

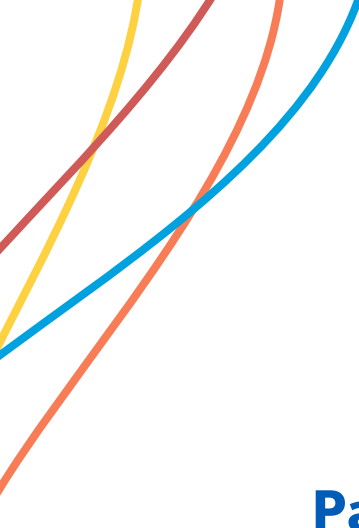


LEVERAGING WOMEN'S GROUPS

Evidence on pro-equity interventions to improve immunization coverage for zero-dose children and missed communities



EVIDENCE BRIEF



Part of a series, this evidence brief presents results from a **rapid review** of the literature to understand the effectiveness and implementation considerations for selected interventions, including women's groups, which could help achieve more equitable immunization coverage, specifically helping to increase coverage and better reach zero-dose children and missed communities.

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Evidence summary

<p>What are women’s groups?</p>	<p>Women’s groups are community-based groups of women who meet to discuss shared experiences, acquire new knowledge, and build social networks while working toward common goals related to health, economic empowerment, autonomy, or other factors.</p>	
<p>How effective are women’s groups in reaching zero-dose children and missed communities?</p>	<p>Results from included studies suggest interventions that engage women’s groups can be effective in improving reach to vulnerable communities. Findings from one effectiveness study showed significant increases in vaccination rates, and many other effectiveness studies showed improvements in other child health outcomes.</p> <p>Studies on the impact of women’s groups most frequently occurred in remote rural settings and among populations in vulnerable contexts, such as poor and young women, Indigenous communities, and those with limited access to health care. Additionally, effects of interventions engaging women’s groups were found to be either more impactful among groups with the most vulnerability or had equitable impact across socioeconomic statuses. Some studies suggested group participation contributes to women’s empowerment, while others suggested existing structural and societal norms constrain women’s ability to participate in group-based interventions.</p>	 <p>PROMISING INTERVENTION</p>
<p>What are the main facilitators and barriers to implementation?</p>	<ul style="list-style-type: none"> • Facilitators include being community-led and supported, high cost-effectiveness, locally recruited facilitators, and provision of new information to members. • Barriers include lack of time for women to attend, lack of structure and organization of meetings, and social taboos that restrict women from participating. 	
<p>What are the key gaps?</p>	<p>Key gaps include a lack of variety of intervention types that engage women’s groups (most were participatory learning and action cycles), lack of implementation in fragile or conflict settings and poor urban areas, limited evidence specific to the effects of women’s groups on immunization and particularly zero-dose children, and lack of evidence specific to whether interventions affect women’s empowerment or address gender-related barriers and the possible impact of empowerment on health-related outcomes.</p>	



Introduction

What are women's groups?

Women's groups, and community groups more broadly, have grown in popularity over the past several decades, in part due to the Alma-Ata Declaration's recognition of the importance of all private citizens who are not part of the health system participating in the planning and implementation of their health care (1, 2). For this brief, we define "women's group" as any community-based group of women, or mostly women, who come together "to share their experiences, gain access to resources, and build knowledge, skills, and social networks"(3) with the goal of improving health or quality of life through activities such as health promotion, support, economic empowerment, and skills building. We also include women's associations that might operate at levels beyond the community (e.g., regional or national) and likely focus more on advocacy efforts to improve health than individual empowerment.

Of note, this brief is part of a series that reviews a variety of pro-equity health interventions and their impact on immunization. In this brief, we refer to "women's groups interventions" and review how they were implemented in a variety of studies. By "women's groups interventions," we are referring to establishing, facilitating, or engaging women's groups in improving child health outcomes. Many randomized controlled trials (RCTs) were included in this review—clusters randomized to control or intervention groups—in which interventions involved women's groups with specific strategies (4-16). The table in Appendix B demonstrates how studies on this topic refer to them as "women's groups interventions."

Interventions that engage women's groups might involve establishing a women's group or working within an existing women's group to share knowledge, foster collective action, facilitate sharing of experiences, mobilize the community—all of which could contribute to behavior change or increased utilization of health services. Interventions that involve women's groups often attempt to increase access to and participation in the groups themselves. Interventions engaging with women's groups involve a variety of approaches, including participatory learning and action (PLA) groups (4, 6-9, 14-22), health promotion and education (23, 24), self-help (23, 25), and others which are explained below.

Therefore, throughout this brief we will refer to "women's group interventions" or "interventions involving women's groups" while recognizing that the goals of and manner in which such interventions are implemented vary greatly. One commonality among these interventions is to meaningfully engage with women to understand barriers to and opportunities for better health outcomes, including improved childhood immunization.

Why are women's groups relevant for reaching zero-dose children and missed communities?

Women's groups often aim to facilitate increased agency for women as gender inequities constrain women's abilities to make decisions and act. Evidence is becoming clear that group membership, particularly in economic-focused groups, can lead to empowerment (26). Additionally, in 2014, the World Health Organization (WHO) recommended the implementation of community mobilization through facilitated PLA cycles with women's groups as an intervention to improve maternal and newborn health, noting strong evidence for newborn health and moderate to weak evidence for newborn mortality, maternal mortality, and care access (27). However, the evidence regarding women's groups and child health outcomes, especially immunization outcomes, has not been synthesized, and mechanisms through which participation in a women's group may improve these outcomes remains unclear. Group participation might work through altering psychosocial mechanisms, such as increased social support, social influence, and/or access to social and material resources, ultimately leading to behavior change. Groups can also potentially affect upstream factors related to health, such as by using increased social cohesion and collective action to mobilize and advocate for changes to social norms, policies, and aspects of health service delivery. This brief reviews literature on interventions that involve women's groups in low- and middle-income countries (LMICs) and how they may contribute to changes to child health outcomes, including but not limited to immunization, within vulnerable, marginalized, or otherwise underserved communities, particularly missed communities and those with high prevalence of zero-dose children.

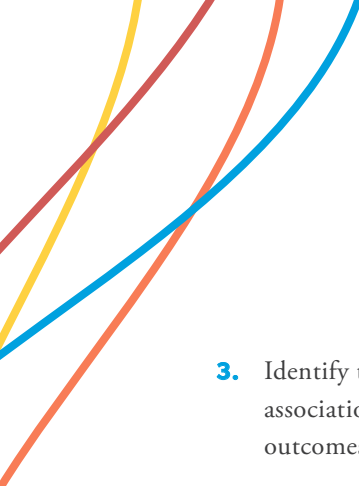
Why was this rapid evidence synthesis on women's groups undertaken?

The overall goal of this activity was to synthesize existing evidence on the effectiveness and implementation of interventions involving women's groups to increase demand for child health services, including but not limited to immunization, in vulnerable communities. Through a rapid review of peer-reviewed and grey literature, this work aimed to:

1. Evaluate the extent to which interventions involving women's groups/women's organizations are effective in improving child health outcomes through demand creation among marginalized or vulnerable communities, including those with high prevalence of zero-dose children, especially within immunization programs.
2. Assess the impact of women's groups/women's associations within vulnerable, marginalized, or underserved communities on women's empowerment as a potential pathway to improving child health outcomes, especially for zero-dose children and missed communities.

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3. Identify the implementation considerations for interventions involving women's groups/women's associations among vulnerable, marginalized, or underserved communities pertaining to child health outcomes, especially immunization.

Notably, this review was not limited to immunization-related outcomes but rather extended to all child health activities and outcomes. Therefore, this review allows for a broader analysis of how women's groups may affect child health outcomes both within and outside of vaccination, which bolsters conclusions regarding effectiveness, offers additional implementation considerations and, potentially, lessons learned from other sectors that can be applied to the immunization sector. Studies from LMICs that described or assessed interventions involving women's groups, including those that established, facilitated, or engaged women's groups in improving child health outcomes were included. Studies were included if they presented relevant results from an existing systematic or scoping review, reported on primary research or programmatic data that compared health-related outcomes using a pre-/post- or multi-arm study design to understand the effectiveness of interventions involving women's groups (hereafter referred to as "effectiveness studies"), and/or described the implementation of a child health-related intervention that involved women's groups (hereafter referred to as "implementation studies"). Additional information on the review methods is presented in Appendix A.

Results: What is known about women's groups?

A total of 48 eligible articles and reports were included: eight reviews, five effectiveness studies, 17 implementation studies, and 18 studies relevant to both effectiveness and implementation. Studies covered a range of child health outcomes and types of interventions. See Appendix B for more details on each intervention.

Overall categorization of effectiveness

CATEGORIZATION	RATIONALE
PROMISING	<p>Across three studies that assessed the effectiveness of interventions involving women’s groups on vaccination coverage, one found statistically significant positive effects on immunization rates and two found no statistical differences. Twenty other effectiveness articles were identified that assessed the effects of interventions involving women’s groups on other child health outcomes and found mostly positive impacts related to neonatal mortality rates and mostly positive or negligible impacts related to other outcomes such as exclusive breastfeeding. For these reasons, along with limited implementation concerns, this intervention was classified as “promising.”</p> <p>Interventions involving women’s groups were most frequently implemented in remote rural settings. Most women’s groups interventions involved PLA cycles. Groups were often implemented among particularly vulnerable or underserved populations, including those with limited access to health care, scheduled tribes in India, Indigenous communities, and young mothers or pregnant women.</p>

Details of included studies are provided below to better explain why women’s groups are a promising approach to improving child health outcomes, especially among vulnerable communities.

Effectiveness: What is known about whether women’s groups “work”?

What evidence has been synthesized previously on the effectiveness of interventions involving women’s groups?

Eight reviews, including systematic reviews and meta-analyses, were identified that are relevant to understanding the effects of women’s groups on child health in vulnerable communities within LMICs (2, 28-34). Reviews focused on mother and newborn outcomes such as neonatal mortality, stillbirths, and maternal mortality, as well as breastfeeding, hygiene, and newborn care behaviors. **Results were generally positive. Some studies found more significant changes in the most vulnerable groups, while others found equitable changes across different socioeconomic strata.**

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- By reviewing 22 studies in LMICs in South Asia, Africa, Latin America, and Southeast Asia, Blanchard et al. (2019) aimed to understand how community health workers (CHWs) can improve the health of mothers and their newborns. Focusing on studies in which CHWs worked with women's groups to promote changes in health behavior, results found mostly equitable or pro-equitable effects on maternal and newborn health-related behavior by socioeconomic status. Some results from RCTs on women's groups interventions found that neonatal mortality decreased more significantly in groups with lower socioeconomic status. However, other research found that improved hygiene, thermal care, breastfeeding, and postponed bathing equitably improved across socioeconomic groups. The prevalence of women's groups was generally found to be equitable across the population; however, some found that higher educational status was associated with slightly lower attendance in women's groups (28).
- Canuto et al. (2022) reviewed 35 articles with evidence across 19 low-, middle-, and high-income countries, with groups in middle- and high-income countries being in poor communities. This review evaluated existing research on maternal and child health outcomes relating to women's groups. Results found that PLA cycles, community development, and group health education were some of the main strategies utilized in women's groups. A majority of studies used a theoretical approach to support implementation through providing a basis for community engagement (29).
- Another review, Desai et al. (2020), examined 99 articles to evaluate the impact of women's groups in India on women's and children's health. Studies showed women's groups interventions involving health-related components can improve health for women and children as compared to either women's groups without a health component or no exposure to women's groups. For example, they can lead to increased neonatal survival and immunization rates, better perinatal practices, expanded dietary diversity for mothers and their children, and control of vector-borne diseases. Some barriers to achieving outlined outcomes were lack of time, limited focus on health objectives, unrelated outcomes, and limitations of health systems. Strengthening capabilities of communities and creating community mobilization were noted for leading to beneficial outcomes (30).
- Hanson et al. (2017) examined 17 studies to evaluate how community approaches can affect newborn health and survival in low-income settings. Nine of these studies assessed the effects of women's groups. The results of women's groups interventions revealed that neonatal mortality decreased, particularly in studies that reached more pregnant women and in settings with higher rates of neonatal mortality (31).
- Houweling et al. (2019) looked at effects of women's groups interventions on equity and neonatal mortality rates (or whether the effects of participatory women's groups on newborn survival are equitable across socioeconomic strata) from randomized trials in India, Bangladesh, Nepal, and Malawi. By reviewing four studies involving 69,120 live births and 2,505 neonatal deaths, this review found neonatal mortality decreased in both lower and higher socioeconomic strata (32).
- A review by Ota et al. (2020) assessed 43 articles to assess the impacts on stillbirth of antenatal interventions. Women's groups were included in the examination of community-based intervention packages. These packages, which involved community support groups, women's groups, community

mobilization, home visits, or training of birth attendants, were found to mainly be implemented in LMICs. The review indicated that community-based intervention packages have the potential to lead to a decrease of stillbirth and perinatal death (33).

- Prost et al. (2013) reviewed seven articles within low-income settings and assessed how maternal mortality, neonatal mortality, and stillbirths may be affected by PLA women's groups. Nonsignificant reductions were identified for maternal mortality and stillbirths associated with exposure to women's groups. Women's group participation was associated with significant reductions in neonatal mortality. There was also an association between proportion of pregnant women participating in PLA women's groups and decreases in maternal and neonatal mortality, with greater reductions in groups with high proportion of pregnant women participants (2).
- Seward et al. (2017) assessed antenatal, delivery, and postnatal behaviors. This review aimed to understand their relation to mortality reduction after participation in PLA in women's groups. The review found improvements pre- and post-delivery on outcomes such as utilizing safe delivery kits, cutting umbilical cords with clean blades, cleansing hands before delivery, postponing newborn bathing, and quickly wrapping newborns post-delivery. However, certain behaviors such as antenatal care participation, facility-based delivery, and breastfeeding practices did not improve significantly. The review found that higher proportions of women's participation led to more significant improvements in outcomes (34).

What evidence exists on the effectiveness of women's groups within immunization?

Three primary research articles included immunization outcomes in relation to women's groups (13, 22, 25). Of these, **one found statistically significant positive effects of women's groups on immunization rates, while two found no statistical differences** (with one noting already high immunization rates).

Nair et al. (2017) conducted a cluster RCT in two rural districts of Jharkhand and Odisha, India, in which they randomly allocated clusters of pregnant women and their children to intervention or control groups. The intervention involved a home visit during pregnancy, monthly visits to children under 2, and monthly women's groups meetings intended to encourage positive nutrition behaviors. Researchers included vaccination as a secondary outcome and found no statistically significant difference between groups: 31% (437) of children in the control group received Bacillus Calmette-Guerin (BCG); oral polio vaccine 3 (OPV3), diphtheria, tetanus toxoid, and pertussis (DPT3), measles, and hepatitis B vaccine, compared to 32% (441) in the intervention group (13).

Younes et al. (2015) analyzed the effects of participatory women's groups in rural Bangladesh by conducting a controlled before-and-after study and difference-in-difference analysis. A total of 162 women's groups met between April 2010 and December 2011, focusing on issues related to child health (specifically children under 5). These groups had previously met monthly from 2005 to 2010 as part of an earlier cluster- RCT focused on maternal and neonatal health. Each group was led by a local woman, paid to facilitate the groups

and supported by a local supervisor, and consisted of four phases: (1) identify and prioritize child health problems, (2) plan strategies, (3) implementation strategy, and (4) assess impact. Each meeting in each phase involved problem description and generation of solution or prevention strategies. The fifth meeting in the first phase concerned immunization and danger signs. While many improvements were found related to maternal knowledge, breastfeeding, and under-5 morbidities, no significant differences were observed in immunization uptake. However, authors note that coverage rates were already high, and larger, albeit not statistically significant, improvements were observed in immunization coverage in intervention areas compared to control areas. The authors found inconclusive evidence as to whether women's groups can improve immunization coverage, but note for potential impact, the intervention would likely need to address other complex drivers of failure to vaccinate, including cultural and economic factors (22).

Finally, Saggurti et al. (2018) conducted a pre/post quasi-experimental study in which they divided 545 existing women's self-help groups into a control group, which received an existing self-help group with microcredit program, and an intervention group, which involved the same self-help group enhanced with participatory training regarding maternal and child health. They found that women in the intervention group were more likely than the control to provide age-appropriate immunization over time. This variable (age-appropriate immunization) was based on the vaccines children should receive at different ages, including polio, BCG, DPT, measles, and vitamin A. Using regression-adjusted difference-in-difference estimates, the researchers showed in the intervention group a consistent, statistically significant greater increase across time for age-appropriate immunization among children under 1 (25).

What evidence exists on the effectiveness of women's groups outside of immunization?

Twenty other articles examining effectiveness were identified that did not include immunization outcomes but assessed the effects of women's groups interventions on other maternal and child health indicators. Outcomes included neonatal mortality (4-6, 8, 12, 15, 16, 19, 20, 35), exclusive breastfeeding (11-13, 22, 25, 35), wasting and/or stunting (7, 9, 10, 13), diet diversity or infant and young child feeding practices (9, 10, 13, 22), institutional delivery (14, 18, 25), childhood mortality (13, 17, 35), antenatal care (12, 25), mother's knowledge (22, 23), and more. **Most indicators were positively affected by interventions involving women's groups, although some indicators remained unchanged.** More information on common outcomes reported is presented below. Additionally, more information on each study is provided in Appendix B.

The **effect of women's groups, often in remote rural areas, on neonatal mortality was primarily positive.** Azad et al. (2010) and Fottrell et al. (2013) found reduced neonatal mortality rate (NMR) in intervention compared to control clusters, with intervention clusters involving monthly PLA women's groups in rural Bangladesh (4, 6). Lewycka et al. (2013) found a 36% decrease in infant mortality rate in intervention areas in rural Malawi, which involved women's groups led by local women selected from the community (35).

More et al. (2012) studied women's groups with PLA cycles and discussions about perinatal experiences, and found no difference in perinatal mortality rates between intervention and control groups; and lower stillbirth rate and higher NMR in the intervention group (12). Roy et al. (2013) found women's groups have a positive effect on neonatal survival in rural India (20). Colbourn et al. (2013) evaluated a rural participatory women's group community intervention and a quality improvement intervention at health centers and found that NMR declined the most when both interventions were implemented (5). Houweling et al. (2013) found NMR was lower in intervention clusters that involved women's groups with PLA cycles than control clusters, and NMR decreased more in the most marginalized groups (59%) compared to less marginalized (36%) in rural India (8). In another study on the same intervention, Tripathy et al. (2010) found that clusters with women's groups had 32% lower NMR than control clusters in rural India (15). In similar interventions, Tripathy et al. (2016) found women's groups led by Accredited Social Health Activists (ASHAs) can lead to reductions in NMR in "rural, underserved areas of India" (16), and Nair et al. (2021) found a 24% reduction in NMR from baseline to endline of an intervention involving PLA women's groups led by ASHAs in rural India (19).

Effects on exclusive breastfeeding (EBF) were mixed. **Some studies found that EBF was unaffected by interventions involving women's groups (12, 13, 35), while others found significant increases in likelihood of mothers practicing EBF (11, 22, 25).**


Similarly, **effects of interventions involving women's groups on wasting and stunting of children varied.** Some studies found no effect on stunting (10, 13) nor wasting (9). Gope et al. (2019) found wasting reduced significantly with a women's group intervention, and stunting reduced when home visits from the PLA group facilitator were added to the intervention along with PLA meetings (7). Kumar et al. (2018) found an intervention involving women's groups "prevented deteriorating in weight-for-height z-scores" (10).

Indicators related to **children's diets were either positively affected or not affected** by interventions involving women's groups. Kadiyala et al. (2021) reported that a higher percentage of children in the intervention group were eating at least four out of seven food groups, and Nair et al. (2017) reported more children in intervention clusters met minimum diet diversity standards (9, 13). However, Kumar et al. (2018) found their intervention led to increased infant and young child feeding knowledge among mothers but had limited impacts on practices, while Younes et al. (2015) found no differences in diet diversity (10, 22).

More information on these studies and their results can be found in Appendix B.

What evidence exists on the effectiveness of interventions involving women's groups specific to reaching zero-dose children or missed communities?

No studies mentioned zero-dose children. Many interventions involving women's groups were targeted to vulnerable communities, such as those with limited access to health care, scheduled tribes in India, Indigenous communities, and other rural areas.



Of note, few studies reported on how participation in women's groups affected women's empowerment and the extent to which empowerment served as a mediator affecting intervention effectiveness. This is possibly due to the review being restricted to studies that included outcomes related to child health, or studies might have implicitly assumed the intervention would empower participants but did not explicitly highlight this. Of three studies that measured empowerment or related constructs such as collective efficacy or confidence, all found positive effects (10, 25, 36). One additional study noted that the intervention was designed to address women's economic empowerment and gender equity, but did not measure these variables in the analysis (11).

Effectiveness of women's groups in specific settings and programmatic contexts

Women's groups were most frequently implemented in **remote rural** settings. Most women's group interventions involved **PLA cycles**. Groups were often implemented **among populations in vulnerable settings**, including those with limited access to health care, scheduled tribes in India, Indigenous communities, and young mothers or pregnant women.

As noted above, several studies described how interventions addressed or were designed to address gender-related barriers, such as increasing women's empowerment. Several studies also noted that existing social structures and structural constraints might have prevented women from participating in women's groups, potentially limiting their impact (4, 37-39).

Implementation: What is known about "how" women's groups work?

In total, 35 studies (4-10, 12, 13, 15, 17-23, 35-52) presented information relevant to the implementation of interventions involving women's groups across Equity Reference Group (ERG) settings. Major barriers and facilitators to implementation reported are summarized in Table 1.

TABLE 1. Barriers and facilitators to implementation by ERG setting

	FACILITATORS	BARRIERS
Remote rural	<ul style="list-style-type: none"> • Highly cost-effective (6, 9, 13, 15, 19, 20, 35, 41, 49, 51) • Meetings are organized to be convenient for the participants, with a clear meeting schedule/venue (37, 39, 47, 52) • Increasing knowledge/provision of new information to members (10, 21, 48) • Use of local resources to finance and facilitate groups (45, 47) • Facilitators of groups are locally recruited and trained (46, 52) • Training on organization and facilitation of meetings (35, 47) • Use of visual learning and participatory tools (19, 44) • Facilitators actively encourage participation (39) • Use of approaches that are easy for those with limited education to understand (39) • Communication of purpose and advantages of women’s groups to communities (46) • Supportive context and leadership (18) • Conversations and materials are “locally appropriate” (52) 	<ul style="list-style-type: none"> • Limited time (10, 47) • Lack of structure in meetings (37) • Other obligations (37) • Long distances to travel to get to meetings (10) • Mandatory fund contribution requirements discouraged group membership for some (45) • Lack of child care (10) • Insufficient managerial staff (46)
Urban poor	<ul style="list-style-type: none"> • Facilitators actively encourage participation (39) • Meetings are organized to be convenient for participants (39) • Approaches used to accommodate those with limited education (39) • Having a clear meeting schedule/venue (37) 	<ul style="list-style-type: none"> • Lack of structure in meetings (37) • Other obligations (37) • Discussion about reproductive health perceived as inappropriate for women (39) • Social taboos, family control limiting women’s participation (39)
Conflict-affected	<ul style="list-style-type: none"> • Not reported 	<ul style="list-style-type: none"> • Not reported

	FACILITATORS	BARRIERS
Gender-related barriers		<ul style="list-style-type: none"> • Discussion about reproductive health perceived as inappropriate for women (social taboos) (39) • Social taboos, family control limiting women’s participation (39)

Implementation Outcomes

Below is a summary of specific implementation considerations related to acceptability, cost, and other factors that expands on the barriers and facilitators summarized above.

Acceptability

Studies found that women’s groups were largely viewed as acceptable by community members and leaders, health workers and facilitators, and participants. Houweling et al. (2016) reported participatory women’s groups were viewed by all socioeconomic groups as relevant and interesting (39). Pant et al. (2015) noted that local leaders and social workers supported suggestions of the women’s groups, and further feedback indicated that community members, including women’s groups participants, approved of the program (47). Similarly, Sondaal et al. described how women in PLA groups reported that the participatory community-based women’s group “intervention met their health needs, was relevant to their community health situation, and enabled them to retain the information that they had learned: ‘If the program is lost, we will only go backwards’” (21). Morrison et al. (2010) reported that women’s groups were viewed as acceptable as the issues discussed, including maternal and child health, were viewed as “the domain of women,” and they were therefore accepted as a way for women to learn and advance the community (36). Finally, Suchitra et al. (2010) highlighted the importance of acceptability in contributing to the impact of women’s groups and explained several factors contributed to acceptability, including “training of local facilitators, the use of locally appropriate discussion materials in meetings, and flexibility in the timing and content of meetings” (52). However, some elements of women’s groups were not accepted. For example, Houweling et al. (2016) described how participation was limited in South Asia by the belief that conversations about reproductive health are inappropriate for young women and by family control of young women’s movements (39).

Costs

Many studies demonstrated that **women’s groups were a cost-effective intervention in remote rural settings**. Studies used a variety of metrics to assess cost-effectiveness, including cost per year of life lost (YLL) averted, comparisons to other similar types of interventions, income- or gross domestic product (GDP)-based cost-effectiveness thresholds, percentage of government health expenditure, and (incremental) cost-effectiveness ratios. WHO’s threshold for cost-effectiveness uses a country’s GDP per capita as a comparator for the cost per

YLL or disability-adjusted life year (DALY) averted or cost per life year saved, which many studies utilized to determine cost effectiveness. However, no cost-effectiveness findings specific to immunization were presented.

Fottrell et al. (2013) found that participatory women's groups in **rural Bangladesh** with high coverage were highly cost effective, with a cost-effectiveness ratio of US\$220–393 per YLL averted, less than the GDP per capita in Bangladesh during the same time period (indicating cost effectiveness). The authors concluded that when women's groups are implemented with sufficient population coverage, defined as one group for between 309 and 386 population, they are a very cost-effective strategy to enhance newborn survival and promote positive health behaviors in rural areas of Bangladesh (6).

An economic evaluation of nutrition-sensitive agriculture (NSA) video interventions in women's group meetings in **rural India** found that NSA videos with a nutrition-specific PLA plan had the “lowest cost per unit increase in diet diversity” compared to NSA videos alone or NSA and nutrition-specific videos. They noted that strategies to enhance cost efficiency on a larger scale may include reducing monitoring, decreasing beginning costs, and integrating the intervention into existing systems (42). Another article described the intervention and RCT in more detail noting the cost of the participatory action and video interventions per beneficiary were lower than other health and agriculture interventions (9).

Lewycka et al. (2013) assessed the effects of women's groups on maternal and child health in **rural Malawi** and found the intervention, which involved women's groups meeting 20 times in four phases led by local women selected from the community, was highly cost effective as the cost of averting one YLL was less than the GDP per capita. The authors noted, however, that with higher coverage, costs would have increased, making scalability challenging (35).

Pulkki-Brännström analyzed cost effectiveness and affordability of PLA cycles with women's groups to reduce neonatal deaths in India, Nepal, Bangladesh, and Malawi. They found a range of cost-effectiveness ratios due to a variety of unit costs and scales of interventions, ranging from US\$135 to \$1,627 per neonatal life year saved. However, all ratios indicate high cost effectiveness as they fall within income-based thresholds. Additionally, they found it would **cost between 1.2% and 6.3% of government health expenditure to extend the intervention to remote rural settings in each country** (49).

Roy et al. (2013) monitored births and neonatal deaths in **rural India** from 2004 to 2011 to assess the effects of women's groups with PLA and conducted a cost-effectiveness analysis for year one of the intervention from the perspective of the provider. They found the incremental cost of the women's group intervention was US\$706 per neonatal life saved (or US\$948 if including health service activity strengthening). The incremental cost per life year saved was US\$22 (or US\$30 if health service activity strengthening was included) (20).

Tripathy et al. (2010) explored the effects of participatory women's groups on birth outcomes and maternal depression in a **tribal and rural population in India** through a cluster-RCT and found the incremental cost of the intervention was US\$910 per newborn life saved and US\$33 per life year saved. **They concluded**

that this indicated cost effectiveness and the intervention was a low-cost method to reduce the neonatal mortality rate and maternal depression. Reasons for cost effectiveness in this setting included low operating costs and large effects of the intervention. The authors also noted a benefit of participatory groups, or those led by peer facilitators as opposed to those involving health worker home visits, is that they are scalable at a low cost (15).

Sinha et al. (2017) conducted an economic evaluation of women's groups with PLA facilitated by ASHAs to improve maternal and newborn health in **rural India** (reported on by Suchitra et al. [2010], Tripathy et al. [2010], and Houweling et al. [2013]) (21, 25, 51). They found the intervention to be highly cost effective using the WHO threshold of India's GDP per capita, with incremental cost of the intervention US\$83 per DALY averted and US\$2,545 per newborn death averted. They noted this intervention was a cost-effective way "to reduce neonatal mortality in rural settings with low literacy levels and high neonatal mortality rates" and "this approach could effectively complement facility-based care in India and can be scaled up in comparable high mortality settings" (51).

With a similar approach, Nair et al. (2017) conducted a cluster RCT in **rural India** to determine the effects of participatory women's groups and home visits from community-based workers on children's growth. They found cost-effectiveness ratios of INT\$959–1,120 per life year saved and INT\$29,561–34,520 per infant death averted (without and with the cost of village health sanitation and nutrition committee strengthening included, respectively). These ratios indicate cost effectiveness as they were below India's GDP per capita at the time (13).

In a cluster non-randomized controlled trial, Nair et al. (2021) evaluated the effects of women's groups with PLA scaled up by government frontline workers on neonatal health in areas with high mortality in **rural India**. Through an economic evaluation, they found that "participatory women's groups embedded within India's public health system" were highly cost effective. Incremental cost-effective ratios were reported at INT\$1,272 per neonatal death averted and INT\$41 per life year saved, determined to be cost effective by WHO and other GDP-based thresholds. Authors noted these ratios were significantly lower than those found in older studies of participatory women's groups in India. Reasons included that costs were reduced at scale due to utilizing ASHAs who received incentives (INR1000 or US\$13 for ASHAs for conducting 10 meetings a month and ASHAs received INR100 or US\$1.3 per meeting) and training on the job, which contributed to capacity building (19).

In a cluster RCT, Colbourn et al. (2013) evaluated the effects of a participatory women's group community intervention in **rural Malawi** on maternal, perinatal, and neonatal mortality. Using the WHO threshold, they found that the intervention, which involved establishing participatory women's groups to "mobilize communities around maternal and newborn health," was highly cost effective (24). Colbourn et al. (2015) conducted a cost-effectiveness study of the same intervention and found the incremental cost effectiveness of the participatory women's group community intervention was US\$79, or US\$146 when combined with the quality improvement at health facility intervention, per DALY averted. They found that combining the


interventions was incrementally more cost effective than either intervention alone but that the participatory women's group community intervention had the "greatest value for money" for scale-up to the entire country, "potentially averting 13.0% of remaining annual DALYs from stillbirths, neonatal and maternal deaths for the equivalent of 6.8% of current annual expenditure on maternal and neonatal health in Malawi" (5). Additionally, the women's group community intervention was the best choice when considering willingness-to-pay thresholds (5).

Feasibility

Studies demonstrated that women's groups were feasible for implementation, including in urban poor and remote rural settings. Women's groups in **urban slums in India** were feasible to facilitate and behavior change related to breastfeeding and care-seeking for maternal and child health related problems was observed, though health care and mortality indicators were not affected (12). Nahar et al. (2012) found it was feasible to scale up women's groups (the intervention was increased fivefold in terms of population coverage, from 162 to 810 groups) in **rural Bangladesh**. This was achieved through "strong operational capabilities and institutional knowledge of the implementing organization." **Researchers found that scale-up of community engagement was feasible without the use of financial incentives or more management** (46). Pant et al. (2015) assessed the feasibility of using community mobilization for a child safety program through implementing women's groups in **rural Nepal**. They found it was feasible to implement an intervention in which women's groups worked with CHWs to prevent childhood injuries and concluded that an experimental study should follow to determine effectiveness and cost effectiveness (47). However, some challenges to feasibility were reported. Kumar et al. (2018) analyzed a nutrition- and gender-sensitive agriculture intervention in **rural Zambia** and found low participation from women due to lack of time, long distances to travel to meetings, inability to complete household chores if attending meetings, and lack of childcare (10). Houweling et al. (2019) noted that effectiveness of women's groups on outcomes depends on the quality of implementation, which depends on "coverage, duration and intensity" of the intervention (32). For example, they described that attaining sufficient coverage in urban slums is challenging due to high migration and space limitations (i.e., participants in urban settings might receive a less-intense intervention for shorter durations as compared to other areas) (32).

Fidelity

Fidelity of studies varied, with some women's groups being implemented as planned and others reporting programmatic changes. For example, Prost et al. (2022) evaluated the fidelity of NSA interventions with participatory videos and women's group meetings in **rural India** and found they were "implemented with high fidelity"; launch events were held with community members and relevant stakeholders, and trainings were facilitated with community-based frontline workers in all study areas. Community service providers had increased knowledge of and confidence in discussing relevant nutrition-related issues and were motivated by spreading awareness in and receiving recognition from the community. Limited challenges were reported related to video dissemination or PLA meetings. Importantly, the intended intervention coverage was



reached, and the expected number of video disseminations and PLA meetings were held. The participation of pregnant and breastfeeding women as well as mothers-in-law in self-help groups was improved. Overall, the interventions “improved women’s and children’s diets by providing women with information, motivation and confidence” (48).

Morrison et al. (2020) conducted a cluster RCT to analyze the effect of strengthening health management committees (HMCs) and community mobilization through women’s groups to increase institutional deliveries and skilled birth attendance in **rural Nepal**. They were able to implement the intervention involving women’s groups as planned, indicating strong fidelity, but could not properly conduct the HMC strengthening activities as they did not meet consistently. Researchers were supported to meet with HMC members at health facilities every two to three months, but coordination between the two parties made this infeasible. Additionally, the intended control clusters received similar interventions from community-based organizations during the same time period, and many control areas already had active women’s groups at baseline, which hindered the ability to determine impact because there was not a true counterfactual as intended (18).

Kumar et al. (2018) noted that home visits from agriculture and health volunteers were not implemented as intended. The authors posited lack of incentives for outreach was one factor explaining this gap (10).

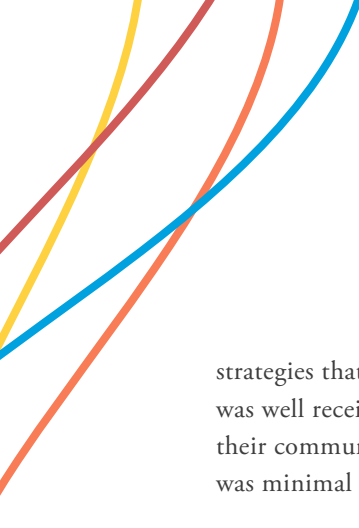
Finally, Nair et al. (2021) found the intervention was changed during implementation; while meetings were intended to take place over 30 months during the perinatal period, extra meetings on topics related to infant and young child feeding, maternal nutrition, violence against women, and more were added for a total of 36 meetings. This meant that evaluation in the second year overlapped with some meetings, and the third and fourth phase had not been completed when the evaluation finished (19).

Sustainability

Sustainability of women’s groups was cited as a frequent concern. Hazra et al. (2022) noted sustainability is important before adding interventions and scaling up. They found that older self-help groups met less regularly, while newer groups held more frequent meetings (43).

Lewycka et al. (2013) found women’s groups and volunteer peer counselors in rural Malawi had positive effects on the maternal mortality ratio, NMR, and infant mortality ratio; were “uncomplicated and inexpensive”; and would be more cost effective at scale. They argued that program sustainability was facilitated by counsellors being supervised through the government public health system and women’s groups being linked to government health surveillance assistants during strategy implementation. The Mchinji District health office was engaged to promote sustainability (35).

To ensure sustainability, Pant et al. (2015) proposed an intervention that involved community engagement, first-aid training, educational and meeting facilitation materials, and a child injury prevention fund. The intervention aimed to develop the capacity of women’s group members and promote injury prevention



strategies that are locally owned and implemented, as well as supported by local resources. The program was well received by the community, and the women's groups presented plans to implement it further in their communities, including engaging local authorities for support. Additionally, external involvement was minimal (47).

Rosato et al. (2012) demonstrated that the women's groups they studied in rural Malawi were sustainable; they continued to meet following data collection, even creating more groups and addressing identified issues. The authors also noted that in a similar women's group intervention in Nepal, the women's groups continued to meet despite the project ending and heightened Maoist activity in the area (50).

One objective of Roy et al. (2013) was to determine whether women's groups with PLA in rural India had a sustainable impact on neonatal mortality. Through a prospective study, they found the improvement in neonatal mortality resulting from the women's groups, which involved PLA meetings and discussions and activities regarding neonatal health and post-neonatal issues, was sustainable; they monitored births and neonatal deaths in 36 clusters between 2004 and 2011, following an RCT of women's groups between 2005 and 2008. The groups continued to meet between 2008 and 2011, and the authors used logistic regression to calculate NMR following 2008. However, further consideration was needed to determine whether the intervention is sustainable as part of a program (20).

Sondaal et al. (2019) used mixed methods to investigate the sustainability of PLA groups in rural Nepal following the cessation of support from a nongovernmental organization (NGO). Their findings indicated that 80% of the groups remained active 12–16 months after support was withdrawn, suggesting sustainability. Additionally, they found factors contributing to sustainability included community support for and valuing of groups and continued learning by members, in addition to strong leadership, a collective activity such as a health fund, and a feeling that the meeting was important (21).

Morrison et al. (2010) analyzed community maternal and child health funds in women's groups in rural Nepal and found high sustainability due to local management and accountability, in addition to loans to those who were less likely to default. However, external support would have allowed the poorest to borrow and helped cover some defaulting on repayment. In this study, the funds were comprised solely of community resources, and loans were completely controlled by the groups: This both enhanced sustainability by creating trust, autonomy, and local ownership, and limited sustainability as the size of the funds was limited due to lack of local resources, meaning the impact was limited, particularly for the poorest (45).

Factors that facilitated participation by ERG setting

Many studies reported on the characteristics of the members of the women's groups. The characteristics below were associated with higher likelihood of participation:

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- Urban poor and remote rural:
 - Children under 5 (37)
 - Male head of household (37)
 - Engagement with health workers/NGO staff (37)
 - Knowing the meeting schedule/venue (37)
 - Lower caste association (**negative** factor — lower odds of adoption) (37)
 - Young women pregnant for the first time (**negative** factor — lower attendance) (39)
- Remote rural:
 - Better finances (40)
 - More education (40)
 - Children under 2 (**negative** factor – lower participation) (43)
 - Higher socioeconomic status (8)

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Existing evidence gaps and recommendations for future research

This review identified several important gaps regarding the evidence base for women's groups and their ability to reach zero-dose children and missed communities:

- Only three studies identified evaluated the effectiveness of women's groups on improving vaccination rates, and none specifically mentioned zero-dose children or communities. **More evidence is needed to better understand the effectiveness of women's groups as a pro-equity intervention in the immunization sector.**
- Most women's groups interventions were implemented in remote rural settings. **Few studies and reports described or evaluated groups that took place solely in poor urban areas and fragile or conflict settings, or specifically addressed gender-related barriers.**
- More information is also needed on diversity of women's groups strategies and styles beyond PLA cycles and in more varied settings, as well as if and how women's groups should be established, facilitated, or engaged as part of larger programs.
- One goal of this review was to understand how women's groups affect women's empowerment as a potential pathway to improving child health. **Due to insufficient data, it was not possible to answer this research question, suggesting additional research is needed.** It may be difficult to produce evidence on how empowerment can serve as a mediator between women's groups and child health outcomes. Empowerment is difficult to measure, and studies have shown that it is possible to directly measure the effects of women's groups on child health outcomes of interest, potentially lowering the incentive to research empowerment as a pathway.
- Although interventions involving women's groups were gender responsive (i.e., they considered gender-specific needs of populations), few interventions identified were gender transformative (i.e., few sought to change structural factors or cultural/social norms that drive gender inequities). The lack of studies seeking to address structural constraints that limit women's power and agency in regard to child health is a critical gap in the literature needing further research.

Limitations

Despite undertaking a comprehensive search strategy, this synthesis involved a rapid literature review; it is possible relevant citations were missed. Additionally, this review included only relevant peer-reviewed publications and publicly available grey literature sources. It is possible more evidence exists, especially programmatic data that might not be available through the sources searched. Publication bias, although not

formally assessed, might be of relevance, especially if successful women's groups are more likely to be written about and published than unsuccessful ones. Also, despite the use of standardized forms and trained staff members, data interpretation is somewhat subjective, especially given that formal, quantitative synthesis of outcomes was infeasible. Few studies presented outcomes specific to zero-dose children and missed communities, thus limiting our ability to understand implementation considerations among these groups, and interventions were not implemented across all ERG settings of interest. Finally, this review included articles describing the same or similar interventions that occurred within the same locations and used similar approaches and methodologies. It is possible some overlap was not accounted for in this review.

Conclusions

How to potentially shift pro-equity programming based on findings?

Evidence presented in this brief suggests interventions involving women's groups are a promising strategy and should be considered as a potential way to improve reach to zero-dose children and missed communities. Because this is not yet considered a "proven" intervention and no data exists on the impact of women's groups on zero-dose children, it will be important to include a learning agenda and implementation research alongside efforts to implement interventions involving women's groups to reach zero-dose children and missed communities so what is learned can be understood and applied. Women's groups are well suited to improving equity through their focus on increasing knowledge and autonomy of women and mothers, particularly in underserved areas and vulnerable communities. To adapt women's groups interventions with a pro-equity lens, with the goal of reaching zero-dose children and missed communities, the following steps will be necessary:

1. Identify missed communities and those with a high prevalence of zero-dose children and target these populations with interventions involving women's groups.
2. Ensure equitable participation from marginalized women or women in vulnerable settings who may be less likely to participate, such as those with lower socioeconomic statuses, lower education rates, and certain caste associations; younger women pregnant for the first time; those from women-headed households; and women with infants.
3. Tailor the intervention to the local context, accounting for literacy rates and education levels, social norms related to how women are able to travel and participate, religious considerations, local languages, and respect of local practices. This can be supported by using facilitators from the communities. Relatedly, as women in missed communities often have low utilization of sexual and reproductive health and maternal health services, it would be useful for interventions involving women's groups to involve both topics to improve health outcomes for both women and children.
4. If existing women's groups are the focus of an intervention to improve child health, ensure members are meaningfully engaged in designing and implementing the activities, and activities are responsive to the

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priorities and goals of the group. Otherwise, interventions run the risk of instrumentalizing the groups to achieve certain external goals, which is a strategy unlikely to succeed and one that runs counter to expanding women's power and agency. Relatedly, simply establishing a women's group is likely insufficient to affect change; ensuring intervention activities work to amplify women's voices and concerns are critical.

Based on the findings, should women's groups interventions with an equity perspective be brought to scale?

Based on review findings, scaling up interventions involving women's groups is a promising approach to improve child health outcomes. Many studies that evaluated women's groups considered scalability in relation to costs due to the high cost effectiveness of this intervention on a small scale. Some overarching findings and considerations relevant to scale-up costs include:

- Costs might increase on scale-up due to increased costs associated with higher coverage (35).
- Cost effectiveness on a larger scale could be enhanced because some costs that are part of research or introducing small-scale programs would no longer be necessary, such as comprehensive monitoring, start-up, and possibility of cascade training and integrating with existing programs or systems (42, 51). Additionally, increased coverage per area could contribute to more lives saved with increased management expenses, increasing the cost-effectiveness ratio (51).
- Scale-up to remote rural settings is potentially affordable; one study found it would cost between 1.2% and 6.3% of government health expenditure to extend women's groups with PLA cycles to remote rural settings in Nepal, Bangladesh, Malawi, and India (49).
- Women's groups with PLA in high-mortality settings can feasibly be scaled up with promising results in comparable settings with similarly high mortality (51).
- Participatory groups, or those led by peer facilitators, are more scalable at a low cost compared to health worker home visits (15).

More information is needed on how women's groups can be integrated with the health system and government programs, and how this might enhance the potential for scale-up. Additionally, no examples of women's associations that operate at regional or national levels were identified, despite being included in the definition of women's groups in this brief, indicating that current evidence primarily covers women's groups that operate at the community level and focus on individual empowerment as opposed to larger advocacy efforts.

Appendix A.

How was this evidence synthesis conducted?

SEARCHING, DATA EXTRACTION, AND ANALYSIS: The review followed a general methodology for all topics in this series. In brief, the methodology involved comprehensively searching electronic databases from January 2010 through February 2023, conducting a grey literature search, screening through all citations, and developing topic-specific inclusion criteria. Data were extracted into standardized forms, and results were synthesized narratively.

INCLUSION CRITERIA: We included studies that took place in low- and middle-income countries and involved women's groups or women's associations with a vulnerable, marginalized, or otherwise underserved community. Studies had to include an outcome of interest, specifically an outcome relevant to child health. We included both effectiveness studies (defined as using a multi-arm design or using pre-/post- or time series data to evaluate an intervention involving women's groups) and implementation studies (defined as any study containing descriptive or comparative data relevant to implementation outcomes).

SEARCH RESULTS:

- 365 articles were identified in the published literature search.
 - 284 articles were excluded during the title and abstract screening.
 - Of the remaining 81 retained for full text screening, 33 were excluded, leaving 48 eligible studies, including:
 - » Eight existing relevant reviews
 - » Five effectiveness studies
 - » 17 articles related solely to implementation
 - » 18 studies related to both effectiveness and implementation
- No reports were identified in the grey literature.

Appendix B.

Women's groups interventions measuring effectiveness

The table below includes descriptions of the intervention and results of all included effectiveness studies.

STUDY	INTERVENTION	RESULTS
<p>Azad et al., 2010</p> <p>Bogra, Faridpur, and Moulavibazar districts in Bangladesh</p>	<p>A total of 18 clusters were randomized to control or intervention. The intervention group included women's groups with PLA and design and implementation of maternal and neonatal health strategies, facilitated monthly. Both control and intervention clusters involved health service strengthening activities and traditional birth attendant training.</p>	<ul style="list-style-type: none"> • 570 neonatal deaths occurred in the intervention clusters versus 656 in the control clusters. • Adjusted NMR was 33.9 deaths per 1,000 live births in the intervention clusters, compared with 36.5 per 1,000 in the control clusters.
<p>Fottrell et al., 2013</p> <p>Bogra, Faridpur, and Moulavibazar districts in Bangladesh</p>	<p>Fottrell et al. (2013) conducted an RCT from 2009 to 2011 using the same intervention and control areas as the earlier 2005–2007 by Azad et al. (2010). Younes et al. (2015) conducted a controlled before-and-after study of those groups that continued to meet.</p>	<ul style="list-style-type: none"> • NMR was significantly lower in intervention areas resulting in a 38% reduction in neonatal mortality when adjusted for socioeconomic factors. • The cost effectiveness of the intervention was US\$220–393 per year of life lost averted.
<p>Younes et al., 2015</p> <p>Bogra, Faridpur, and Moulavibazar districts in Bangladesh</p>		<ul style="list-style-type: none"> • Mothers' knowledge of disease prevention and management, danger signs, and handwashing significantly improved. • Significant increases were seen in EBF for at least six months (15.3%) and mean duration of breastfeeding (37.9 days). • Compared to control, maternal reports of under-5 morbidities fell in intervention areas. • No differences in dietary diversity scores or immunization uptake were found.

STUDY	INTERVENTION	RESULTS
<p>Tripathy et al., 2010</p> <p>Three districts of Orissa and Jharkhand states in India</p>	<p>A total of 18 clusters were randomized to intervention or control, with intervention involving women’s groups with PLA and design and implementation and maternal and newborn health strategies. Groups met monthly and a local woman selected by the community served as facilitator. Information was disseminated through stories, games, and case studies.</p>	<ul style="list-style-type: none"> • “NMRs per 1,000 were 55.6, 37.1, and 36.3 during the first, second, and third years, respectively, in intervention clusters, and 53.4, 59.6, and 64.3, respectively, in control clusters.” • NMR was 32% lower in intervention clusters and 45% lower in years 2 and 3.
<p>Houweling et al., 2013</p> <p>Three districts of Orissa and Jharkhand states in India</p>	<p>Information was disseminated through stories, games, and case studies.</p>	<ul style="list-style-type: none"> • Among the most marginalized, NMR was 59% lower in intervention clusters in years 2 and 3. • Among the less marginalized, NMR was 36% lower in intervention clusters in years 2 and 3. • “The stronger effect was concentrated in winter, particularly for early NMR.” • “There was no effect on the use of health-care services in either group, and improvements in home care were comparable.”
<p>Tripathy et al., 2016</p> <p>Five rural districts of Jharkhand and Odisha states in India</p>	<p>“The intervention was a cycle of women’s group meetings led by ASHAs. It followed rules of participatory learning and action and had a four-phase structure, like previous women’s groups interventions, and as recommended by WHO.”</p>	<ul style="list-style-type: none"> • During the follow-up period, there were 3,700 births in the intervention group and 3,519 in the control group. • NMR during the follow-up period was 30 per 1,000 live births in the intervention group and 44 per 1,000 live births in the control group.
<p>Clarke et al., 2019</p> <p>Jumla, Nepal</p>	<p>Of the 57 existing self-help groups, 30 were randomly selected for the study. Whereas the control groups received the typical education session, intervention groups received additional ear health education over three consecutive group meetings.</p>	<ul style="list-style-type: none"> • Health promotion was not associated with improvement in maternal knowledge, attitudes, and practices (KAP) or reduction in chronic suppurative otitis media (CSOM) in their children. • Over the course of the study, there was a significant increase in KAP score and decrease in CSOM prevalence.

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STUDY	INTERVENTION	RESULTS
<p>Doocy et al., 2019</p> <p>South Kivu, Democratic Republic of the Congo</p>	<p>The women’s empowerment groups (WEG) intervention was part of the overarching Jenga Jamaa II intervention, which was implemented to address household food insecurity and child undernutrition. Each week, WEG met to partake in literacy and numeracy, business and marketing training, and income-generating activities. WEG participants were given income-generating starter kits.</p>	<ul style="list-style-type: none"> WEG had significantly higher mean meal frequency than the control group. <p><i>Note: “Gains realized by WEG may have been too small to be meaningful in terms of improving household diet and women’s time allocation, or that education on child feeding practices should accompany WEG activities if improving child nutrition is an objective.”</i></p>
<p>Gope et al., 2019</p> <p>Jharkhand and Odisha states in India</p>	<p>Five blocks of each state were divided into study areas. Area 1 was the control. “In Area 2, trained local female workers facilitated PLA meetings and offered counselling to mothers of children under three at home. In Area 3, workers facilitated PLA meetings, did home visits, and crèches with food and growth monitoring were opened for children aged 6 months to 3 years.”</p>	<ul style="list-style-type: none"> In area 2, wasting was reduced by 34% and underweight by 25%. Stunting was unchanged in this area. In area 3, wasting was reduced by 27%, underweight by 40%, and stunting by 27%.
<p>Hamad et al., 2011</p> <p>Pucallpa, Peru</p>	<p>“The intervention involved 30 minutes of health education, facilitated by loan officers at the end of monthly group meetings over the course of eight months. As each loan cycle is six months, the educational sessions spanned more than one loan cycle, during which clients remained with their loan group to receive an additional loan. During each monthly meeting, loan officers presented basic information on child health to clients and provided an opportunity for the men and women to discuss their own experiences and identify appropriate solutions.”</p>	<ul style="list-style-type: none"> The intervention group was more knowledgeable about a variety of issues related to child health. “There were no changes in anthropometric measures or reported child health status.”

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STUDY	INTERVENTION	RESULTS
<p>Heys et al., 2018</p> <p>Makwanpur, Nepal</p>	<p>Mother and Infant Research Activities and the Institute for Global Health, University College London, UK conducted a trial in 2001–2003 involving women’s groups practicing PLA. These groups were facilitated by a local, nonhealth professional female once a month for three years, or for at least two years after the child was born.</p>	<ul style="list-style-type: none"> • Child death rate beyond the perinatal period was 36.6 per 1,000 children in the intervention arm, and 52.0 per 1,000 in the control arm. • Disability rate was 62.7 per 1,000 children in the intervention arm, and 85.5 per 1,000 in the control arm.
<p>Kadiyala et al., 2021</p> <p>Odisha, India</p>	<p>As part of a four-arm cluster RCT, the intervention group watched nutrition-sensitive agriculture videos and participated in a nutrition-specific, bi-weekly PLA cycle. The phases of the PLA cycle included: (1) problem identification and prioritization; (2) problem exploration, solution planning, and knowledge dissemination; (3) strategy implementation; and (4) evaluation.</p>	<ul style="list-style-type: none"> • There was an increase in the proportion of children in the intervention group eating at least four of seven food groups. • There was an increase in the proportion of mothers in the intervention group eating at least five of 10 food groups. • Maternal BMI and child wasting were not affected.
<p>Lewycka et al., 2013</p> <p>Mchinji, Malawi</p>	<p>Women’s groups met 20 times in four phases and were led by local women selected from the community. “Through the four phases of the cycle, members identified and prioritised maternal and child health problems, identified strategies to implement, planned and implemented them, and assessed them and made plans for the future.”</p>	<ul style="list-style-type: none"> • In the intervention group areas without peer counselors, MMR decreased by 74% and NMR decreased by 41%. These measures were unaffected in areas with counselors. • In the intervention group areas, infant mortality rate decreased by 36%, but EBF rate was unaffected.

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STUDY	INTERVENTION	RESULTS
<p>Lokonon et al., 2020</p> <p>Dangbo and Bonou towns in Benin</p>	<p>The intervention group (i.e., village saving and loan association [VSLA]) consisted of mothers who participated in the Nutrition at the Centre project. “Through VSLA groups installed in communities, mothers were connected to the project; had weekly discussions around the process, benefits and challenges linked to EBF, and advocated during Breastfeeding Week celebrations.”</p>	<ul style="list-style-type: none"> • Children of mothers in the intervention group consumed significantly more human milk and had significantly less non-milk oral intake. • Mothers in the intervention group were 14 times as likely to practice EBF.
<p>More et al., 2012</p> <p>Mumbai, India</p>	<p>“In each intervention cluster, a facilitator supported women’s groups through an action learning cycle in which they discussed perinatal experiences, improved their knowledge, and took local action.”</p>	<ul style="list-style-type: none"> • There was no difference between intervention and control groups in uptake of antenatal care; reported work, rest, and diet in later pregnancy; institutional delivery; early and exclusive breastfeeding; or care-seeking. • There was no difference in perinatal mortality rate (PMR). • The intervention group had a lower stillbirth rate but a higher NMR.

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STUDY	INTERVENTION	RESULTS
<p>Kumar et al., 2018</p> <p>Mumbwa, Zambia</p>	<p>“The Realigning Agriculture for Improved Nutrition (RAIN) project was a partnership between Concern Worldwide and the International Food Policy Research Institute, aimed to design, implement and evaluate a gender-sensitive agricultural programme combined with nutrition BCC [behavior change communication] targeted to the primary caregivers of children during their critical first two years of life. The three randomly assigned groups received the following interventions: (1) Agriculture, gender equity and women’s empowerment (Ag-G group); (2) Agriculture, gender equity and women’s empowerment plus nutrition BCC interventions (Ag-G-BCC); and (3) Standard government services.”</p>	<ul style="list-style-type: none"> • RAIN improved several aspects of women’s empowerment and infant and young child feeding (IYCF) knowledge, prevented deterioration in weight-for-height z-scores (WHZ), and reduced child diarrhea and cough/cold symptoms. • RAIN had limited impacts on IYCF practices and no impact on child stunting.
<p>Roy et al., 2013</p> <p>Tribal areas of Jharkhand and Odisha states in India</p>	<p>“Between August 2005 and July 2008, local women’s groups in zone 1 were assisted by Ekjut; there were no groups in zone 2.” After July 2008, zone 1 women’s groups continued to meet in a new cycle of PLA. The new women’s groups in zone 2 began meetings in August 2008, meeting monthly for a total of 20 meetings, organized in four phases. The zone 2 intervention differed from zone 1 in that facilitators emphasized the importance of thermal care using stories, picture cards, and problem-solving activities.</p>	<ul style="list-style-type: none"> • In zone 1, NMR was 34.2 per 1,000 live births between 2008 and 2011, compared to 41.3 per 1,000 live births between 2005 and 2008. • In zone 2, NMR was 61.8 per 1,000 live births between 2006 and 2008, compared to 40.5 per 1,000 live births between 2009 and 2011.

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STUDY	INTERVENTION	RESULTS
<p>Saggurti et al., 2018</p> <p>Bihar, India</p>	<p>The intervention was an adaptation of the Bill and Melinda Gates Foundation’s <i>Ananya</i> intervention, which entailed forming and nurturing 19,000 health-focused self-help groups (SHGs) with women of reproductive age coming from the most marginalized communities. These groups participated in eight weekly cycles of participatory behavior communication using different thematic modules on maternal, neonatal, child health (MNCH) and promoting collectivization processes facilitated by community health facilitators. Control SHGs were provided financial literacy and savings support and services, combined with unstructured health and social messages. There was no focus on MNCH practices in the control group.</p>	<ul style="list-style-type: none"> • Women in the intervention group were more likely to use contraceptive methods, have institutional delivery, practice skin-to-skin care, delay bathing for 3+ days, initiate timely breastfeeding, exclusively breastfeed, and provide age-appropriate immunization. • Women in the intervention group were more likely to report collective efficacy, accompany SHG members through antenatal care, receive a visit from SHG member within two days post-delivery, and receive reproductive, maternal, neonatal, and child health information from an SHG member.
<p>Saville et al., 2018</p> <p>Dhanusha and Mahottari districts in Nepal</p>	<p>All intervention arms included PLA with government-mandated women’s groups facilitated by female community health volunteers (FCHVs). The intervention groups consisted of PLA alone, PLA plus food (10 kg/month of fortified wheat-soya “super cereal”), and PLA plus cash (US\$7.50 per month).</p>	<ul style="list-style-type: none"> • Compared to the control arm, mean birthweight was significantly higher in the PLA plus food arm by 78.0g and not significantly higher in PLA only and PLA plus cash arms by 28.9g and 50.5g, respectively. • Compared to the control arm, more institutional deliveries and less colostrum discarding were found in the PLA plus food arm but not in PLA alone or in PLA plus cash arms.

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STUDY	INTERVENTION	RESULTS
<p>Nair et al., 2017</p> <p>Rural West Singhbhum and Kendujhar districts in India</p>	<p>“In each intervention cluster, a worker carried out one home visit in the third trimester of pregnancy, monthly visits to children younger than 2 years to support feeding, hygiene, care, and stimulation, as well as monthly women’s group meetings to promote individual and community action for nutrition.”</p>	<ul style="list-style-type: none"> • “Mean length-for-age Z score at 18 months was -2.31 (SD 1.12) in intervention clusters and -2.40 (SD 1.10) in control clusters.” • EBF, timely introduction of complementary foods, morbidity, appropriate home care, or care-seeking during childhood illnesses were not affected by the intervention. • “In intervention clusters, more pregnant women and children attained minimum dietary diversity, more mothers washed their hands before feeding children, fewer children were underweight at 18 months, and fewer infants died.”
<p>Nair et al., 2021</p> <p>Jharkhand, India</p>	<p>“The intervention was a cycle of monthly women’s group meetings following principles of PLA. Meetings were usually held outdoors and were led by ASHAs and their supervisors — called ASHA facilitators — with approximately 1 ASHA facilitator for 15–20 ASHAs. The PLA meeting cycle had four phases.” Of the six districts, three had an early intervention start (2017) and three a delayed start (2019).</p>	<ul style="list-style-type: none"> • In the early arm, NMR was 36.9 per 1,000 live births at baseline and 29.1 per 1,000 live births after the intervention. • In the delayed arm, NMR was 39.2 per 1000 live births at baseline and after the intervention. • There was a 24% reduction in NMR. • In the 20 districts with adequate meeting coverage and quality, the intervention saved 11,803 newborn lives over 42 months and cost 41 international dollars per life year saved.

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STUDY	INTERVENTION	RESULTS
<p>Morrison et al., 2020</p> <p>Makwanpur, Nepal</p>	<p>FCHVs were trained in facilitation skills, the PLA process, and how to run meetings. “FCHVs led women’s group discussions about barriers to institutional delivery and ways to address them. The group then organised community and cluster meetings to galvanise support for strategy implementation, to which HMCs [health management committees], health workers, community leaders, women and men were invited. After strategies to address barriers were implemented, the group reflected on their progress and planned and implemented further strategies or changed existing ones.”</p>	<ul style="list-style-type: none"> • “There were no differences between trial arms in institutional delivery uptake or attendance by trained health workers.” • “In intervention areas, the proportion of pregnant women attending FCHV group meetings was 14.3% (896), compared with 4.7% (353) in control areas.” <p><i>Note: The women’s group intervention was implemented as intended, but HMCs did not meet regularly, so they were not supported.</i></p>
<p>Colbourn et al., 2013</p> <p>Kasungu, Lilongwe, and Salima districts in Malawi</p>	<p>The intervention evaluated a rural participatory women’s group community intervention (CI) and a quality improvement intervention at health centers (FI) to make four groups: control, FI, CI, and FI+CI. “In mid-2007, MaiKhanda established 729 participatory women’s groups to mobilize communities around maternal and newborn health, using 81 volunteer facilitators, supported by nine staff, across the allocated clusters. In mid-to-late 2009, 365 (50%) of the groups had maternal and neonatal health task forces (MNHTF) added to them by the MaiKhanda programme in an attempt to enhance antenatal coverage, maternal and neonatal health (MNH) knowledge, and facility delivery.”</p>	<ul style="list-style-type: none"> • “For control, FI, CI and FI+CI clusters neonatal mortality rates were 34.0, 28.3, 29.9, and 27.0 neonatal deaths per 1,000 live births and perinatal mortality rates were 56.2, 55.1, 48.0, and 48.4 per 1,000 births, during the intervention period.” • NMR was 22% lower in FI+CI than control clusters, and PMR was 16% lower in CI clusters. • Maternal mortality was unaffected.

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