couldn't even participate in VSLAs.

They felt it was useful for all women to hear the IYCF messages for HIV-positive women. For example, an HIV-negative member with a 16-month-old child said, "I think it's a good thing, because anyone can get HIV. Tomorrow it could be me, so I need to know this information so that I know what to do." Husbands generally also thought having the messages for HIV-positive women was beneficial. A husband with five children explained,

If they give information [about IYCF for HIV-positive women], I feel that it's okay. This is because in such groups, there might be some who did not disclose their status, and if the information is given like that, it's an opportunity for them to learn what they should do. With the counselling from the group, plus from the hospital, and then they decide to apply that, it may contribute to their good health.

HIV-positive women liked receiving messages in a group because it made them feel equal to HIV-negative women. One HIV-positive woman with an 18-month-old child explained, "I feel like this information gave hope to HIV-positive women and also made them feel okay

to be receiving such information in a group. It also made the HIV-positive women feel like they are not being sidelined." The information helped participants understand that all women can follow the same IYCF practices, regardless of their HIV status, thanks to the availability of antiretroviral therapy for HIV-positive breastfeeding mothers.

All women interviewed said they learned new IYCF information and described how they applied it with their youngest child. The most commonly mentioned new information was related to early initiation of breastfeeding, thickness of complementary food, and quantities of complementary food that should be fed to the child at different ages. For most women, this meant they changed their IYCF practices. For example, an HIV-negative mother with a 12-month-old child said,

The way I feed the child complementary foods changed because in the past I would just feed the child without even measuring the food... But now I feed the child three spoons of porridge once a day when the baby is six months and when the baby has reached nine months and is approaching a year we give the child half of a cup... Now I give the baby two cups twice a day.

Some of the husbands interviewed also described how their family changed child feeding practices based on what they learned in the sessions. For example, a husband with two children said,

When they showed us the [picture of a] healthy child and told us that children can grow like that, I was completely doubtful. But when they explained to us how we can do that, we tried and what we thought was impossible is now happening. It's as they said. So, we decided to take care of our children in that way [by following the feeding guidelines they taught us].

According to husbands, the IYCF practices most often changed based on the information in the learning sessions were exclusive breastfeeding, the amount the child should be fed during each meal, and the number of times the child is fed per day.

Although many participants stated that the learning sessions encouraged them to try new IYCF practices, VSLA volunteers explained that this was not possible for all women because they could not afford to buy a variety of foods for their children. A volunteer explained, "People have difficulties in [purchasing] some of the food...Some people have the resources while others don't have them." This was particularly an issue for the HIV-positive women, in part because they had not participated in the VSLAs long enough by the time the intervention ended to be able to borrow from the group to improve their food security. A husband with six children who had participated in the VSLA for 2 years described how being in the group can help with food security. He said, "I have also seen that being part of a group is very important because...sometimes we borrow money from the group and buy food that helps us in our homes and reduces some of our problems."

Most VSLA members spontaneously reported sharing information with other members of their communities. For example, an HIV-negative mother with a 16-month-old child explained, "In the learning sessions we are told to go tell our fellow women who also have children in the community, so we tell our friends about what we have

learned on child feeding. We tell them how and what to feed a child at 6 months and also at 12 months." All VSLA volunteers also said that the information from the sessions reached others in the community. A volunteer explained, "When we do our sessions here, our members explain things to others in the community, and when I visit the communities, people tell me that the sessions are helping them."

One goal of the intervention was to increase husbands' support for IYCF practices. Many of the women felt it was a good idea for men to be more knowledgeable and involved. The following quotations illustrate this point:

I think it is a very good idea to let husbands get involved in this kind of activity because as a family we are [both] supposed to be responsible for our child's health. HIV-positive member with a 24-month-old child
It's okay for men to come, as it will be easy for them to understand when we are telling them about how frequently a child should be fed, while for those who don't come, it's difficult for them to understand. To them, it's like the woman is just greedy and she wants to eat frequently. HIV-negative member with a 12-month-old child

Although women wanted their husbands to attend the sessions, most men were not interested in attending. We found that the men who participated were already members of the VSLAs. Some of the men interviewed explained that men are shy to participate, especially in a topic or activity that seems like it is targeted at women. A husband with six children explained,

My suggestion is that men should not be shy to participate. They should be able to come to the open and take part in the infant and young child feeding learning sessions and how to take care of a child. Because if they continue to be shy that means a lot of things will not be in order [in their homes].

A husband with five children said, "The only problem is that, at first, it sounded like it's focusing on women." Some of the men recommended improving male involvement by holding village meetings on IYCF specifically for men or encouraging more men to become members of the VSLA, where they would have a chance to join the learning sessions.

Men and women usually saw the male role in IYCF as procurement of food for the child. Several women described their husbands' involvement as listening to what the woman tells him after the meeting and then trying to obtain the appropriate foods for the child. For example, an HIV-negative member with a 10-month-old child explained, "My husband is involved. When I go home, I tell him what we learn from our meetings about infant and young child feeding and he tries to find the necessary food for the child." A few members and husbands described men engaged in more than food purchases, including husbands discussing and supporting the IYCF practices that one or both spouses had learned about during the sessions.

VSLA volunteers enjoyed leading the sessions and felt prepared to facilitate them. A volunteer explained, "I was very confident during the sessions. In addition to that, I was not just a teacher... I was making sure that the people were participating. They were talking and I

provided room for their questions or comments on how they felt." Volunteers noted that the visual aids and lesson plans they were given during training were useful and assisted them in conducting high-quality sessions. One volunteer said, "The sessions are really good because they contain questions, comments and also skits that help people understand the [information in the] sessions better." Another volunteer explained how the materials helped engage VSLA members, "When you teach without any material, the people think you are just saying things from your head. But when you read and show the visuals, they know it is real and they pay more attention." Volunteers also noted that the breastfeeding sessions seemed repetitive and could be streamlined, and some of the complementary feeding sessions were too long and could be divided into shorter sessions. In addition to training and materials, supervision was also important because it motivated volunteers to continue with the work, made them feel valued, and helped them feel they were doing the work "correctly." According to one volunteer, "My advice is that when we make our work plan we need to communicate with you and you need to supervise us often to tell us how things are supposed to be done... Your coming helps to improve our skills in delivering the sessions."

4 | DISCUSSION

Our main finding from this study was that integrating IYCF learning sessions for HIV-positive and HIV-negative women into VSLA meetings was feasible and acceptable. Overall, women's attendance at the sessions was good, fidelity of content was high, participants accepted and appreciated having combined IYCF messaging for HIV-positive and HIV-negative members, and the training, materials, and supervision provided to VSLA volunteers were essential for intervention implementation. Through interviews with participants, we noted that community members are hungry for information about IYCF and other health topics delivered by a trusted source and in an engaging way. There was particularly a gap in knowledge related to the quantity and thickness of complementary foods children should be given at different ages. This aligns with the findings from our formative research, where we documented that health workers provided very little complementary feeding counselling to HIV-positive mothers (Flax et al., 2016).

We purposely situated the intervention in existing social groups (e.g., VSLAs) to take advantage of social support among peers because support for optimal IYCF practices is as important as knowledge about them (Raj & Plichta, 1998). Our results showed that it was essential for HIV-positive women to feel included and for their IYCF issues to be addressed in a public forum where they had social support. When health promotion is incorporated into VSLAs or other microfinance groups, they can function in a similar way to community care groups, which have been successful in improving child survival (George et al., 2015; Perry et al., 2015), or to nutrition-specific community groups, which have also improved IYCF practices in low-resource settings (Kumar et al., 2018). VSLAs or microfinance groups have some advantages over nutrition or health-related community groups because women already attend the meetings and this intervention does not add more activities to their time-constrained schedules (Arora, 2014;

Grassi, Landberg, & Huyer, 2015). VSLAs are also beneficial because they include women of varying ages, which helps to shift social norms related to IYCF among older women who may otherwise negatively influence younger women's feeding practices (Aubel, 2012; Bezner Kerr, Dakishoni, Shumba, Msachi, & Chirwa, 2008).

Like older women or grandmothers, husbands are an important source of social support for and influencers of IYCF practices through their verbal support for optimal IYCF, occasional physical support with feeding the child, and especially with instrumental support in the form of money for food or direct food purchases (Chintalapudi et al., 2018; Mukuria, Martin, Egondi, Bingham, & Thuita, 2016). Our previous research showed that HIV-positive women in Lilongwe District were interested in having their husbands present while they were learning about IYCF and having more support for IYCF from their husbands (Flax et al., 2016). Our intervention was designed for women to invite their husbands to two breastfeeding and two complementary feeding learning sessions in their VSLAs. However, we found that few husbands attended because they felt shy to participate in groups dominated by women to discuss IYCF, a topic they consider to be women's responsibility. In moving forward, more feasible strategies for engaging men in learning about optimal IYCF are needed. Recent and ongoing intervention research and programmes in low- and middle-income countries are using father dialogue groups, men's clubs, fathers' days at clinics, text messages, and home visits to engage men in learning about IYCF separately from women (Bich & Cuong, 2017; Ihekuna et al., 2018; Mukuria et al., 2016; Yourkavitch, Alvey, Prosnitz, & Thomas, 2017). Successful examples of male engagement strategies could be adapted and provided alongside an intervention targeted at women through VSLAs.

Our study showed that IYCF promotion integrated into VSLAs has the potential for impacts on IYCF practices and for diffusion to other community members. Participants indicated that they changed their IYCF practices and noticed improvements in their children's health or growth after following the recommendations from the learning sessions. They also reported sharing the information they learned in the sessions with other community members. Other intervention studies of IYCF and microfinance have shown changes in breastfeeding practices (Flax et al., 2014; McNelly & Dunford, 1998, 1999), and one of these found that participants described improved child health compared with their other children who were not exclusively breastfed (Flax, Ibrahim, et al., 2017).

This study had some limitations. First, we were only able to interview a small number of husbands, and all of them were VSLA members. Their data do not provide much information about the perspectives of husbands who were more reluctant to attend. Future studies should include interviews with both husbands who are and are not interested in participating in IYCF programmes to gain insight for intervention design. Second, some participants stated that they found it challenging to increase their child's dietary diversity or meal frequency when they are affected by food insecurity. We expected that incorporating IYCF promotion into VSLAs would boost food security and make it easier for participants to feed their young children a wider variety of foods more frequently. However, we found that the duration of the intervention was too short for VSLA participation to have these types of effects for HIV-positive members who

joined the groups more recently than HIV-negative members. Future IYCF interventions integrated into savings groups should allow members to participate in VSLAs for at least 1 year or one savings cycle, the period during which they gain enough knowledge, skills, and collateral to access larger loans and diversify their livelihoods (CARE International, 2008).

In conclusion, this study shows that it is feasible and acceptable to implement a behaviour change communication activity related to IYCF in mixed groups of HIV-positive and HIV-negative women through their VSLAs. Integrated health promotion and financial inclusion interventions are likely to have benefits in addition to those that accrue directly from the health component, such as the potential to contribute to food security in the long run. We also identified elements of the intervention that could be improved in future programmes, including shortening sessions and finding better ways to reach out to men. Additional research is needed to assess the impacts of integrated IYCF and financial inclusion programming on IYCF behaviours and child growth and to measure diffusion and cost effectiveness of such interventions.

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CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

CONTRIBUTIONS

VLF designed the study and oversaw study implementation; IM, MCH, SM contributed to the design and analysis plan; LM and HS were responsible for intervention implementation; JC served as the study coordinator; VLF analyzed the data and drafted the manuscript; all authors contributed to the manuscript and approved the final version.

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SUPPORTING INFORMATION

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

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