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Randomized Controlled Trials of Interventions Addressing Intimate Partner Violence in Sub-Saharan Africa: A Systematic Review

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Abstract

Background: Intimate partner violence (IPV) perpetrated by males is the most prevalent form of violence against women across the globe. A systematic review was carried out to identify published randomized controlled trials of interventions aiming to prevent or reduce IPV in Sub-Saharan Africa. Details were sought on the interventions, outcomes, and risk of bias in evaluations. **Methods:** Articles were identified by searching MEDLINE, Embase, Web of Science, and PsycInfo. The search included terms pertaining to IPV, the research design, and the target geographical region. To be included, studies needed to have assessed the impact of an intervention on reported incidence, prevalence of IPV, or measures of related attitudes and behaviors. Fifteen papers were included in the final review. Risk of bias was evaluated using the Cochrane Library "Risk of Bias" tool. **Results:** Findings suggest that interventions have the potential to reduce IPV-related behaviors and attitudes. Certain types of IPV were more amenable to change than others. Higher levels of efficacy were identified in interventions that had longer follow-up, addressed IPV as a main aim, and occurred at the community level or multiple levels of the social ecology. **Conclusions:** Findings should be interpreted in light of varying risks of bias. Suggestions are made for future research and practice.

Keywords

domestic violence and cultural contexts, domestic violence, intervention/treatment, anything related to domestic violence, cultural contexts

Violence against women affects approximately one third of women in their lifetime (World Health Organization [WHO], 2013). Intimate partner violence (IPV), defined as behavior within an intimate relationship that causes physical, sexual, or psychological harm, including acts of physical aggression, sexual coercion, psychological abuse, and controlling behaviors (WHO, 2010), is the biggest contributor to this high prevalence (WHO, 2013). Although IPV can be perpetrated by women, and violence can exist in same-sex relationships, the most common type of IPV is that inflicted by men against female partners (United Nations Women, 2013).

Women who have experienced IPV are significantly more likely to report poor physical health (Ellsberg et al., 2008), and it is associated with numerous negative reproductive health outcomes (Hindin, Kishor, & Ansara, 2008) and alcohol abuse (WHO, 2013). Women who have experienced IPV are more likely to experience depression (WHO, 2013) and report more suicide attempts (Ellsberg et al., 2008). Additionally, as the positive association between IPV and HIV is strongest in regions with high prevalence rates of HIV, such as Sub-Saharan Africa, women experiencing IPV in this region are particularly vulnerable to infection (Durevall, Lindskog, & Gothenburg Centre for Globalization and Development, 2015; Joint United Nations Programme on HIV and AIDS [UNAIDS], 2014). These physical and mental health implications have led the WHO (2013) to identify IPV as a global public health problem of epidemic proportions.

Economically IPV incurs both direct costs, such as the cost of treating physical injuries, and indirect costs, related to the detrimental impact it has on women taking advantage of economic opportunities (International Rescue Committee, 2012). Fearon and Hoeffler (2014) estimated the global costs of IPV to be 5.2% of global gross domestic product. These associations demonstrate that addressing IPV is essential in the pursuit of global health, and economic and social development (García-Moreno et al., 2015).

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Understandings of violence against women have shifted from individual-level explanations to recognizing the complex interplay of multiple factors (Michau, Horn, Bank, Dutt, & Zimmerman, 2015) such as gender inequality and discrimination (United Nations Women, 2013). In this vein, the WHO (2010) described violence against women as a social problem rooted in unequal power and resource distributions between men and women and institutionalized through laws, policies, and norms that afford preferential rights to men. Jewkes (2002) concluded that two factors are necessary for IPV: the unequal position of women in a relationship and in society and the normative use of violence, suggesting that the influence of a number of other factors is mediated through their effect on these two main factors. A different but related perspective on IPV is the integrated ecological model of violence (Heise, 1998, 2011). In this model, violence against women, including IPV, is seen as a result of the interaction of individual, relationship, community, and societal factors (which may include gender inequality) and is a widely accepted foundation for programming and research. Cools and Kotsadam (2015) propose a "contextual acceptance employment" hypothesis according to which female employment leads to a higher risk of abuse in settings where social norms are such that acceptability of physical IPV is high. Based on these theoretical foundations, many interventions aim to tackle gender-power imbalances, economic empowerment, and social norms.

While progress on IPV legislation has been made, the law alone cannot prevent violence (World Bank Group, 2014) and system-wide changes, such as community interventions, are needed to improve enforcement (Morrison, Ellsberg, & Bott, 2007). Preventative approaches to IPV take one of two forms: primary prevention decreases the number of new cases of violence, while secondary prevention mitigates harm after violence has occurred (Arango, Morton, Gennari, Kiplesund, & Ellsberg, 2014). Promising preventative interventions may entail social/economic empowerment of women, promoting change in attitudes and behaviors through education of both men and women, or participatory community mobilization (García-Moreno et al., 2015). Rates of perpetration of IPV are strongly predicted by both men's and women's attitudes condoning such acts (Abramsky et al., 2011), highlighting the importance of addressing both men's and women's attitudes; however, behavior change must ultimately be the main objective of interventions. In high-income countries (HIC), secondary prevention has received more attention while in low- and middle-income countries (LMIC), there is a greater focus on primary prevention. That said, however, the overall number of services and evaluations is lower in LMIC and what has been evaluated in HIC may not be relevant to LMIC (Arango et al., 2014). Therefore, it is essential to synthesize information from other regions to assist with developing and implementing interventions. Despite the vast differences within the 46 countries in Sub-Saharan Africa (Alesina, Devleeschauwer, Easterly, Kurlat, & Wacziarg, 2003), all countries share in common prevalence rates of IPV above the global average (WHO, 2013).

This systematic review aimed to synthesize findings from randomized controlled trials (RCTs) that have evaluated interventions aiming to prevent/reduce IPV perpetrated against adult females in Sub-Saharan Africa. It sought to gather information on aspects of studies such as facilitator training, recruitment methods, and underlying theoretical models that will assist in the future planning of interventions. Potential sources of bias in each RCT were identified to improve future research.

Method

The "Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Statement" (Moher, Liberati, Tetzlaff, Altman, & The PRISMA Group, 2009) and PRISMA-Protocol guidelines (Shamseer et al., 2015) guided this review. The protocol was recorded on the PROSPERO database.

Studies were included if they were RCTs that collected primary data evaluating pre and postintervention measures of the incidence/prevalence of IPV or related attitudes/behaviors, published in English in peer-reviewed journals, and conducted in a Sub-Saharan African country with adults as the target population. Studies that did not state that addressing IPV was an aim of the intervention and/or studies evaluating interventions addressing only the sequelae of IPV were not included. Web of Science, PsycInfo, MEDLINE, and EMBASE were systematically searched for articles published up to March 31, 2016. Appendix A provides the search strategy for one of these databases. Search terms relating to designs other than RCTs were included to ensure that no RCTs were inadvertently missed. Sub-Saharan African countries were those listed by the United Nations Development Programme (n.d.). Primary authors of included studies were contacted for information on potentially eligible papers. Of 17 authors contacted, 9 replied suggesting a number of resources. The reference lists of included papers were hand-searched for additional studies. After duplicates were removed, two researchers (C.C. and P.N.) independently scanned the abstracts and titles of the papers for suitable papers. Full-text articles were then examined by both researchers for eligibility. In general, the level of agreement was high and any differences were resolved through discussion of the eligibility criteria and consensus agreement. Relevant data were extracted and tabulated. Two researchers (C.C. and N.B.) independently assessed bias in the studies using the Cochrane Collaboration's "Risk of Bias" tool (Higgins, Altman, & Sterne, 2008).

Results

Figure 1 shows the results of the literature search. Briefly, 592 studies were initially identified, 62 full-text articles screened, and 15 articles included.

Study Characteristics

Fifteen studies drawing on 11 unique data sets were included. Sample sizes were large ranging from 478 (Jones et al., 2013) to 11,448 (Wagman et al., 2015) unique participants enrolled at

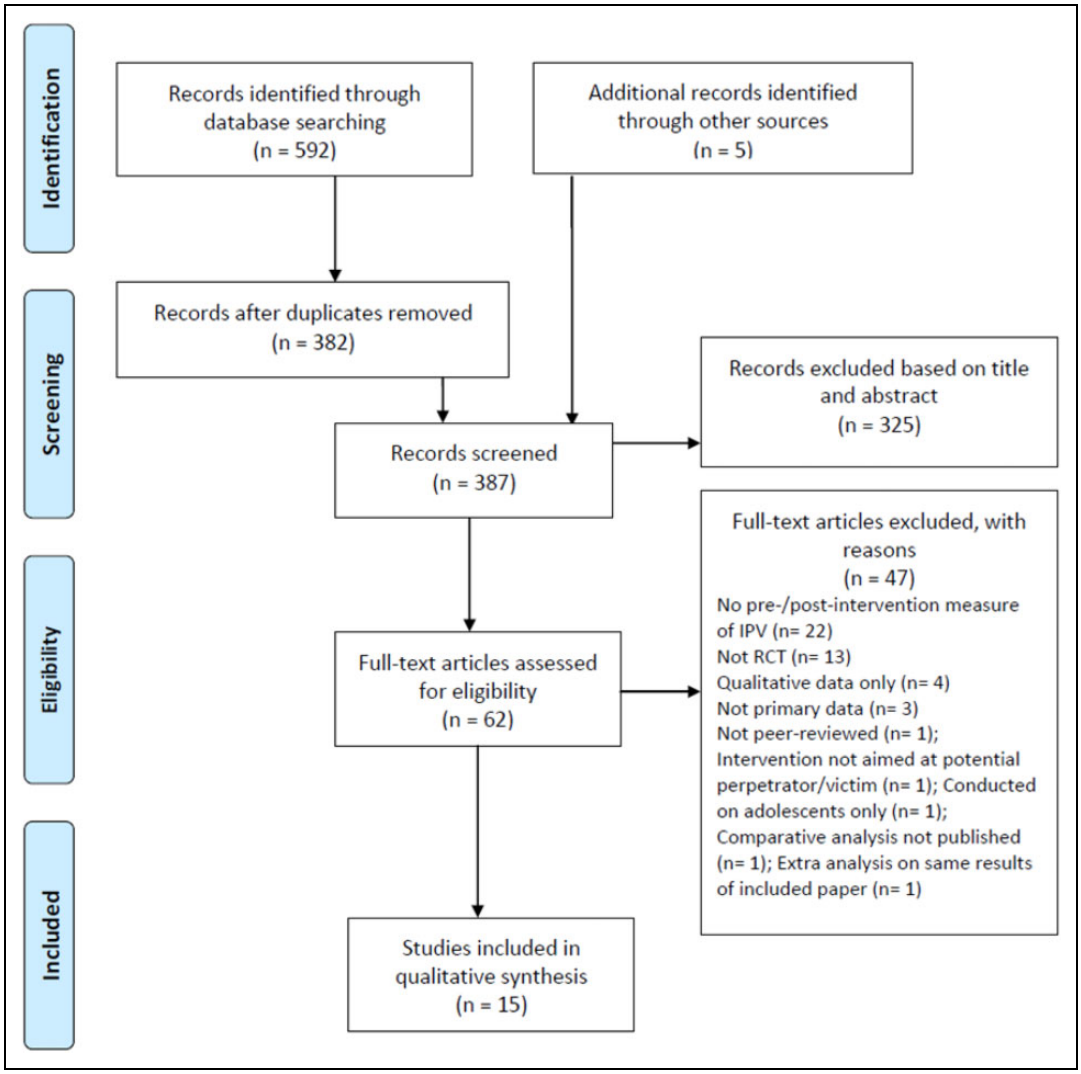

Figure 1. Flow chart of study selection.

baseline (median = 981, interquartile range [IQR] = 1,199): 8,099 were male and 15,095 female. Four studies were carried out in Uganda (Abramsky et al., 2014; Green, Blattman, Jamison, & Annan, 2015; Kyegombe et al., 2014; Wagman et al., 2015), three in Côte d'Ivoire (Falb et al., 2015; Gupta et al., 2013; Hossain et al., 2014), six in South Africa (Jewkes et al., 2008; Jones et al., 2013; Kim et al., 2009; Minnis et al., 2015; Pronyk et al., 2006; Wechsberg et al., 2013), and two in Kenya (L'Engle, Mwarogo, Kingola, Sinkele, & Weiner, 2014; Parcesepe et al., 2016). Twelve studies were cluster RCTs (Abramsky et al., 2014; Falb et al., 2015; Green et al., 2015; Gupta et al., 2013; Hossain et al., 2014; Jewkes et al., 2008; Jones et al., 2013; Kim et al., 2009; Kyegombe et al., 2014; Minnis et al., 2015; Pronyk et al., 2006; Wagman et al., 2015). The remaining three studies were randomized at the participant level. The interventions had varied and sometimes multiple underlying theoretical models. Some of these included gender equality/issues and gender equitable relationships (Falb et al., 2015; Gupta et al., 2013; Jewkes et al., 2008; Kim et al., 2009; Minnis et al., 2015; Pronyk et al., 2006; Wechsberg et al., 2013), economic empowerment and poverty alleviation (Falb et al., 2015; Green et al., 2015; Gupta et al., 2013: Kim et al., 2009; Pronyk et al., 2006), cognitive behavioral skill training (Jones et al., 2013), ecological model of violence and power imbalances (Abramsky et al., 2014; Kyegombe et al., 2014), social norms theory (Hossain et al., 2014), and stages of change (L'Engle et al., 2014; Parcesepe et al., 2016; Wagman et al., 2015). All interventions were primary interventions, that is, they aimed to decrease the number of new cases of violence. No interventions aimed to solely address IPV but addressed multiple psychosocial problems such as poverty alleviation (Green et al., 2015), HIV prevention (Abramsky et al., 2014; Kyegombe et al., 2014), and reducing alcohol use (L'Engle et al., 2014; Parcesepe et al., 2016). Three studies were of interventions whose aim was reducing IPV through the incremental effects of adding features to preexisting programs (Falb et al., 2015; Gupta et al., 2013; Hossain et al., 2014). Two studies were of an intervention that was solely community

based (Abramsky et al., 2014; Kyegombe et al., 2014). Four studies described interventions that used a mix of community-based interventions and interventions targeted at groups or individuals (Hossain et al., 2014; Kim et al., 2009; Pronyk et al., 2006; Wagman et al., 2015). Nine described targeted interventions aimed only at small groups or individuals (Falb et al., 2015; Green et al., 2015; Gupta et al., 2013; Jewkes et al., 2008; Jones et al., 2013; L'Engle et al., 2014; Minnis et al., 2015; Parcesepe et al., 2016; Wechsberg et al., 2013). Interventions were facilitated by previously untrained unpaid laypeople supported by an existing organization (Abramsky et al., 2014; Kyegombe et al., 2014; Wechsberg et al., 2013), trained nongovernmental organization (NGO) field staff (Falb et al., 2015; Green et al., 2015; Gupta et al., 2013; Jewkes et al., 2008; Kim et al., 2009; Pronyk et al., 2006), trained professionals/paraprofessionals (Jones et al., 2013; L'Engle et al., 2014; Minnis et al., 2015; Parcesepe et al., 2016), and both trained laypeople and trained professionals or paraprofessionals (Wagman et al., 2015). A description of the interventions and underlying theoretical models can be found in Table 1. Further details on the characteristics of the studies including recruitment strategies and facilitator training details can be accessed by contacting the corresponding author.

Risk of Bias

Figure 2 provides a summary of each study's classification on the various "risks of bias" indices (i.e., high/low/unclear). As a domain-based evaluation, the tool for evaluation of risk of bias is not intended to give an overall "score" for each study but rather to allow a judgment of whether outcome assessments may be affected by different types of bias. The main bias-related concerns for the studies as a whole were allocation concealment, blinding of participants/outcomes, and incomplete outcome data. As is the case with many psychosocial interventions, blinding of participants and personnel either did not take place or was not addressed in any of these studies. In all trials except one, blinding of outcome assessment either did not occur or the reported information was not sufficient to make a judgment. Blinding of outcome assessment was achieved in one trial of an individualized counseling intervention by masking treatment allocation to the study investigators until data handling was finalized (L'Engle et al., 2014; Parcesepe et al., 2016), decreasing the risk of detection bias in studies of this trial—it may be easier to maintain blinding in individualized interventions compared to community interventions. Regarding incomplete data outcomes, one study analyzed results on a per-protocol basis (Pronyk et al., 2006), while in two studies, it was not clear whether analysis was per-protocol or intention to treat (ITT; Kim et al., 2009; Minnis et al., 2015). In one study, it was not possible to judge the risk of attrition bias (Falb et al., 2015) while in another, a significantly greater number of participants in the control group were lost (Wagman et al., 2015), potentially affecting trial results.

Study Outcomes

Key results of each study are summarized in Table 2. Follow-up times ranged from 6–8 weeks (Jones et al., 2013) to 4 years (Abramsky et al., 2014; Kyegombe et al., 2014) postbaseline (Median = 16 months, IQR = 12 months). The conceptualization of most behaviors and how they were measured was not uniform across the studies. The conceptualizations of some abusive behaviors varied notably between studies, for example, emotional violence was measured according to different definitions between studies (Falb et al., 2015; Jones et al., 2013; Wagman et al., 2015); and the measures for "marital control" or "controlling behavior" in some studies overlapped with those relating to economic abuse and emotional violence in others (e.g., Green et al., 2015; Kim et al., 2009; Pronyk et al., 2006).

Behavioral Indicator Outcomes: Intervention Groups Versus Controls

Unless stated otherwise, the results reported here are based on comparisons between the intervention and control groups. Physical IPV was lowered among women in the start, awareness, support, action (SASA)! intervention with a large effect size (Abramsky et al., 2014) but not significantly. Physical IPV significantly decreased in the high adherent group of the Village Savings and Loans Association (VSLA) and Gender Discussion Group (GDG) intervention (Gupta et al., 2013) but not in low adherent or ITT analyses. When this sample was stratified by age of marriage, ITT analysis showed that physical IPV significantly decreased in non-child brides but not in child brides (Falb et al., 2015). Physical IPV was significantly lower in the Safe Homes And Respect for Everyone (SHARE) intervention group at 35 months but not 16 months, and the effect size was small (Wagman et al., 2015). Physical IPV significantly decreased in the PartnerPlus intervention (Jones et al., 2013) with a large effect size. Adding a Men's Discussion Group (MDG) to a community gender-based violence (GBV) prevention program yielded a reduction in women's self-reported experience of physical IPV compared to the GBV program alone but not significantly (Hossain et al., 2014). Physical IPV was not significantly reduced compared to controls in two studies (Parcesepe et al., 2016; Wechsberg et al., 2013).

Sexual IPV was reduced only in "non-child brides" participants in the VSLA and GDG intervention compared to VSLA alone with a large effect size and trending toward significance (Falb et al., 2015). It was also significantly reduced in the SHARE intervention at the second follow-up, but the effect size was small (Wagman et al., 2015). The additional MDG showed large but nonsignificant effect sizes for a decrease in women's reported sexual IPV in all dose levels compared to the GBV program alone (Hossain et al., 2014). Women's experience of forced sex from a partner was significantly lower in SHARE intervention groups at 35 months, but the effect size was small (Wagman et al., 2015). There was no statistically significant reduction in sexual IPV in SASA! (Abramsky et al.,

Table 1. Theoretical Models and Interventions.

Author (Publication Year)	Theoretical Model and Intervention
SASA!	
Abramsky et al. (2014) Kyegombe et al. (2014)	Theory: Designed around the ecological model of violence. Intervention: Promoting critical analysis and discussion of power and power inequities (particularly between men and women) through social diffusion and community mobilization. People interested in issues of power, violence, and rights selected as community activists and underwent training. Analysis of imbalances in power encouraged through informal activities and fostering involvement and activism. The specifics of intervention activities were not stringently prescribed but developed in response to the community. Due to interruptions, participants had experienced 2.8 years of intervention at a 4-year follow-up.
VSLA + GDG	
Gupta et al. (2013) Falb et al. (2015)	Theory: Gender equality (GDG) and economic empowerment (VSLA). GDG based on stages of change constructs of the transtheoretical model. Intervention: VSLA—Groups of 15–30 women contribute to a fund. Members borrow from it and pay back at a small interest rate. On a payout date, each member receives their savings plus return. GDG—Loan participants and male partners reflect on financial decisions and goals, the value of women, respect and communication between men and women, and alternatives to violence. Eight group sessions of 1.5–2.5 hr over 16 weeks separate to the weekly VSLA sessions.
WINGS;W+	
Green, Blattman, Jamison, and Annan (2015)	Theory: Poverty alleviation (WINGS) and engagement with male partners (W+). Intervention: Poverty alleviation (WINGS): offering cash to women and encouraging nonfarm businesses. Clients participate in training, formation of self-help groups, and supervision. Four days of training. AVSI staff visited every 6 weeks for 6 months. Partner engagement version (W+): Program clients were encouraged to attend training with someone from their household (usually a male partner). One extra day of training involving material on culture, gender, communication, and joint-problem-solving.
MDG + GBV programming	
Hossain et al. (2014)	Theory: Engaging with male partners. Based on social norm theory. Intervention: Influencing inequitable gendered attitudes, behaviors, and expectations among men. MDG: based on men and women in partnership initiative. Sixteen-week IPV prevention intervention for men. Material on: GBV toward women, men, and children; gender equitable beliefs; violence; household roles; and hostility and conflict management. Separate but complementary to a community-based GBV prevention program occurring in both control and intervention arms. One session of 3 hr per week (from: International Rescue Committee, 2010)
Stepping Stones	
Jewkes et al. (2008)	Theory: Gender equitable relationships. Intervention: 50-hr HIV prevention program for men and women, using participatory learning to build knowledge, risk awareness, communication skills, and encourage critical reflection. Delivered to single-sex groups. Thirteen 3-hr sessions with three meetings with male and female peer groups and a final community meeting over 6–8 weeks. Material on sexual education, GBV, sexually transmitted diseases and HIV, and communication skills.
PartnerPlus	
Jones et al. (2013)	Theory: Cognitive behavioral skill building. Intervention: Four-week program of 90- to 120-min sessions incorporating a prevention of mother-to-child (HIV) transmission intervention, plus skill building to improve communication, sexual negotiation, conflict resolution, STI/HIV prevention, use of condoms, and gender-relevant issues. Single-sex group sessions of maximum 10 participants per group.
IMAGE	
Pronyk et al. (2006) Kim et al. (2009)	Theory: Poverty-focused microfinance initiative with gender and HIV education. Participatory learning and action principles. Intervention: IMAGE made up of microfinance and "Sisters-for-life": Microfinance—groups of five women serve as guarantors for each other's loans and must pay them back before applying for more credit. Groups of approximately 40 meet fortnightly; Sisters-for-life program—Two phases delivered over 12–15 months: ten 1-hr training sessions during loan meetings, including sessions on gender roles, domestic violence, HIV, and culture. Phase 2 encouraged wider community mobilization to engage young people and men in participatory learning. Selected women undertake further training and work to address priority issues.

(continued)

Table 1. (continued)

Author (Publication Year)	Theoretical Model and Intervention
Brief alcohol intervention	
L'Engle, Mwarogo, Kingola, Sinkele, and Weiner (2014)	Theory: Stages of change and social cognitive health behavior change theories.
(Parcesepe et al., 2016)	Intervention: Six monthly counseling sessions based on WHO brief intervention for alcohol use (Babor & Higgins-Biddle, 2001). One-on-one sessions of 20 min. Motivational interviewing techniques, goal setting, increasing self-efficacy, and positive feedback and encouragement.
WHC; CHC; WHC/MHC	
Minnis et al. (2015)	Theory: Equitable gender-based power in relationships. Core elements based in feminist and empowerment theories.
	Intervention: Two 3-hr group sessions delivered 1 week apart. WHC—Information on sexual behaviors, HIV, relationship power, negotiation, violence and violence strategies. MHC—Similar to WHC, including elements from the Men as Partners Program designed to engage men in reducing GBV. CHC—Extends WHC by integrating components from a couples-based HIV intervention. Focused on communication, negotiation, gender roles, and conflict. Couples practiced exercises in dyads as well as the larger intervention group.
SHARE	
Wagman et al. (2015)	Theory: Ecological framework. Based on stages of change theory.
	Intervention: Four years 7 months. Community program aspect involved HIV services, material on IPV's negative consequences, changing IPV attitudes and behaviors, advocacy, capacity building, community activism, learning materials disseminated, events, and campaigns. Brief (5–10 min) violence prevention intervention offered to all abused and/or HIV-infected females. Men and boys program involved group and one-on-one discussions of concepts of masculinity and its impact on HIV and IPV, alcohol, and conflict resolution (retrieved from appendix 1 online, Wagman et al., 2015)
WHC	
Wechsberg et al. (2013)	Theory: Grounded in an empowerment framework and feminist theory.
	Intervention: Four-module intervention over two sessions with each module lasting approximately 1 hr. Included information on drug use, sexual behaviors, HIV risk, relationship power, communication, negotiation, and violence against women. Delivered to groups of 4–6 women.

Note. AVSI = Association of Volunteers in International Service; CHC = Couples Health CoOp; GBV = gender-based violence; GDG = Gender Discussion Groups; IMAGE = Intervention with Microfinance for AIDS and Gender Equity; IPV = intimate partner violence; MDG = Men's Discussion Groups; MHC = Men's Health CoOP; OR = odds ratio; SHARE = Safe Homes and Respect for Everyone; STI = Sexually Transmitted Infection; VSLA = Village Savings and Loans Association; WHC = Women's Health CoOp; WINGS = Women's Income Generating Support; W+ = women plus; y/o = years old.

2014; Kyegombe et al., 2014) or a brief alcohol intervention (L'Engle et al., 2014).

An aggregate measure of physical and/or sexual IPV was reduced in non-child brides in the VSLA and GDG intervention with a large effect size and trending toward significance but with wide confidence intervals (Falb et al., 2015). Rates of a similar measure were significantly reduced in Intervention With Microfinance for AIDS and Gender Equity (IMAGE) with large effect sizes (Kim et al., 2009; Pronyk et al., 2006). The effect of IMAGE on this measure when compared to microfinance was less reliable (Kim et al., 2009). Physical and/or sexual IPV was reduced in the MDG intervention relative to a community GBV prevention program alone (Hossain et al., 2014) but not significantly. There were no significant effects for physical or sexual IPV with the Stepping Stones intervention (Jewkes et al., 2008). There was no notable change on "physical/emotional violence" in the Women's Income Generating Support (WINGS) or Women Plus interventions (Green et al., 2015). "Victimization" was reduced by a gender-separate health coop (Men's Health CoOp [MHC]/Women's only Health CoOp [WHC]) 6 months postintervention, compared to both the WHC control and a Couples CoOp intervention (CHC). This reached statistical significance and was associated with a large effect size (Minnis et al., 2015).

Economic abuse was statistically significantly reduced in all populations and levels of adherence to the VSLA and GDG intervention with large effect sizes (Falb et al., 2015; Gupta et al., 2013). Emotional abuse significantly decreased in non-child brides in the VSLA and GDG intervention compared to VSLA with a large effect size but increased in child brides albeit with a small effect size and not statistically significantly (Falb et al., 2015). Emotional violence was not reduced in PartnerPlus or SHARE (Jones et al., 2013; Wagman et al., 2015). Marital control significantly increased in WINGS compared to a waitlist control but decreased in Women Plus compared to WINGS, though not significantly (Green et al., 2015). IMAGE had a small but nonsignificant decreasing effect on experience of controlling behavior compared to a microfinance control (Kim et al., 2009). On the other hand, microfinance alone slightly increased marital control relative to controls (Kim et al., 2009), suggesting that this difference in

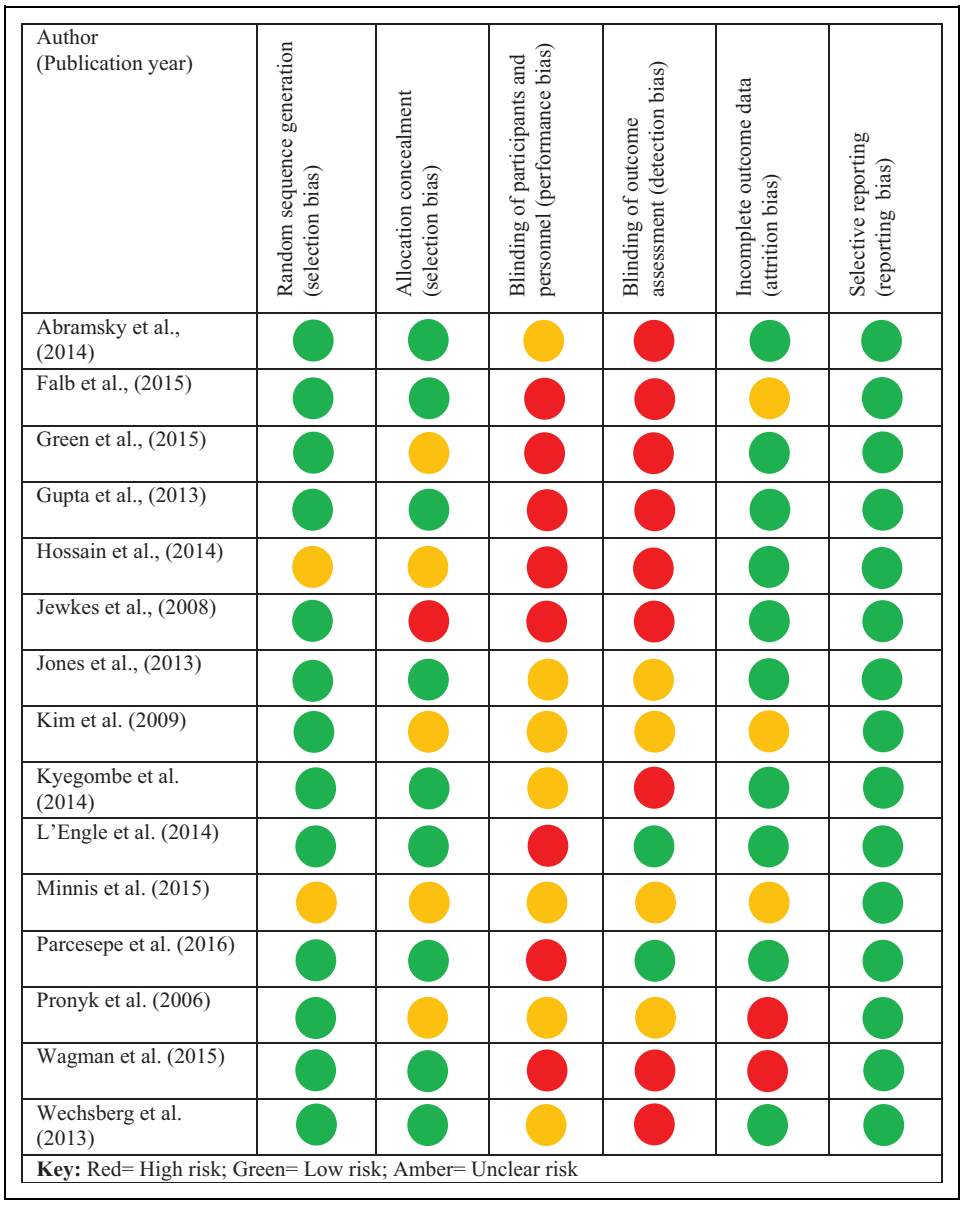

Figure 2. Risk of bias summary.

effect is due to a decrease in controlling behavior in the IMAGE group and a corresponding increase in the microfinance group.

Women in CHC reported significantly greater increases in relationship control compared to WHC with a large effect size but wide confidence interval. However, women in the CHC condition reported less shared decision-making in relationships, significantly so compared to MHC/WHC which promoted shared decision-making (Minnis et al., 2015). Hossain and colleagues' (2014) measure of men's hostility and conflict management alongside no reports of threatening behavior significantly increased in the intervention group with large effect sizes and moderate confidence intervals for all conditions. Men's reported perpetration of physical/sexual IPV was significantly lower in Stepping Stones at a 2-year follow-up with a moderate effect size and confidence interval range (Jewkes et al., 2008). In SHARE, men's reported emotional and physical abuse seemed to decrease at 16 months but not at 35 months (Wagman et al., 2015).

Outcomes of Attitudinal Measures in Intervention Groups Compared to Controls

Women's social acceptance of physical IPV toward females was significantly lower in the SASA! intervention with a large effect size (Abramsky et al., 2014). It was also significantly lower in ITT and high-adherence participants of the VSLA and GDG intervention (Gupta et al., 2013). Acceptance that a woman can refuse to have sex was significantly lower in women in SASA! with moderate effect sizes (Abramsky et al., 2014)

Table 2. Outcomes From the Intervention Groups Compared to Controls.

Author (Publication Year)	Characteristics of Sample and Location	Analysis	Comparison Group	Behaviors	Attitudes
SASA!					
Abramsky et al. (2014)	Four pair matched clusters. Surveys: 1,583 at baseline. 18–49 y/o, male and female, community members. M_{age}: 27.8 y/o. Kampala, Uganda.	Cluster-level ITT Four years postbaseline Adj RR/95% CI	Active waitlist control	Women's past year: (−)Physical IPV: (0.4/0.16–1.39) (−)Sexual IPV: (0.76/0.33–1.72)	Acceptability of physical violence by a man against partner: (−) Male attitudes = (0.13/0.01–1.15) **(−) Female attitudes = (0.54/0.38–0.79)** Acceptability that a woman can refuse to have sex (with husband): **(+) Male attitudes = (1.31/1.00 –1.70)** **(+) Female attitudes = (1.28/1.07–1.52)**
Kyegombe et al. (2014)				(−) Past year experience of sexual IPV: (0.81/0.31–2.10)	(+) Feels able to refuse sex with partner: (1.16/1.00–1.35)
VSLA + GDG					
Gupta et al. (2013)	981 eligible (partnered) women (24 villages) enrolled at baseline. >18 y/o. M_{age} 37.7 y/o. North and northwestern Côte d'Ivoire.	ITT ≈22 months postbaseline	Group Savings only (VSLA)	Past year Adj OR/95% CI • (−) Physical and/or sexual IPV: (0.92/0.58–1.47) $p = .72$ • (−) Physical IPV: (0.69/0.3–1.21) $p = .19$ • (−) Sexual IPV: (0.71/0.40–1.25) $p = .24$ • **(−) Economic abuse: (0.39/0.25–0.60) $p < .0001$**	β/95% CI **(−) Justification for wife beating: (−0.97/−1.66 to [−0.28]) $p = .006$** (+) Attitudes toward woman's ability to refuse sex (from husband): (0.10/−0.19 to −0.39) $p = .49$
		High adherent (>75% sessions) versus VSLA ≈22 months postbaseline		• (−) Physical and/or sexual IPV: (0.64/0.35–1.16) $p = .14$ • **(−) Physical IPV: (0.45/0.21–0.94) $p = .04$** • (−) Sexual IPV: (0.54/0.27–1.10) $p = .11$ • **(−) Economic abuse: (0.47/0.27–0.81) $p = .01$**	**(−) Justification for wife beating: (−1.14/−2.01 to [−0.28]) $p = .01$** (+) Woman's ability to refuse sex: (0.12/−0.24 to −0.48) $p = .50$
		Low adherent (<75% sessions) versus VSLA ≈22 months postbaseline		• (+) Physical and/or sexual IPV: (1.19, 95% CI, 0.69–2.05) $p = .64$ • (−) Physical IPV: (0.93/0.49–1.77) $p = .82$ • (−) Sexual IPV: (0.85/0.44–1.64) $p = .63$ • **(−) Economic abuse: (0.31/0.18–0.52) $p < .0001$**	(−) Justification for wife beating: (−0.19/−1.13 to −0.74) $p = .69$ (+) Woman's ability to refuse sex: (0.07/−0.32 to −0.46) $p = .72$
Falb et al. (2015)	692 included at baseline (those with data on age of marriage). >18 y/o females. Subanalysis stratified by those married as child brides. North and northwestern Côte d'Ivoire.	ITT ≈22 months postbaseline		Child brides (past year) • (+) Physical and/or sexual IPV: (1.51/0.54–4.20) $p = .42$ • (−) Physical IPV: (0.56/0.15–2.00) $p = .37$ • (+) Sexual IPV: (1.05/0.32–3.43) $p = .92$ • (+) Emotional IPV: (1.20/0.51–2.85) $p = .66$ • **(−) Economic abuse: (0.33/0.13–0.85) $p = .02$** Non-child brides (past year) • (−) Physical and/or sexual IPV: (0.54/0.28–1.04) $p = .06$ • **(−) Physical IPV: (0.45/0.20–1.01) $p = .05$** • (−) Sexual IPV: (0.46/0.20–1.05) $p = .06$ • **(−) Emotional IPV: (0.44/0.25–0.77) $p = .004$** • **(−) Economic abuse: (0.36/0.20–0.66) $p = .001$**	

(continued)

Table 2. (continued)

Author (Publication Year)	Characteristics of Sample and Location	Analysis	Comparison Group	Behaviors	Attitudes
WINGS; W+					
Green, Blattman, Jamison, and Annan (2015)	**Phase 1:** 120 clusters (villages) 1,800 participants Male & female. Average age 27.3. >85% female. **Phase 2:** 60 clusters (waitlist control from phase 1), 904 participants, male & female. Gulu and Kitgum districts, Uganda.	ITT ≈20 months postbaseline β/95% CI	Waitlist control	Phase 1: WINGS *Women* (+) Physical/emotional abuse in past 8 months (including a measure of whether women refused sex): (0.02/−0.1 to −0.14) **(+) Marital control in past 8 months: (0.14/0.01–0.27)**	Phase 1: WINGS Perceptions of women's autonomy/rights (+) *Men & women:* (0.07/−0.04 to −0.18) (+) *Women only:* (0.05/−0.07 to −0.17)
			Standard program (WINGS)	Phase 2: W+ *Women who had intimate partners* (−) Physical/emotional abuse in past 8 months(including a measure of whether women refused sex): (0.08/−0.2 to −0.04) (−) Marital control in past 8 months: (−0.07/−0.26 to −0.12)	Phase 2: W+ *Women who had intimate partners* (−) Perceptions of women's autonomy/rights: (−0.01/−0.22 to −0.2)
MDG + GBV programming					
Hossain et al. (2014)	12 communities. 346 males >15 y/o males and current partners (255) interviewed at baseline. M_{age} 36.5 y/o. Various rural sites, Côte d'Ivoire.	ITT vs. control ≈18 months postbaseline Adj RR/95% CI	Community-based prevention program	Women (last 12 months)experience of: (−) Physical and/or sexual IPV: (0.52/0.18–1.51) (−) Physical IPV: (0.64/0.24–1.73) (−) Sexual IPV: (0.50/0.14–1.80) **(+) Man uses at least 1 hostility/conflict mgmt. technique and no female partners report him threatening during arguments: (1.30/1.06–1.58)**	Men: (−) Intention to use physical IPV: (0.83/0.66–1.06) (+) Belief a women can refuse sex in all circumstances (from husband): (1.21/0.77–1.91)
		Low dose (≤12 sessions) versus control ≈18 months postbaseline Adj RR/95% CI		Women (last 12 months) experience of: (−) Physical and/or sexual IPV: (0.59/0.18–1.90) **(−) Physical IPV: (0.60/0.39–0.94)** (−) Sexual IPV: (0.70/0.18–2.76) **(+) Man uses at least 1 hostility/conflict mgmt. technique and no female partners report him threatening during arguments: (1.27/1.00–1.60)**	Men: (−) Intention to use physical IPV: (0.95/0.71–1.27) (+) Belief a women can refuse sex in all circumstances (from husband): (1.33/0.86–2.07)
		High dose (>13 sessions) versus control Adj RR/95% CI ≈18 months postbaseline		Women (last 12 months) (−) Experience of physical and/or sexual IPV: (0.68/0.31–1.49) (−) Experience of physical IPV: (0.90/0.31–2.66) (−) Experience of sexual IPV: (0.61/0.22–1.68) **(+) Man uses at least 1 hostility/conflict mgmt. technique and no female partners report him threatening during arguments: (1.31/1.04–1.64)**	Men: (−) Intention to use physical IPV: (0.60/0.33–1.06) (+) Belief a women can refuse sex in all circumstances (from husband): (1.03/0.62–1.71)
Stepping Stones					
Jewkes et al. (2008)	70 clusters (villages). 2776 participants (1360 male and 1416 female), 15–26 y/o, mostly attending schools. Eastern Cape, South Africa.	ITT 12 months/24 months postbaseline Adj RR/95% CI	One 3-hr session on HIV, safer sex, and condoms.	>1 incident of physical or sexual IPV in the last 12 months/24 months: (−) *Women* (receipt): (0.97/0.64–1.18, $p = .36$)/(1.14/0.77–1.68, $p = .51$) (−) *Men* (perpetration): (0.73/0.50–1.06, $p = .099$)/**(0.62/0.38–1.01, $p = .054$)**	

(continued)

Table 2. (continued)

Author (Publication Year)	Characteristics of Sample and Location	Analysis	Comparison Group	Behaviors		Attitudes
PartnerPlus						
Jones et al. (2013)	478 individuals (239 couples) Pregnant women, 18+ y/o, and male partner. M_{age} 28.2. Mpumalanga, South Africa.	6–8 weeks postbaseline Mean (*SD*)/N% n = 478 (nominal data) in the past month	PMTCT in time-matched sessions	Past month verbal aggression: Baseline experimental: 94(79%) Postintervention experimental: 76(64%) (McNemar's test, p = .01) Baseline control: 89(74%) Postintervention control: 84(70%) (McNemar's test, p = .49) (−) Calculated: RR = 0.91, 95% CI, 0.8–1.04, p = .16	Past month physical violence: Baseline experimental: 51(43%) Postintervention experimental: 21(18%) (McNemar's test, p < .001) Baseline control: 57(48%) Postintervention control: 46(38%) (McNemar's test, p = .1) **(−) Calculated: RR = 0.48, 95% CI, 0.35–0.65, p < .0001**	
IMAGE						
Pronyk et al. (2006)	8 clusters (villages). 843 women (or matched control) interviewed at baseline. M_{age}: 41.5 (range 33–49). Limpopo, South Africa.	Per-protocol analysis ≈24 months after baseline Adj RR (95% CI)	None	(−) Past year experience of controlling behavior by intimate partner:0.80 (0.35–1.83) **(−) Past year experience of physical and/or sexual IPV: 0.45 (0.23–0.91)**		(+) Greater challenge of established gender roles (challenging statements supportive of female subservience):1.57 (0.87–2.81) (+) More progressive attitudes to IPV (acceptability of physical and sexual IPV):1.49 (0.86–2.60)
Kim et al. (2009)	12 clusters (villages). 1409, >18 y/o females. Median age: 45. Limpopo, South Africa.		1. Microfinance alone 2. None	Past year experience of controlling behavior by intimate partner: (+) MF versus control: (1.18, 0.77–1.80) (−) IMAGE versus control: (0.84, 0.38–1.87) (−) IMAGE versus MF: (0.69, 0.35–1.36)	Past year experience of physical and/or sexual IPV: (−) MF versus control: (0.86, 0.22–3.36) **(−) IMAGE versus control: (0.51, 0.28–0.93)** (−) IMAGE versus MF: (0.59, 0.09–3.66)	Attitudes condoning IPV (acceptability of physical and sexual IPV) (+) MF versus control: (1.05, 0.81–1.36) (−) IMAGE versus control: (0.73, 0.42–1.27) **(−) IMAGE versus MF: (0.67, 0.50–0.90)**
Brief alcohol intervention						
L'Engle, Mwarogo, Kingola, Sinkele, and Weiner (2014)	818 FSW, >18 residents of Mombasa, moderate risk drinkers. M_{age} 27.5 y/o. Mombasa, Kenya.	ITT Adj RR, 95% CI	Time matched nonalcohol related nutrition intervention	Sexual violence from nonpaying partners (−) Six months postbaseline: (0.92/0.66–1.29, p = .69) (−) 12 months postbaseline: (0.76/0.53–1.08, p = .19)		
Parcesepe et al. (2016)		ITT OR, 95% CI		Physical violence by nonpaying partner past 30 days (−) Immediately postintervention: (0.64/0.38–1.08, p = .09) (−) Six months postintervention: (0.57/0.30–1.06, p = .08)		
WHC; CHC; WHC/MHC						

(continued)

Table 2. (continued)

Author (Publication Year)	Characteristics of Sample and Location	Analysis	Comparison Group	Behaviors	Attitudes
Minnis et al. (2015)	Three clusters (neighborhoods). Female partners of 18–35 y/o male, Black Africans, reporting drinking alcohol, frequenting shebeens and having unprotected sex. 290 women enrolled. M_{age} of 24.2 years (range 18–39 years). Khayelitsha, South Africa.	Six months postenrollment	WHC/ CHC	Woman's influence/control in relationship [Effect estimate (β) (95% CI)] **(+) CHC versus WHC(standard): 0.92 (0.02–1.83) p = .045 (increased for CHC)** (+) MHC/WHC versus WHC(standard): 0.53 (−0.40 to −1.46) p = .263 (+) CHC versus MHC/WHC: 0.39 (−0.48 to −1.27) p = .379 Shared decision-making [Effect estimate (β) (95% CI)] (−) CHC versus WHC(standard): −0.77 (−1.76 to −0.21) p = .124 (+) MHC/WHC versus WHC(standard): 0.69 (−0.32 to −1.71) p = .181 **(−) CHC versus MHC/WHC: −1.46 (−2.42 to [−0.50]) p = .003 (decreased for CHC)** No victimization (verbal/emotional and physical violence and intimidation) experienced in previous 3 months [OR, (95% CI)] (+) CHC versus WHC(standard): 1.17 (0.64–2.12) p = .614 **(+) MHC/WHC versus WHC(standard): 3.05 (1.55–6.00) p = .001 (greater increase for MHC/WHC)** **(+) CHC versus MHC/WHC: 0.38 (0.20–0.74) p = .004 (greater increase for MHC/WHC)**	Less traditional gender roles and female autonomy [Effect estimate (β) (95% CI)] **(+) CHC versus WHC(standard): 0.99 (0.07–1.91) p = .035 (greater increase for for CHC)** (+) MHC/WHC versus WHC(standard): 0.77 (−0.18 to −1.71) p = .111 (+) CHC versus MHC/WHC: 0.22 (−0.67 to −1.11) p = .626
SHARE					
Wagman et al. (2015)	11,448 male & female participants enrolled aged 15–49 y/o. Rakai, Uganda.	ITT aPRR (95% CI) 16 months postbaseline/35 months postbaseline	Standard care HIV services	Women's experience of past year (+) Emotional (verbal) abuse:1.02 (0.92–1.14)/ 0.91 (0.79–1.04) (−) Physical IPV:0.97 (0.85–1.11)/**0.79 (0.67–0.92)** (+) Sexual IPV:1.12 (0.96–1.31)/**0.80 (0.67–0.97)** (+) Forced sex:1.12 (0.95–1.32)/**0.79 (0.65–0.96)** Men's perpetration of past year (−) Emotional (verbal) abuse:0.88 (0.78–0.98)/ 0.99 (0.85–1.16) (−) Physical IPV:0.80 (0.64–1.00)/1.00 (0.77–1.30) (−) Sexual IPV:0.90 (0.63–1.28)/0.81 (0.52–1.26) (−/+) Forced sex:1.00 (0.65–1.55)/0.85 (0.50–1.42)	
WHC					
Wechsberg et al. (2013)	720 drug using females, 18–33 y/o. Cape Town, South Africa.	ITT Adj OR (95% CI) Six months and 12 months postbaseline	HIV counseling and testing	No Physical IPV in past 6 months: Month 6 (+) Control/Nutrition: 1.1 (0.8–1.4) p = .465 (+) Control/WHC:1.1 (0.8–1.6) p = .657 (−) Nutrition/WHC: 0.9 (0.7–1.4) p = .688 Month 12 (+) Control/Nutrition: 1.02 (0.8–1.4) p = .536 (+) Control/WHC: 1.1 (0.8–1.6) p = .632 (−) Nutrition/WHC: 0.9 (0.7–1.7) p = .788	

Note. Outcomes in bold indicate significant results. Adj = adjusted; Aprr = adjusted prevalence risk ratios; CHC = Couples Health CoOp; CI = confidence interval; GBV = gender-based violence; GDG = Gender Discussion Groups; IMAGE = Intervention with Microfinance for AIDS and Gender Equity; IPV = intimate partner violence; ITT = intention to treat; MDG = Men's Discussion Groups; MF = microfinance; MHC = Men's Health CoOP; OR = odds ratio; PMTCT = Prevention of Mother to Child Transmission; RR = relative risk; SHARE = Safe Homes and Respect for Everyone; VSLA = Village Savings and Loans Association; WHC = Women's Health CoOp; WINGS = Women's Income Generating Support; W+ = women plus; y/o = years old; β = regression coefficient; (−/+) indicates an increase or decrease in the variable in the intervention group compared to controls; ≈ = approximately.

but did not change in any analysis of the VSLA and GDG intervention (Gupta et al., 2013). IMAGE produced a moderate effect estimate for an increase in "progressive attitudes toward IPV," significantly so compared to microfinance (Kim et al., 2009) and nonsignificantly compared to no-treatment (Kim et al., 2009; Pronyk et al., 2006). Women in the SASA! intervention were significantly more likely to report feeling able to refuse sex from their husbands, but the effect size was small (Kyegombe et al., 2014). Women's subscription to statements supportive of female autonomy/empowerment significantly increased in CHC compared to the standard WHC group, but the confidence interval was wide (Minnis et al., 2015). This measure did not increase in the gender-separate intervention (Minnis et al., 2015). A similar measure was not affected by WINGS or Women Plus (Green et al., 2015). Women in the IMAGE intervention were more likely to challenge statements supportive of women's subservience with a large effect size but wide confidence interval (Pronyk et al., 2006).

In the SASA! intervention, men's reported acceptance of physical IPV was not significantly reduced, while men's reported acceptability that a woman can refuse to have sex with her husband significantly increased with a moderate effect size but a wide confidence interval (Abramsky et al., 2014). This also increased in the MDG intervention but not significantly in any analysis (Hossain et al., 2014). Reported intention to perpetrate physical IPV was nonsignificant in all analyses in the intervention group; however, the effect size was moderate in the high-dose analysis compared to controls (Hossain et al., 2014). Perceptions of women's autonomy and rights did not mprove in the WINGS program compared to control (Green et al., 2015).

Discussion

IPV is a significant global problem requiring the development of adequate interventions. The results of the current review suggest that there is potential for interventions to change behaviors and attitudes related to IPV in Sub-Saharan Africa. Studies that measured both sexual and physical IPV outcomes for the same intervention suggest that sexual IPV outcomes are more difficult to change (Abramsky et al., 2014; Falb et al., 2015; Gupta et al., 2013; Kyegombe et al., 2014; L'Engle et al., 2014; Parcesepe et al., 2016). On the other hand, less physically controlling behaviors and economic abuse may be more amenable to change (Falb et al., 2015; Green et al., 2015; Gupta et al., 2013; Hossain et al., 2014). While behavioral outcomes were measured in all studies, measures of attitudinal outcomes were less commonly utilized (included in eight evaluations). The studies with the most successful changes in attitudinal outcomes (Abramsky et al., 2014; Gupta et al., 2013; Kyegombe et al., 2014; Minnis et al., 2015 [CHC only]) appeared to approach imbalances in power between men and women as an integrated community activity or with couples working together to address them, and in the cases of interventions involving microfinance, these activities had to specifically address finance (as opposed to gender roles more broadly). However, while addressing attitudes may be important for reducing IPV, behavior change must be the key objective of interventions, and attitudinal change in the absence of behavior change will not suffice.

No interventions solely targeted IPV; therefore, it cannot be deduced whether such interventions produce more reliable effects than those targeting multiple problems. It was suggested in one study that the synergistic nature of interventions with multiple aims might lead to broader beneficial effects (Kim et al., 2009). Indeed, interventions yielding more significant and large effects tended to work at the community level or at multiple levels of the social ecology (Abramsky et al., 2014; Hossain et al., 2014; Kyegombe et al., 2014; Minnis et al., 2015; Wagman et al., 2015). This is consistent with theories posited by the integrated ecological model of violence (Heise, 2011), which suggests that factors operating at multiple levels from the micro- to the macro-level contribute to IPV. Evaluations of microfinance/economic empowerment alone indicate that they do not suffice to decrease IPV-related measures and may increase controlling behaviors (Green et al., 2015; Gupta et al., 2013; Kim et al., 2009) and suggest that microfinance programs should be accompanied by comprehensive couples training (Gupta et al., 2013).

Interventions in which IPV was not a primary aim, but rather a secondary aim, were not generally successful in changing outcomes relating to IPV, for example, the brief alcohol intervention (L'Engle et al., 2014; Parcesepe et al., 2016), and microfinance alone (Green et al., 2015 [WINGS]; Kim et al., 2009 [microfinance only condition]). The exception to this was a short intervention with a short follow-up time of which a main aim was not IPV but which had a significant impact on physical violence (Jones et al., 2013). This could be due to the fact that it engaged a high-risk group of women along with their partner with a joint aim of preventing transmission of HIV to their child. The underlying theoretical models that the interventions were based on convey current prevailing theories of IPV such as gender inequality and related power imbalances, economic empowerment, social norms, and less frequently, individual behavior change. However, there did not appear to be an observably more beneficial effect associated with any one of these theoretical bases. It could tentatively be said that studies with longer follow-up times yielded more significant positive changes. This may be due to a beneficial effect from interventions of a longer duration or due to a latency period being required for change to occur.

Considering that the VSLA + GDG intervention measured the incremental effects of a relatively short program, GDG, the decreases in women's reported IPV are noteworthy (Falb et al., 2015; Gupta et al., 2013). Utilizing a different format, SASA! was notably effective for attitudinal outcomes. Due to the nature of this project, it is difficult to specify what the active ingredients were, but building an intervention from the bottom up may ensure its relevance and acceptability (Chowdhary et al., 2014). Another extensive community program yielded

similarly successful results on behavioral outcomes (Wagman et al., 2015).

These findings, however, should be interpreted in light of varying risks of bias. While almost all studies did not succeed in blinding participants/personnel or outcome assessment, in some studies, there were also additional risks of bias such as that resulting from inadequate allocation concealment and incomplete outcome data. Inadequate or unclear reporting of allocation concealment, lack of blinding in randomized trials, and per-protocol compared to ITT analysis are all associated with more exaggerated estimated intervention effects (Pildal et al., 2007; Porta, Bonet, & Cobo, 2007). This exaggeration appears to occur more in trials with more subjective outcomes (Wood et al., 2008). While in the current review, per-protocol and ITT analyses were not notably different in the studies that reported both, some studies reported only per-protocol analysis, or were not clear on how analysis was conducted. Thus, the effect sizes of outcomes in studies with risks of bias in multiple domains should be treated with caution, particularly those reporting more subjective outcomes such as attitude change.

Female reports of IPV are considered to be more reliable than males' (Wagman et al., 2015); however, studies could gain valuable insight from including male reports, which were recorded less frequently in the included studies. Wagman and colleagues (2015) found significant reductions in women's experiences of IPV but not in men's reported perpetration, while in Jewkes and colleagues' (2008) study, the reverse was found. Hossain and colleagues (2014) found that adding a targeted men's intervention to a community GBV intervention increased men's use of conflict management tactics but wasn't successful in significantly changing IPV or IPV-related attitudes. Similar to Hossain et al. (2014), Green, Blattman, Jamison, and Annan (2015) found that increasing male partners' engagement did not significantly improve IPV outcomes; however, in both studies, the results were in the hypothesized direction. Minnis and colleagues (2015) found varying beneficial effects of a couples' intervention and a gender-separate intervention on different outcomes. These findings suggest a need for a closer examination of mechanisms driving these differential effects in order to develop the most beneficial interventions, particularly in the area of male engagement.

Differential outcomes associated with specific groups such as child brides (Falb et al., 2015) and female sex workers (L'Engle et al., 2014; Parcesepe et al., 2016) emphasize the need for future interventions to be tailored to such populations, accounting for any subgroups whose social circumstances and relationships may be particularly resistant to change. A number of studies used innovative recruitment methods attempting to purposefully access vulnerable populations instead of relying upon, for example, voluntary participation.

While some effect sizes were notably large, less than a third of measured outcomes yielded statistically significant results (34 statistically significant outcomes out of 118 IPV-related outcomes measured across all included studies). However, some studies, particularly those analyzing by cluster-level ITT, may not have been sufficiently powered to detect significant results, as there were examples of large effect sizes without corresponding statistical significance in such studies (e.g., Abramsky et al., 2014; Hossain et al., 2014). Per-protocol analyses showed that some interventions might hold more promise if they become more acceptable and well-attended in communities (Gupta et al., 2013). However, four per-protocol or dose-effect analyses showed no results that were tangibly different to ITT (Green et al., 2015; Hossain et al., 2014; Jewkes et al., 2008; Kyegombe et al., 2014). This may be due to systematic differences in the characteristics of participants who attend more intervention sessions than those who attend less.

This review provides an opportunity to reflect on the importance of having adequately trained individuals delivering interventions, which has been highlighted as a key issue in low resource settings (Kakuma et al., 2011). A number of studies, some with successful IPV-related outcomes, used previously untrained laypersons to deliver interventions (Abramsky et al., 2014; Kyegombe et al., 2014; Wagman et al., 2015; Wechsberg et al., 2013). These examples show that previously untrained laypersons can be successfully utilized to deliver interventions in a cost-effective way. This has previously been highlighted as an effective way of implementing interventions (van Ginneken et al., 2013).

There were limitations associated with the included studies: Firstly, most neglected measures assessing emotional and/or psychological IPV which could be partly due to ambiguity regarding the definition of these terms; secondly, there were overlap and gaps between measures of emotional IPV, economic abuse, and controlling behavior; finally, the studies originated from only four geographically distant countries. Therefore, the results cannot be translated into generalizations of what types of interventions are effective across the Sub-Saharan Region. With regard to the current review, only studies published in peer-reviewed journals were included meaning this review may be susceptible to publication bias.

Conclusions

The implications of this review for future research and practice are summarized. This review included only the most rigorously tested interventions and used a standard tool for assessing risk of bias. While there were inconsistencies in the measures employed and the interventions being evaluated, a number of studies showed promising results for efforts aimed at addressing IPV-related indices. These studies tended to have longer term follow-up, addressed IPV as a primary aim, and acted at the level of the community or on multiple ecological levels. Interventions were more successful in changing sexual IPV compared to physical IPV and in changing controlling behaviors/economic abuse. Microfinance interventions should be accompanied by comprehensive couples training, and differential effects on more vulnerable subgroups should be considered. The development of the skills of existing human resources such as nonspecialists and laypeople for intervention facilitation

should be encouraged. Future research should explore in what circumstances groups should be single-sex or mixed, the differential effects of interventions by gender, and how to effectively engage men. Future trials should use standardized conceptualization and measurement of IPV and rigorously test interventions with sufficiently powered samples, so that policy makers and NGOs can invest in those that are most effective. The proliferation of new studies in recent years illustrates the momentum gathering in this field. It is hoped that the findings in the current review can provide useful guidance for future endeavors.

Implications for Research and Practice

Research

- Varying outcomes according to participants' gender suggest that the mechanisms driving these results need to be more closely examined in order for future interventions to engage men and women in the most beneficial way to reduce IPV. The results from these studies suggested that engaging men did not necessarily lead to more beneficial outcomes.
- Innovative research should investigate ways of effectively addressing sexual IPV through preventative interventions in these contexts.
- Efforts should be made to use standardized conceptualizations and measurements of IPV in future research.

Practice

- The study outcomes suggest that there are differences in how amenable certain types of IPV are to change. Sexual IPV appears to be more difficult to change compared to physical IPV, while less physically controlling behaviors, and economic abuse may be more amenable to change.
- Interventions yielding more significant and large effects tended to work at the community level or at multiple levels of the social ecology, consistent with the ecological model of violence. They also tended to have longer follow-up times, and their primary aim was IPV reduction. Microfinance programs alone do not suffice to address IPV and may increase controlling behaviors.
- While fewer studies included measures of attitude change, those that had successful changes in attitudes used an integrated approach involving the whole community or involved couples working together. In cases where the intervention involved a microfinance aspect, work with couples had to specifically address finance issues.
- Some studies with successful IPV-related outcomes used previously untrained laypersons to deliver interventions. These examples show that previously untrained laypersons can be successfully utilized to deliver interventions in a cost-effective way which is an important factor in low resource settings.

Appendix A

Search Terms Used for "Web of Science" Database

#5 #4 AND #3 AND #2 AND #1
DocType=All document types; Language=All languages;

#4 **TOPIC:** ((randomi? ed-controlled-trial*) OR (RCT) OR (controlled NEAR/2 (trial OR study)) OR (non-controlled NEAR/2 (trial OR study)) OR (uncontrolled trial) OR Evaluation OR (outcome assessment) OR ((treatment OR intervention) NEAR/2 (efficacy OR effectiveness)) OR (clinical NEAR/2 (trial OR study)) OR (quasi-experimental) OR (randomly-selected))
DocType=All document types; Language=All languages;

#3 **TOPIC:** (((abus* OR violen*) NEAR/3 (partner OR spous* OR husband OR wife OR marital OR couple OR domestic)) OR (battered wom? n))
DocType=All document types; Language=All languages;

#2 **TOPIC:** ("Sub-Saharan Africa" OR Angola OR Gabon OR Nigeria OR Benin OR Gambia OR Rwanda OR Botswana OR Ghana OR "Sao Tome and Principe" OR "Burkina Faso" OR Guinea OR Senegal OR Burundi OR Guinea-Bissau OR Seychelles OR Cameroon OR Kenya OR Sierra Leone OR Cape Verde OR Lesotho OR South Africa OR Central African Republic OR Liberia OR South Sudan OR Chad OR Madagascar OR Swaziland OR Comoros OR Malawi OR Tanzania OR Democratic Republic Congo OR Mali OR Togo OR Congo OR Mauritania OR Uganda OR Cote dIvoire OR Mauritius OR Zambia OR Equatorial Guinea OR Mozambique OR Zimbabwe OR Eritrea OR Namibia OR Ethiopia OR Niger)
DocType=All document types; Language=All languages;

#1 **TOPIC:** (interven*) *OR* **TOPIC:** (prevent*) *OR* **TOPIC:** (program*)
DocType=All document types; Language=All languages;

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