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Review

# What works to prevent violence against women from 2000 to 2024: A pragmatic review of evaluations of interventions to prevent violence against women

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ABSTRACT

Violence against women is preventable and understanding how to prevent it effectively is vital for guiding investment in prevention programming. We conducted a pragmatic review of the global literature of interventions conducted to prevent physical or sexual intimate partner violence or non-partner rape published from 2000 to 2024. We identified 155 papers, reporting on 185 interventions (studies). 51.4% of the studies were conducted in Sub-Saharan Africa, 14.1% in Central and South-East Asia, 23.2% in North America and few from other regions. Overall, 49.7% of studies were in the top tertile of our quality score and 38.4% showed the intervention to significantly reduce at least one measure of VAW. Participant groups varied, but notably only 39.5% included men and boys, the main VAW perpetrator group. Particular at-risk groups including female sex workers, and women living in informal settlements and in conflict or humanitarian settings were infrequently included in research. Interventions design and evaluation methods varied, with notable differences by global region. Multivariable logistic regression modelling, showed interventions were significantly more likely to reduce VAW if they included a skills building component addressing poor conflict management and relationship skills (aOR 3.19 95%CI 1.49, 6.82, p = 0.003) and were better designed (aOR 1.40 (95%CI 1.05, 1.86) p = 0.022. A sensitivity analysis pointed to possible impact for poverty reduction elements. They were significantly less likely to work if they had participants from conflict and humanitarian settings. There is marked global unevenness in research on the prevention of VAW, and mismatch between VAW prevalence and risk factors and participant groups enrolled and intervention design. Also in the distribution of high-quality studies. Whilst the number of evaluations is rapidly rising, the VAW prevention research field remains disproportionately small compared to the scale of the problem and its social, economic and health impact. There is considerable scope for enhancement of the quality of both interventions and research.

## 1. Introduction

Over the last thirty years researchers have described the prevalence of violence against women (VAW) and its impact on health and global development. At the most recent count, intimate partner violence (IPV) prevalence data are available for 159 countries, and 140 countries have estimates of the prevalence of experience of non-partner sexual violence (United Nations Inter-Agency Working Group on Violence Against Women Estimation and Data, 2018). Research on risk factors and drivers of VAW, undertaken in tandem with prevalence surveys, has recognised the role of intersecting factors impacting at individual, dyadic, community, and societal levels (Heise, 1998), with emphasis on patriarchal socio-cultural norms and practices, multifaceted disempowerment of women, and norms around the use of violence to dominate and control,

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including in conflict-affected settings (Jewkes, 2002). More recent research has given more emphasis to the role of economic circumstances, alcohol and drug abuse, the psychosocial impact of exposure to child abuse and witnessing IPV in childhood, poor mental health and relationship conflict management (Gibbs et al., 2020a). There is a growing recognition that the drivers provide a set of intervenable points on pathways that often commence in the early years of men and women's lives (Jewkes et al., 2025). Gibbs et al. provided an actionable summary in their paper, which concluded that the fundamental drivers of VAW were patriarchal norms and the position of women in society, cultural norms supporting the use of violence, poverty, exposure to trauma in childhood, and having witnessed maternal abuse, (often consequent) poor mental health and substance abuse, and poor relationship and conflict skills (Gibbs et al., 2020a). This provided a set of risk factors that are amenable to intervention through different VAW prevention strategies.

An understanding of risk factors and drivers of VAW has been fundamental for developing interventions to prevent VAW. Research has been conducted over the last 3-4 decades to develop interventions that prevent VAW. Initially research was fairly small scale and funding limited, but this changed with the emerging recognition that HIV was a feminised epidemic in Sub-Saharan Africa and VAW was a key driver of the epidemic (Dunkle et al., 2004). This unlocked sources of much greater funding that could be used to test interventions to prevent both HIV and VAW. The three biggest early trials of VAW prevention interventions were all funded this way: the IMAGE trial (Pronyk et al., 2006a), the Stepping Stones trial (Jewkes et al., 2008a) and the SHARE trial (Wagman et al., 2015) and all had positive findings impacting on both indicators of VAW and HIV-risk related behaviours or infections. These studies showed that both women's experiences of VAW and men's perpetration of VAW are preventable and thus spearheaded the next two decades of research and development in VAW prevention. The early literature on prevention through structural interventions was summarised in a 2015 systematic review, concluding that these were potentially effective (Bourey et al., 2015).

In 2020, at the end of the DFID-funded What Works to Prevent Violence Against Women and Girls Global Programme, a comprehensive review was conducted of research evaluating interventions to prevent VAW in studies with a control (comparison) arm. The review found 64 interventions to prevent VAW that had been evaluated up to 31 December 2018 (Kerr-Wilson et al., 2020). Many of these used economic intervention components i.e. cash transfers, microfinance, livelihood strengthening approaches or loans, often in combination with other approaches. Other common approaches were gender transformative group programmes using participatory learning methods, delivered to women and/or men, as individuals or couples. There were interventions that used psychotherapeutic methods, mostly delivered to individuals with cognitive behavioural therapy and/or motivational interviewing on harmful alcohol and/or drug use. A number of interventions were directed at preventing dating violence among school-going youth or students in universities or colleges. The review concluded that 40% of the interventions evaluated were successful in preventing one or more indicators of VAW (Kerr-Wilson et al., 2020). An accompanying analysis of the design and implementation features of some of the interventions provided insights into what made a difference between interventions that did and did not impact VAW (Jewkes et al., 2021a). Since the publication of Kerr-Wilson et al.'s review (Kerr-Wilson et al., 2020), there have been a number of systematic, pragmatic and comprehensive reviews of different types of interventions. These have provided considerable depth in understanding certain approaches, such as mobile apps to prevent VAW (Rahman et al., 2025) or interventions with sex workers (Decker et al., 2022) or in schools (Melendez-Torres et al., 2024), or interventions to reduce economic violence (Böhret et al., 2025) or interventions in one region, such as Sub-Saharan Africa (Cork et al., 2020), but the whole review of the field has not been updated. An important contribution was made by Leight and colleagues, who conducted a systematic review and meta-analysis of community and group interventions to prevent VAW in low-and-middle-income countries published up to July 2021 (Leight et al., 2023). They conducted a meta-analysis showing that the pooled association across studies revealed a significant reduction in VAW. However, they only included 30 studies, and excluding a number of key intervention groups including those targeting female sex workers, adolescents under the age of 18, economic-only interventions and psycho-therapeutic interventions, as well as literature from high income countries.

None of these papers have provided a review of the field of VAW prevention research including all intervention types, target groups and global regions. To better understand the state of knowledge in the present day, we present a pragmatic review of research that has been conducted globally, evaluating interventions to prevent VAW. The aims of this review are to describe papers published describing outcomes of evaluations of VAW prevention interventions where the study design had included a comparison with a control arm; to compare the participant groups, risk factors addressed, and methods used and intervention impact across global regions. We also describe the research quality; and factors associated with positive impact, while adjusting for study quality. We refer to the work as a pragmatic review as we do not seek to present pooled estimates of impact. This is due to considerable heterogeneity in intervention design and delivery within intervention groups, as well as differences in approaches to evaluation, and so it is hard to see that the field is yet ready for meaningful pooled estimates. However, unlike some other pragmatic reviews, we do not discuss individual studies in detail, as this has recently been well covered in intervention group-specific systematic reviews (Rahman et al., 2025; Melendez-Torres et al., 2024; Williams et al., 2025).

## 2. Methods

We conducted a review of the published literature on evaluations of interventions that intended to reduce physical and/or sexual IPV or non-partner rape. To be included, studies must have had an intervention and control arm (comparison group); they were mostly randomised controlled trials (RCTs), quasi-experimental studies or pilot studies (either randomised or quasi-experimental in design), but there was also one stepped wedge design and some used discontinuity designs. All studies had measures of physical and/or sexual IPV or non-partner rape, with assessments conducted to determine the impact of the intervention on IPV and non-partner rape as a primary or secondary outcome. We excluded papers published outside the review period, evaluations with analyses lacking a comparison group, and evaluations that had not measured experience or perpetration of physical IPV, or sexual IPV with questions that indicated rape, or non-partner rape or attempted rape. Study participants were male or female, but our focus was on male-perpetrated IPV directed against a woman or girl. However, we have included studies that did not disaggregate results by gender. These studies were all rated as lower quality as IPV and rape are highly gendered and gender inequality is one of the most important risk factors (Gibbs et al., 2020a; Feraldi et al., 2025). This is also in keeping with the 2017 CONSORT equity extension and SAGER guidelines (Welch et al., 2017; Heidari et al., 2025). We recognise that physical and sexual IPV are not the only forms of IPV and that in most countries forms of emotional and economic IPV are more common (Gibbs et al., 2018). However, we have focused on physical and sexual IPV because there is much less measurement diversity in published papers, which greatly enhances the comparability of findings between published papers.

In this review, we define a paper as a published peer-reviewed journal article, or, in the case of economics papers only, we also include published working papers. We define a study as an intervention arm that was compared to a control arm (comparison group) in an evaluation. Most often, evaluation outcomes were reported in a paper with one intervention and one control arm, but where there were evaluations with two or more intervention arms, we have counted this as two or more studies reported in one paper. Thus, the number of studies (n = 185) is greater than the number of papers (n = 155). A list of

included papers is provided in Supplementary file S1.

Our focus was on papers published between 1 January 2019 and 31 December 2024. However, members of our author group (RJ, AG) led the previous review of publications between 1 January 2000 and 31 December 2018 (to which LR contributed) (Kerr-Wilson et al., 2020). We drew the papers that met our current inclusion criteria into the present analysis (60 papers) and, using the same search strategy, we conducted a new search for the period 1 January 2019 – 31 December 2024 (93 papers, plus two published in 2018 that had been missed in the previous search). We conducted the primary search in Pubmed, EBSCO, Google and Google Scholar. Our search terms were violence/abuse/VAW/GBV/battering/rape/assault /coerc*/harassment/dating violence AND wom*n/girls/domestic/gender /partner/spouse/family/sex* AND intervention/trial/evaluation. We found relevant review articles published in the period and hand searched the reference list for any other studies. We did not search grey literature or websites, as in the previous review we did not find them to be a source of more eligible studies. The search flow chart for the review is shown in Fig. 1.

### 2.1. Quality of the trials

We reviewed available criteria for assessing study quality and found that these often varied between being too vague for our purposes or having too many elements as they were not designed for this purpose (e.g. the CONSORT checklist) (CONSORT Group, 2010). Thus, we developed our own quality assessment criteria drawing on key elements of the CONSORT related to the presentation of research findings, elements that are important in reducing bias in VAW intervention evaluation research and good practice in the use of measures of VAW exposure. We used six criteria to assess the quality of the studies included in the review. Each criterion was dichotomised. The criteria were scored '1' if present and '0' if absent. The six were summatively scored to derive the quality score, giving equal weight to each criterion. We searched supplementary files for information not in the main text and only deemed information as not provided if it was not in the main paper or supplementary files.

Sample size was a dimension of quality. We found sample sizes varied from very small (under 50 per arm) to very large. Some studies had greatly increased their power with a doubling of endline versus baseline sample size. The CONSORT criteria simply require a sample size to be justified (CONSORT Group, 2010), but we considered that to be a low bar, as the papers reviewed almost all justified their sample size with a calculation, but the actual sample sizes differed substantially, and not just due to sample design (with or without clustering, or outcome measures being continuous or categorical). We concluded that a

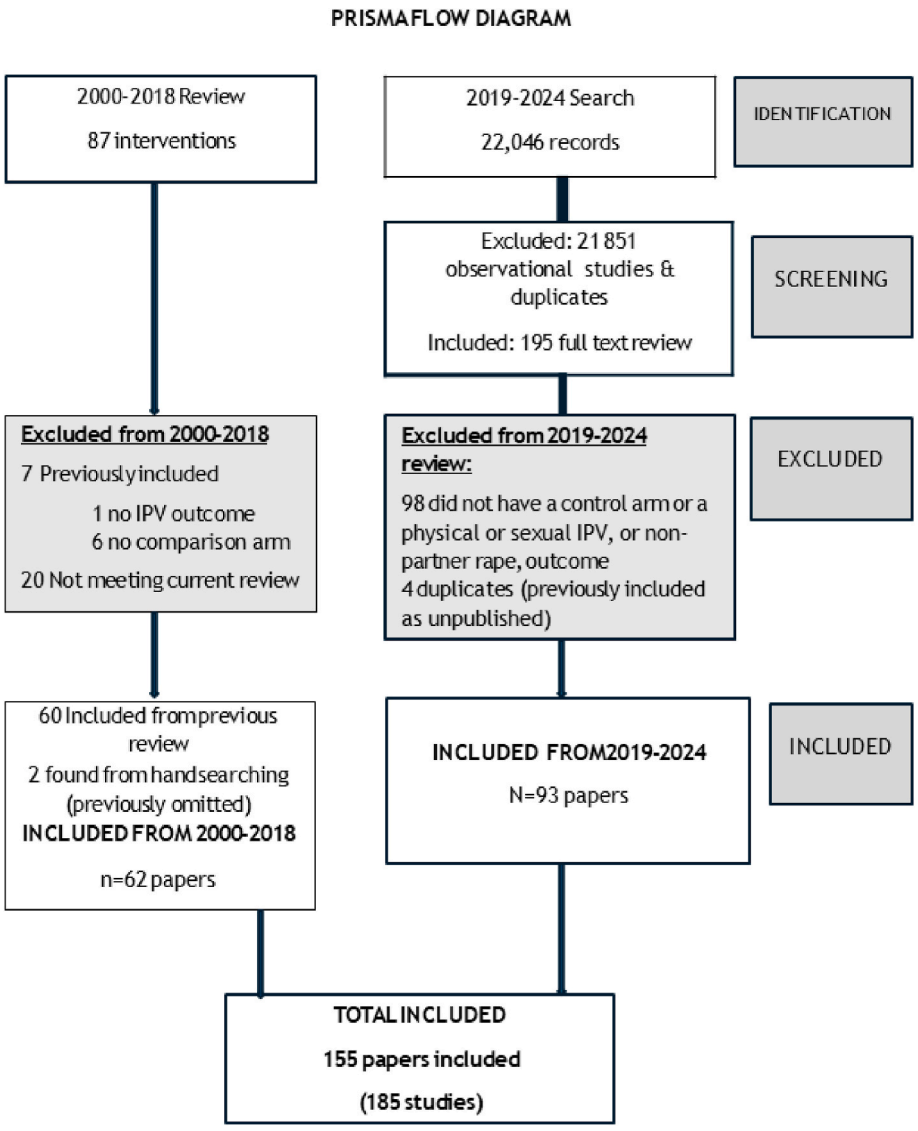


**Fig. 1.** Flow chart showing the inclusion of studies.

justification alone was not enough to give a sample size that was appropriate for minimising type 1 and type 2 errors. If the sample size per arm was within the range often considered for a feasibility trial (up to 300 per arm), we considered the quality to be lower (Billingham et al., 2013). We recognise that some of these studies are high quality pilot or feasibility studies, but they did not have a sufficient sample size to reliably detect a change in VAW outcomes due to the intervention. We had a concern that sample size would be associated with an intervention's outcome and so conducted a sensitivity analysis with the quality score including and excluding sample size (see below).

In keeping with best practice in measuring VAW, studies were deemed lower quality if they did not use an established multi-item measure of physical or sexual IPV or rape perpetration (for men) and victimisation (for women). The most commonly reported measures used were the WHO measure (Garcia-Moreno et al., 2005), the DHS measure (United States Agency for International Development, 2014), or the revised Conflict Tactics Scale (Strauss et al., 1996), typically referencing the past 12 months. However, this reference period often varied depending on the study's follow-up duration (e.g., past 6 months). Studies that used scales with a summative score that gave equal weight to measures of physical and sexual IPV and/or rape alongside other experiences of sexual assault or emotional or economic IPV were considered lower quality because a change in the score could have been driven by change in indicators that are easier to change or less reliably measured.

Presentation of baseline and endline prevalence or mean (and standard deviation) for the main VAW outcome(s) by arm was one quality criterion, In keeping with standards for reporting clinical trials (e.g. CONSORT (CONSORT Group, 2010)). Length of time between baseline and endline assessment was another dimension, with lower quality studies having a gap between assessments of up to six months, and higher quality studies having a gap of over six months. This is in keeping with a finding of a meta-analysis of positive results being associated with longer follow up (Leight et al., 2023). Missing data at endline is a major source of bias, and as such we included the degree of missing data as a quality criteria, with a cut point of 40% or more missing data as an indicator of poorer quality. The score is summarised in Fig. 2. We considered including whether the study was quasi-experimental in the quality score, but omitted it as not may were and instead conducted a sensitivity analysis with this included (see below).

#### 2.1.1. Assessment of the VAW outcome

We determined an evaluation to show a positive VAW outcome if a difference between arms in a measure of physical or sexual IPV or non-partner rape was shown at the end point in the expected direction (with $p < 0.05$). If there was more than one outcome measure, for example, when physical and sexual IPV were reported separately, we determined the impact to be positive if a reduction was shown for one of the outcomes (if not both). An intervention was considered as having a mixed impact if the intervention was evaluated in two sub-groups (usually men and women) and impacted one, but not the other sub-group. Other sub-group effects, such as those reported by Abramsky et al. in the SASA evaluation were not considered (Abramsky et al., 2014). An intervention was determined to have no impact on VAW if, at endline, no difference between arms was found in the expected direction in physical or sexual IPV or non-partner rape (with $p < 0.05$). Our definition of 'endline' was the last time point for which follow up was reported.

| Summary quality score | |
|---|---|
| **Time from baseline to endline** | 6 months and over |
| | Up to 6 months |
| **Sample size for the evaluation analysis** | Likely adequate sample size (over 300 per arm) |
| | up to 300 participants |
| **Gender disaggregated results** | yes |
| | no |
| **Loss to follow up rate** | 0-39% loss to follow up |
| | 40% and over |
| **Presented baseline and endline VAW outcome prevalence/mean score** | Both endline and baseline presented |
| | not done |
| **IPV measure** | Acts or experience for women &/or perpetration for men |
| | Outcomes that use other measures |

**Fig. 2.** Summary quality score.

### 2.2. Assessment of participant groups included in the interventions

We have categorised the papers into ten participant groups, noting that some papers span more than one and some are individual characteristics and others group/community. The groups were: women and girls; adolescents and young adults; men and boys; parents and caregivers; court mandated programme attendees; health sector users; female sex workers; couples; participants living in conflict-affected and humanitarian settings; and/or, participants living in informal settlements or areas of mixed housing.

### 2.3. Assessment of intervention approaches

We categorised the approaches used in interventions into 12 groups. Some interventions used multiple approaches and so are included in multiple groups. The groups are: community mobilisation with programming across the community; use of opinion leaderss such as faith leaders; manualised group-based interventions using participatory learning methods; individual psychotherapy or counselling; group psychotherapy or counselling; economic interventions with cash or material (asset) transfer; economic interventions with microfinance or other loans; economic interventions with savings or vocational or livelihood training; health professional or social-worker delivered interventions; life skills training; safety planning-based interventions; and web-based tools.

### 2.4. Risk factors

We categorised the risk factors that interventions were designed to address into 6 groups based on information available in the outcomes paper. These are the categories in the Gibbs et al. model of risk factors for VAW experience and perpetration (Gibbs et al., 2020a). The risk factor groups are: poverty; patriarchal gender norms and norms supporting use of VAW; women's disempowerment; harmful alcohol and illicit drug use; poor mental health; poor conflict and relationship skills. Interventions addressing poverty commonly used cash transfers, micro-loans, savings or livelihood strengthening approaches (Pronyk et al., 2006b; Gibbs et al., 2020b; Pettifor et al., 2016). Patriarchal norms interventions used different approaches, often with critical reflection on gender power and privilege (Pulerwitz et al., 2006). Interventions addressing women's disempowerment often overlapped with those addressing gender norms and economic empowerment, but they did not always do so. Some used approaches that were described as 'woman empowerment' without a critical gender analysis or an economic component (Tiwari et al., 2005). Interventions to address harmful alcohol use often combined this with illicit drug use, as needed in the setting. We have included a separate risk factor for interventions seeking to treat depression, sometimes PTSD and to provide cognitive restructuring. They all used methods drawn from cognitive behavioural therapy and often the methods overlapped with those for treating substance misuse (Wechsberg et al., 2013; Murray et al., 2020). Interventions to address conflict and relationship skills tended to include communication

skills (I statements and assertive communication), causes of conflict and conflict de-escalation, and some analysed and discussed defusing violence triggers (Dunkle et al., 2020; Jewkes et al., 2008b).

Some interventions addressed multiple risk factors and were included in multiple groups. We recognise that exposure to trauma and neglect in childhood is a very important risk factor for VAW experience and perpetration, and that some interventions sought to reduce this for the next generation. However, we have not included it as a potential risk factor as it is not amenable to intervention by programmes where participants are adult in respect of their IPV risk. We provide further information on coding in S3.

### 2.5. Review conduct and data analysis

All authors agreed the review criteria and quality assessment measures. The papers from 2019 to 2024 were divided for the review between the study researchers RJ, LR, PM, and AG and at least two and often three researchers reviewed each paper. RJ and AG reviewed and scored all of the papers from 2000 to 2018. The entire team discussed decisions on differences of options between reviewers, and inclusion and exclusion where needed. The study statistician EC provided guidance on data analysis where needed and quality assured the data analysis. The data set for analysis in Stata 17 was ultimately prepared by RJ and checked by all authors. The analysis was conducted by RJ and EC.

For the analysis, quality was summatively scored. The impact of the intervention on reducing VAW was dichotomised into any statistically significant reduction in physical or sexual IPV or non-partner rape versus none. Statistical significance was set at $p \leq 0.05$ but is also discussed at $p \leq 0.10$, due to the small cell size. All variables for participant group, risk factors and approaches used were coded 1 or 0. Descriptive statistics (counts and percentages) were calculated for the participant groups, risk factors, intervention approach, evaluation quality and success in reducing VAW by geographical region, and in a second analysis by whether the intervention worked. Associations are presented using Chi-squared tests or Fisher's exact tests, as appropriate. For the analysis of intervention effect, logistic regression models were built for each variable with adjustment for research quality. Unadjusted and adjusted odds ratios and 95% confidence intervals and p-values are presented. A multivariable logistic regression model of risk factors associated with the intervention having worked was built with whether the intervention worked as the outcome (at $p \leq 0.05$) and using risk factors as independent variables, with adjustment for study quality and one model was adjusted for study context (whether it was conducted in a conflict and humanitarian setting) Our logistic regression analyses accounted for the clustering of arms within studies in the estimation of the standard errors and confidence intervals.

Sensitivity analyses were undertaken to determine whether the number of risk factors and number of intervention approaches used were better indicators than the individual risk factors and approaches. In order to explore the impact of not being guided by whether the VAW outcome was primary or secondary in an evaluation, and to take into account the fact that some studies had multiple VAW outcomes, we conducted a sensitivity analysis using a different classification by combining studies with partial positive outcome with those that did not work. The results are presented below. As a further sensitivity analysis, to address a concern that standard logistic regression could produce unstable estimates and overconfident p-values due to the small cell count concern for some of the factors, we present a comparison with penalised (Firth) logistic regression. We present the results for all factors with an overall prevalence of less than 10% (shown in S1), these show little difference to the main analysis' findings. Apart from the conflict and humanitarian setting, none of the factors with very low prevalence were included in the multivariable model.

## 3. Results

We found publications from 155 research projects, which compared 185 intervention arms (study arms) to control arms (counterfactuals). Since 2001, the global literature of quantitative evaluations of VAW prevention interventions with control arms has been rapidly expanding, with 60.0% (111) of studies published in the seven years since 2018, compared to 40.0% (74) studies published in the 19 years from 2000 to 2018. The median publication year was 2019, with half the global literature published between 2015 and 2022 (the interquartile range).

The number of studies and papers published by global region is presented in Table 1. The majority of the global literature on what works to prevent violence against women comprises studies conducted in sub-Saharan Africa (51.4%). A quarter (25.2%) of the papers and 23.2% of the studies were conducted in North America, mostly the USA, and 12.9% of papers and 13.1% of studies were conducted in Central and Southeast Asia. Research conducted in other global regions constitutes a very small proportion of the global knowledge base.

The great majority of interventions included adult or adolescent women as participants (96.2%). A very small group of interventions (3.8%, n = 7 studies) only had men and or adolescent boys as participants, and these were all published before 2019. Overall, 35.7% of studies had both women and men (or girls and boys) as participants, although not always in equal numbers. 65.4% of studies only had one gender of participants. 17.3% included both men and women (or girls and boys) who had been independently recruiting (assuming most or all would not be in couples with one another). 17.3% were recruited as couples. 63.2% of participants were recruited from the community, 14.6% were recruited from the health sector and 22.2% were recruited in schools, universities and colleges. Most papers reported individually or cluster randomized controlled trials (81.4%), and 18.6% (n = 34) reported quasi-experimental studies.

The distribution of research studies published by participant group,

**Table 1**
Distribution of the sample.

| | | Total number of studies (N = 185) | Total number of papers (N = 155) |
|---|---|---|---|
| **Global Region** | East Asia & the Pacific (EAP) | 7 (3.8%) | 7 (4.5%) |
| | Europe | 3 (1.6%) | 3 (1.9%) |
| | Latin America and the Caribbean (LAC) | 6 (3.2%) | 6 (3.9%) |
| | Middle East and North Africa (MENA) | 5 (2.7%) | 5 (3.2%) |
| | North America | 43(23.2%) | 39 (25.2%) |
| | Central & South East Asia (CSEA) | 26 (14.1%) | 20 (12.9%) |
| | sub-Saharan Africa (SSA) | 95 (51.4%) | 75 (48.4%) |
| **Publication year** | median (IQR) | * | 2019 (2015, 2022) |
| | range | * | 2001, 2024 |
| **Participant gender** | women and girls | 112 (60.5%) | * |
| | men and boys | 7 (3.8%) | * |
| | women and men | 66 (35.7%) | * |
| **Participant relationship** | single gender participant groups | 121 (65.4%) | * |
| | men and women relationship unknown | 32 (17.3%) | * |
| | couples | 32 (17.3%) | * |
| **Recruitment site** | community | 117 (63.2%) | * |
| | health sector | 27 (14.6%) | * |
| | schools, universities and colleges | 41 (22.2%) | * |
| **Study design** | RCT (individual or cluster) | 151 (81.6%) | * |
| | Quasi-experimental study | 34 (18.4%) | * |

risk factors for VAW that were addressed by the intervention, and the approach used, by global region is shown in Table 2. There was little variation by region in the proportion of studies with women participants. Adult women and health sector participants were the only two participant groups that have been researched in all global regions. In 38.9% of the studies, participant groups were or included adolescents (under 25 years). Two-thirds of the research conducted in North America has been with adolescent participant groups (65.1%), a significantly higher proportion than in other global regions (<0.0001). Research with men and boys had been conducted in North America, sub-Saharan Africa, and Central and South Asia. However, research with couples had been exclusively conducted in sub-Saharan Africa and in central and Southeast Asia (p = 0.001). Only 6.5% of studies were conducted in conflict and humanitarian settings, and only 5.9% were conducted with participants who lived in informal settlements. Similarly, research conducted in conflict-affected or humanitarian settings was almost only found in sub-Saharan Africa, with one study from Central and South-East Asia. Likewise, research conducted in informal settlements was mostly found in sub-Saharan Africa and central and South-East Asia, with no study conducted in the Middle East and North

**Table 2**
Study participant group, risk factor addressed, intervention approach used and overall success by global region.

| | E.Asia/ Pacific | Europe | LAC | MENA | North America | Central & South East Asia | Sub-Saharan Africa | Total | p-value* |
|---|---|---|---|---|---|---|---|---|---|
| | N = 7 | N = 3 | N = 6 | N = 5 | N = 43 | N = 26 | N = 95 | N = 185 | |
| Adult and/or adolescent women | 7 (100.0%) | 3 (100.0%) | 6 (100.0%) | 5 (100.0%) | 42 (97.7%) | 24 (92.3%) | 91 (94.8%) | 178 (96.2%) | 0.854 |
| Adolescents | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 28 (65.1%) | 6 (23.1%) | 38 (40.0%) | 72 (38.9%) | <0.0001 |
| Men and/or adolescent boys | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 22 (51.1%) | 9 (34.6%) | 42 (44.2%) | 73 (39.5%) | 0.008 |
| Couples | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 5 (19.2%) | 27 (28.4%) | 32 (17.3%) | 0.001 |
| Parents | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 2 (4.7%) | 1 (3.9%) | 2 (2.1%) | 5 2.7%) | 0.756 |
| Mandated programme attendees | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 2 (4.7%) | 0 (0.0%) | 0 (0.0%) | 2 (1.1%) | 0.287 |
| Female sex workers | 1 (14.3%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 2 (7.7%) | 4 (4.2%) | 7 (3.8%) | 0.3 |
| Health sector groups | 3 (42.9%) | 3 (100.0%) | 1 (16.7%) | 5 (100.0%) | 8 (18.6%) | 2 (7.7%) | 5 (5.3%) | 27 (14.6%) | <0.0001 |
| Living in conflict-affected and humanitarian settings | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 1 (3.9%) | 11 (11.6%) | 12 (6.5%) | 0.225 |
| Living in informal settlements or areas of mixed housing | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 1 (20.0%) | 0 (0.0%) | 3 (11.5%) | 7 (7.4%) | 11 (6.0%) | 0.195 |
| **Risk factor addressed** | | | | | | | | | |
| Poverty | 2 (28.6%) | 0 (0.0%) | 5 (83.3%) | 0 (0.0%) | 0 (0.0%) | 11 (42.3%) | 41 (43.2%) | 59 (31.9%) | <0.0001 |
| Patriarchal gender norms and norms supporting use of VAW | 0 (0.0%) | 0 (0.0%) | 1 (16.7%) | 0 (0.0%) | 18(41.9%) | 14 (53.9%) | 54 (56.9%) | 87 (47.0%) | 0.001 |
| Harmful alcohol drinking and illicit drug use | 0 (0.0%) | 1 (33.3%) | 0 (0.0%) | 0 (0.0%) | 7 (16.3%) | 1 (3.9%) | 10 (10.5%) | 19 (10.3%) | 0.432 |
| Mental health & thoughts | 2 (28.6%) | 1 (33.3%) | 1 (16.7%) | 3 (60.0%) | 10 (23.3%) | 0 (0.0%) | 12 (12.6%) | 29 (15.7%) | 0.004 |
| Women's disempowerment | 3 (42.9%) | 0 (0.0%) | 2 (33.3%) | 0 (0.0%) | 12 (27.9%) | 9 (34.6%) | 51 (53.7%) | 77 (41.6%) | 0.013 |
| Poor conflict and relationship skills | 1 (14.3%) | 0 (0.0%) | 1 (16.7%) | 3 (60.0%) | 11 (25.6%) | 7 (26.9%) | 32 (33.7%) | 55 (29.7%) | 0.548 |
| **Method used** | | | | | | | | | |
| Community mobilisation with intervention dissemination across the community | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 6 (14.0%) | 6 (23.1%) | 23 (24.2%) | 35 (18.9%) | 0.444 |
| Use of opinion leaders such as faith leaders | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 1 (3.9%) | 8 (8.4%) | 9 (4.9%) | 0.476 |
| Manualised group-based interventions using participatory learning approaches | 3 (42.9%) | 0 (0.0%) | 1 (16.7%) | 1 (20.0%) | 19 (44.2%) | 15 (57.7%) | 50 (52.6%) | 89 (48.1%) | 0.212 |
| Individual psychotherapy or counselling | 2 (28.6%) | 2 (66.7%) | 1 (16.7%) | 2 (40.0%) | 12 (27.9%) | 0 (0.0%) | 5 (5.3%) | 24 (13.0%) | <0.0001 |
| Group psychotherapy or counselling | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 2 (40.0%) | 2 (4.7%) | 0 (0.0%) | 5 (5.3%) | 9 (4.9%) | 0.13 |
| Economic interventions with cash or material (asset) transfer | 1 (14.3%) | 0 (0.0%) | 3 (50.0%) | 0 (0.0%) | 0 (0.0%) | 8 (30.8%) | 21 (22.1%) | 33 (17.8%) | <0.0001 |
| Economic intervention with microfinance or other loans | 0 (0.0%) | 0 (0.0%) | 1 (16.7%) | 0 (0.0%) | 0 (0.0%) | 2 (7.7%) | 7 (7.4%) | 10 (5.4%) | 0.311 |
| Economic intervention with savings or vocational or livelihood training | 1 (14.3%) | 0 (0.0%) | 1 (16.7%) | 0 (0.0%) | 0 (0.0%) | 4 (15.4%) | 27 (28.4%) | 33 (17.8%) | 0.001 |
| Health- professional or social-worker delivered intervention | 3 (42.9%) | 2 (66.7%) | 1 (16.7%) | 1 (20.0%) | 3 (7.0%) | 2 (7.7%) | 12 (12.6%) | 24 (13.0%) | 0.026 |
| Life skills training | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 3 (7.0%) | 1 (3.9%) | 10 (10.5%) | 14 (7.6%) | 0.927 |
| Safety planning-based | 2 (28.6%) | 1 (33.3%) | 1 (16.7%) | 0 (0.0%) | 10 (23.3%) | 2 (7.7%) | 4 (4.2%) | 20 (10.8%) | 0.006 |
| Web-based methodology | 1 (14.3%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 9 (20.9%) | 1 (3.9%) | 3 (3.2%) | 14 (7.6%) | 0.027 |
| **Intervention success** | | | | | | | | | |
| Positive | 2 (28.6%) | 0 (0.0%) | 2 (33.3%) | 2 (40.0%) | 8 (18.6%) | 9 (34.6%) | 37 (39.0%) | 60 (32.4%) | 0.262 |
| Mixed | 1 (14.3%) | 0 (0.0%) | 0 (0.0%) | 1 (20.0%) | 2 (4.7%) | 3 (11.5%) | 4 (4.2%) | 11 (6.0%) | |
| No impact | 4 (57.1%) | 3 (100.0%) | 4 (66.7%) | 2 (40.0%) | 33 (76.7%) | 14 (53.9%) | 54 (56.8%) | 114 (61.2%) | |

*p value Fisher's exact test.

African region. There were also small groups of studies that had participants who were female sex workers, who were mandated to attend programmes and involved in parenting interventions.

The distribution of studies according to the risk factor addressed is also shown in Table 2. The most commonly addressed risk factor was patriarchal gender norms and norms supporting the use of violence against women. Almost half (47.0%) of studies addressed these norms. Second, was women's disempowerment, which was a focus of 41.6% of studies. Third, was poverty, which was the focus for 31.9% of studies. Poor conflict and relationship skills were addressed in 29.7% of studies. Poor mental health and distorted cognition in respect of violence was addressed in 15.7% of studies, and harmful alcohol use and illicit drug use was addressed in 10.3%.

There were some notable differences by global region on risk factors addressed in studies. Poverty was a focus in almost all studies in Latin America and the Caribbean (83.3%), and almost half of studies in sub-Saharan Africa and central and Southeast Asia, and in two studies in East Asia and the Pacific, but was not addressed in other regions ($p < 0.0001$). Women's disempowerment was much more commonly addressed in sub-Saharan Africa (53.7% of studies), than in other regions, where it was mostly addressed in a third or less of studies ($p = 0.013$). Poor mental health was more commonly addressed in North America (23.3%) than in interventions in sub-Saharan Africa (12.6%), and was not covered in any interventions in, e.g. central and South East Asia ($p = 0.005$). Four studies evaluated interventions that were not designed to address any recognised VAW risk factor.

The most common intervention approach used was to deliver a group-based intervention using participatory learning approaches, and nearly half (48.1%) of all interventions included such a component. The next most common set of approaches were economic, with 17.8% of interventions having an element that included providing cash or asset transfer, 17.8% of interventions included promoting savings, vocational training or livelihood training, and 5.4% of interventions included providing microfinance or other loans. A fifth (18.9%) of interventions were delivered using a community mobilization approach with dissemination of messages across the community, in a minority (4.9%), this included having some form of community opinion leader, often faith leaders. Overall, 13.0% of interventions used individual psychotherapy or counselling, and 4.9% used group psychotherapy. 13.0% of interventions had a health professional or a social worker delivering the intervention to the participants. About 10.8% of interventions, included safety planning and many of these (7.6% of the total number of interventions) were delivered using some form of web-based methodology, often through an App. A few of the interventions (7.6%) included delivering life skills training, which also often included HIV risk reduction.

There were significant differences in the methods used across global regions. Economic approaches were not used in North America, in contrast, safety planning was quite common in North American research, with 25% of North American studies including safety planning, a significantly higher proportion than in other regions ($p = 0.003$). Similarly, 20.5% of North American studies used web-based methodologies, a much higher proportion than in other regions ($p = 0.029$). Over a quarter (27.3%) of interventions delivered in North America included individual psychotherapy or counselling, compared to 5.2% in Sub-Saharan Africa and none in Central and Southeast Asia ($p < 0.0001$).

Among the studies, 32.4% of the evaluations showed that the intervention reduced violence against women (whether reporting on men's perpetration or women's experience of VAW) on measured indicators and in an additional 6.5% of studies, there was a mixed result i.e. it was shown in one, but not all, of multiple groups. In 61.1% of evaluations, the interventions were not successful. In Sub-Saharan Africa, 39.0% of evaluations showed a positive result (and 4.2% a mixed result), compared to North America where a positive result was only shown in 18.6% of evaluations (and 7.0% had a mixed result). Overall, the differences in success achieved by the interventions by global region were not statistically significant ($p = 0.262$).

The distribution of the research quality dimensions across the papers is shown in Table 3. Two-thirds of the studies assessed the final outcomes 12 or more months after the baseline assessment. Just 9 studies (4.9%) assessed the outcome after between 6 and 12 months, and just over a quarter (27.6%) assessed it at a time up to or including 6 months post baseline. Overall, 64.9% of studies had a sample size of over 300 participants per arm and this was potentially adequate for a robust analysis of the data. Only one in ten studies (11.9%) were clearly pilot/feasibility studies with 50 or fewer participants per arm, but a larger group (23.2%) had a sample size of between 50 and 300 participants, which was unlikely to show effect without a significant risk of type 1 or 2 error. Most of the studies (90.8%) presented gender disaggregated results. The majority of studies were conducted with a low loss to follow up rate of 30% or less (76.2%) of studies. A further 4.3% had loss to follow up of between 31 and 39% and for 12.4% it was 40% or greater. One study did not provide this information, and this quality dimension could not be scored for papers that had a study design with pre-post community surveys. The prevalence/mean score for the VAW outcome was often not presented at baseline and endline, with only 54.1% of papers presenting these. In 9.2% it was only presented at baseline and in 27.6% of papers, it was only presented at endline. In 9.2% of papers, this information was not presented for either timepoint. Just over two-thirds of studies (68.1%) had a VAW outcome that was a clear measure of experience of physical or sexual IPV or rape for women and of perpetration of these for men. In 30.3% of studies, the measure was a score

**Table 3**
Distribution of quality measures across the sample.

| | | Total number of studies (N = 185) | Total number of papers (N = 155) |
|---|---|---|---|
| **Time from baseline to endline** | 12 months and over | 125 (67.6%) | 104 (67.1%) |
| | Over 6 months and under 12 months | 9 (4.9%) | 7 (4.5%) |
| | Up to 6 months | 51 (27.6%) | 44 (28.4%) |
| **Sample size for the evaluation analysis** | Likely adequate sample size (over 300 per arm) | 120 (64.9%) | 97 (62.6%) |
| | 51 – 300 participants | 43 (23.2%) | 37 (23.9%) |
| | < 50 participants in 1 or more arms | 22(11.9%) | 21 (13.6%) |
| **Gender disaggregated results** | yes | 168 (90.8%) | 140 (90.3%) |
| | no | 17 (9.2%) | 15 (9.7%) |
| **Loss to follow up rate** | ≤ 30% | 141 (76.2%) | 119 (76.8%) |
| | 31-39% | 8 (4.3%) | 6 (3.9%) |
| | 40% and over | 23 (12.4%) | 18 (11.6%) |
| | missing | 1 (0.5%) | 1(0.7%) |
| | not applicable | 12 (6.5%) | 11 (7.1%) |
| **Presented baseline and endline VAW outcome prevalence/mean score** | Both | 100 (54.1%) | 90 (58.1%) |
| | Baseline only | 17 (9.2%) | 15 (9.7%) |
| | Endline only | 51(27.6%) | 42 (27.1%) |
| | Neither | 17 (9.2%) | 8 (5.2%) |
| **IPV measure** | Acts of experience for women &/or perpetration for men | 126(68.1%) | 106 (68.4%) |
| | Measure combines IPV acts that are not physical or sexual and/or items that are not IPV and/or measures perpetration for women | 56 (30.3%) | 48 (31.0%) |
| | Detail of measure not provided | 3 (1.6%) | 1 (0.7%) |
| **Quality score** | 1 | 2 (1.1%) | 2 (1.3%) |
| | 2 | 17 (9.2%) | 15 (9.7%) |
| | 3 | 25 (13.5%) | 21(13.6%) |
| | 4 | 49 (26.5%) | 38 (24.5%) |
| | 5 | 50 (27.0%) | 41 (26.5%) |
| | 6 | 42 (22.7%) | 38 (24.5%) |

that combined forms of IPV that were not physical or sexual and/or items that are not forms of IPV and/or measures of perpetration by women (often combined with experiences). Notable examples of this were the use of the HITS (Sherin et al., 1998), Tabrizi measure (Mohseni Tabrizi et al., 2013), and the Composite Abuse Scale (Hegarty et al., 2005). In 1.6% of cases, details of the measure were not given. Overall, only 22.7% of studies gained a top-quality score, 27.0% scored 5 out of 6, and at the lower end, 10.3% of papers scored only 1 or 2.

**Table 4**
Associations between participant groups, risk factors addressed and intervention approaches used and whether the intervention worked accordingly to the study's operational definition ($p \leq 0.05$).

| | | Intervention not worked | Intervention worked | Unadjusted OR (95%CI) | P value | Quality adjusted OR (95%CI) | p value |
|---|---|---|---|---|---|---|---|
| | | N = 114 | N = 71 | | | | |
| **Participant groups** | | | | | | | |
| Adult and/or adolescent women | No | 4 (3.5%) | 3 (4.2%) | | | | |
| | Yes | 110 (96.5%) | 68 (95.8%) | 0.82(0.15, 4.46) | 0.823 | 0.55 (0.07, 4.03) | 0.553 |
| Adolescents | No | 64 (56.1%) | 49 (69.0%) | | | | |
| | Yes | 50 (43.9%) | 22 (31.0%) | 0.57 (0.29, 1.16) | 0.121 | 0.66 (0.35, 1.32) | 0.240 |
| Men and/or adolescent boys | No | 73 (64.0%) | 39 (54.9%) | | | | |
| | Yes | 41 (36.0%) | 32 (45.1%) | 1.46 (0.76, 2.82) | 0.259 | 1.43 (0.74, 2.74) | 0.288 |
| Couples | No | 99 (86.8%) | 54 (76.1%) | | | | |
| | Yes | 15 (13.2%) | 17 (23.9%) | 2.08 (0.86, 5.00) | 0.103 | 1.71 (0.71, 4.04) | 0.220 |
| Parents | No | 112 (98.3%) | 68 (95.8%) | | | | |
| | Yes | 2 (1.8%) | 3 (4.2%) | 2.47 (0.40, 15.35) | 0.332 | 2.57 (0.58, 11.38) | 0.214 |
| Mandated programme attendees | No | 112 (98.3%) | 71 (100.0%) | | | | |
| | Yes | 2 (1.7%) | 0 (0.0%) | - | | - | |
| Female sex workers | No | 110 (96.5%) | 68 (95.8%) | | | | |
| | Yes | 4 (3.5%) | 3 (4.2%) | 1.21 (0.26, 5.56) | 0.806 | 1.09 (0.21, 5.56) | 0.918 |
| Health sector groups | No | 96 (84.2%) | 62 (87.3%) | | | | |
| | Yes | 18 (15.8%) | 9 (12.7%) | 0.77 (0.32, 1.87) | 0.569 | 0.97 (0.39, 2.45) | 0.954 |
| Living in conflict-affected and humanitarian settings | No | 103 (90.3%) | 70 (98.6%) | | | | |
| | Yes | 11 (9.7%) | 1 (1.4%) | 0.13 (0.02, 1.11) | 0.062 | 0.10 (0.01, 0.88) | 0.038 |
| Living in informal settlements or areas of mixed housing | No | 109 (95.6%) | 65 (91.5%) | | | | |
| | Yes | 5 (4.4%) | 6 (8.5%) | 2.01 (0.54, 7.47) | 0.296 | 2.01 (0.54, 7.50) | 0.301 |
| **Risk factor addressed** | | | | | | | |
| Poverty | No | 77(67.5%) | 49 (69.0%) | | | | |
| | Yes | 37 (32.5%) | 22 (31.0%) | 0.93 (0.47, 1.88) | 0.849 | 0.84 (0.41, 1.71) | 0.636 |
| Patriarchal gender norms and norms supporting use of VAW | No | 64 (56.1%) | 34 (47.9%) | | | | |
| | Yes | 50 (43.9%) | 37 (52.1%) | 1.39 (0.74, 2.63) | 0.307 | 1.20 (0.63, 2.29) | 0.577 |
| Harmful alcohol drinking and illicit drug use | No | 103 (90.4%) | 63 (88.7%) | | | | |
| | Yes | 11 (9.7%) | 8 (11.3%) | 1.19 (0.49, 2.89) | 0.702 | 1.41 (0.58, 3.44) | 0.450 |
| Mental health & thoughts | No | 97 (85.1%) | 59 (83.1%) | | | | |
| | Yes | 17 (14.9%) | 12 (16.9%) | 1.16 (0.52, 2.58) | 0.715 | 1.22 (0.55, 2.71) | 0.628 |
| Women's disempowerment | No | 69 (60.5%) | 39 (54.9%) | | | | |
| | Yes | 45 (39.5%) | 32 (45.1%) | 1.26 (0.66, 2.42) | 0.490 | 1.09 (0.56, 2.10) | 0.806 |
| Poor conflict and relationship skills | No | 90 (79.0%) | 40 (56.3%) | | | | |
| | Yes | 24 (21.1%) | 31 (43.7%) | 2.91 (1.43, 5.90) | 0.003 | 2.86 (1.41, 5.80) | 0.004 |
| Number of risk factors addressed | 1 or none | 61 (53.5%) | 28 (39.4%) | | | | |
| | 2 or more | 53 (46.5%) | 43 (60.6%) | 1.77 (0.93, 3.34) | 0.080 | 1.65 (0.87, 3.11) | 0.124 |
| **Methods used** | | | | | | | |
| Community mobilisation with intervention dissemination across the community | No | 94 (82.5%) | 56 (78.9%) | | | | |
| | Yes | 20 (17.5%) | 15 (21.1%) | 1.26 (0.53, 2.99) | 0.602 | 1.12 (0.45,2.79) | 0.806 |
| Use of opinion leaderssuch as faith leaders | No | 110 (96.5%) | 66 (93.0%) | | | | |
| | Yes | 4 (3.5%) | 5 (7.0%) | 2.08 (0.48, 8.96) | 0.324 | 1.93 (0.46, 8.06) | 0.366 |
| Manualised group-based interventions using participatory learning approaches | No | 64 (56.1%) | 32 (45.1%) | | | | |
| | Yes | 50 (44.9%) | 39 (54.9%) | 1.56 (0.83, 2.94) | 0.168 | 1.45 (0.77, 2.74) | 0.251 |
| Individual psychotherapy or counselling | No | 96 (84.2%) | 65 (91.6%) | | | | |
| | Yes | 18 (15.8%) | 6 (8.5%) | 0.49 (0.19, 1.28) | 0.147 | 0.53 (0.21, 1.34) | 0.179 |
| Group psychotherapy or counselling | No | 109 (95.6%) | 67 (94.4%) | | | | |
| | Yes | 5 (4.4%) | 4 (5.6%) | 1.30 (0.39, 4.38) | 0.670 | 1.71 (0.45, 6.51) | 0.433 |
| Economic interventions with cash or material (asset) transfer | No | 91 (79.8%) | 61 (85.9%) | | | | |
| | Yes | 23 (20.2%) | 10 (14.1%) | 0.65 (0.25, 1.70) | 0.377 | 0.56 (0.21, 1.48) | 0.246 |
| Economic intervention with microfinance or other loans | No | 109 (95.6%) | 66 (93.0%) | | | | |
| | Yes | 5 (4.4%) | 5 (7.0%) | 1.65 (0.45, 6.00) | 0.446 | 1.61 (0.40, 6.58) | 0.504 |
| Economic intervention with savings or vocational or livelihood training | No | 91 (79.8%) | 61 (85.9%) | | | | |
| | Yes | 23 (20.2%) | 10 (14.1%) | 0.65 (0.26, 1.59) | 0.344 | 0.62 (0.24, 1.57) | 0.310 |
| Health- professional or social-worker delivered intervention | No | 101 (88.6%) | 60 (84.5%) | | | | |
| | Yes | 13 (11.4%) | 11 (15.5%) | 1.42 (0.56, 3.63) | 0.459 | 1.28 (0.51, 3.19) | 0.597 |
| Life skills training | No | 103 (90.4%) | 68 (95.8%) | | | | |
| | Yes | 11 (9.7%) | 3 (4.2%) | 0.41 (0.09, 1.81) | 0.240 | 0.52 (0.11, 2.35) | 0.394 |
| Safety planning-based | No | 98 (86.0%) | 67 (94.4%) | | | | |
| | Yes | 16 (14.0%) | 4 (5.6%) | 0.37 (0.12, 1.16) | 0.087 | 0.41 (0.13, 1.29) | 0.129 |
| Web-based methodology | No | 104 (91.2%) | 67 (94.4%) | | | | |
| | Yes | 10 (8.8%) | 4 (5.6%) | 0.62 (0.18, 2.16) | 0.453 | 0.84 (0.23, 3.06) | 0.786 |
| Number of methods used | one | 55 (48.3%) | 39 (54.9%) | ref | | ref | |
| | two | 37 (32.5%) | 21 (29.6%) | 0.80 (0.41, 1.55) | 0.510 | 0.76 (0.38, 1.52) | 0.442 |
| | three or more | 22 (19.3%) | 11 (15.5%) | 0.71 (0.27, 1.85) | 0.477 | 0.70 (0.27, 1.80) | 0.456 |

Table 4 presents associations between whether the interventions worked ($p < 0.05$ on one or more physical and/or sexual IPV outcome) and the participant groups, risk factors addressed and intervention approaches used. In the adjusted analysis, there was evidence of a statistically significant association ($p = 0.033$) between whether the intervention worked and drawing participants from conflict affected settings. In these cases interventions were significantly less likely to be shown to impact VAW outcomes. Interventions addressing poor conflict and relationship skills were strongly associated with showing impact on VAW ($p = 0.002$) after adjusting for study quality.

Given the small sample sizes of intervention groups, there can be some merit in considering groups that were associated with intervention impact at a 10% level. In the unadjusted analysis, there is some evidence that interventions with adolescents were slightly less likely to work than those without them (31.0% worked with adolescents, versus 43.9% without them), Odds Ratio 0.57 (95%CI 0.31, 1.07 $p = 0.082$). After adjusting for study quality, the odds ratio was of similar magnitude but not statistically significant ($p = 0.199$).

There was a suggestion that interventions with couples were more likely to be successful than interventions without couples (23.9% worked for couples v 13.2% without them) and the unadjusted odds ratios supported this with $p = 0.062$, however the size of the effect was somewhat diminished in the adjusted analysis. Overall, there was a suggested evidence that interventions that targeted more risk factors were more likely to be effective in reducing VAW than those that targeted one or none (OR1.65 (95%CI 0.89, 3.04) $p = 0.111$).

The percentage of interventions that reduced and did not reduce violence against women was similar for all risk factors, except for those that addressed 'poor conflict and relationship skills'. This was addressed in 43.7% of interventions that worked and 21.1% of those that did not (aOR 2.86 (95% CI 1.47, 5.56) $p = 0.002$). Table 4 also presents the percentage of interventions that were shown to be effective (or not) in reducing violence against women by intervention approach. The only association that was statistically significant at a 1% level was for safety planning-based interventions, that were less likely to show a reduction in VAW than other interventions in an unadjusted analysis (OR 0.37 (95%CI 0.12, 1.14) $p = 0.083$). After adjusting for study quality, the effect size remained, by p-value no longer showed indications of statistical significance at the 10% level ($p = 0.135$).

Table five presents the multivariable logistic regression model of factors associated with intervention success. This analysis showed that addressing conflict and relationship skills in the intervention was associated with a three-fold increased likelihood of the intervention reducing VAW (aOR 3.35 (95%CI 1.58, 7.11) $p = 0.002$). Higher quality studies were much more likely to demonstrate intervention success than lower quality ones (aOR 1.43 (95%CI 1.09, 1.88) $p = 0.009$). Interventions were significantly less likely to be associated with intervention success if they were delivered to participants in conflict and humanitarian settings (aOR 0.08 (95%CI 0.01, 0.68) $p = 0.021$). Interventions addressing the other risk factors were not associated with impact on VAW, but the adjusted odds ratios were all in the direction that suggested that there could have been benefit, even though the 95% confidence intervals were very wide. The exception was for interventions that only addressed women's disempowerment, here the aOR was 0.73, suggesting that on its own this was quite possibly not an effective strategy.

To explore the impact of not being guided by whether the VAW outcome was primary or secondary in an evaluation, and to account for studies with multiple VAW outcomes, we conducted a sensitivity analysis using a different classification. We combined studies with partial positive outcome with those that did not work. The result for the model with risk factors and quality adjustment were similar to those for the main analysis. However, when adjustment was also made for setting, this analysis showed that interventions addressing poverty were also associated with intervention success aOR 2.70 (95%CI 1.14, 6.42) $p = 0.024$.

We conducted a set of sensitivity analyses that are presented in Supplementary Tables S4, S5, S6 and S7. These analyses have explored further the question of how the quality score factors and study design (quasi-experimental or a RCT) impacted the main outcomes. In a bivariable analysis showed that, among the quality score items, only the definition of VAW used as the outcome was associated with whether the intervention 'worked' or not (Table S5). This finding was sustained when other items were adjusted for (Table S6). Sensitivity analysis showed that the main results did not change if whether a study was quasi-experimental (or a RCT) was included in the main model (as shown in Table 5), or whether the quasi-experimental studies were excluded from the analysis. There were some changes when studies with fewer than 50 participants were excluded from the analysis. In this model the effect sizes for including intervention elements to address poor conflict and relationship skills were somewhat reduced, but the main difference was that the quality score adjustment was no longer statistically significant at $p < 0.05$ (quality score aOR 1.26 (0.92, 1.73, $p = 0.148$). These are shown in Table S7.

## 4. Discussion

There has been a rapid expansion in the number of quantitative evaluations of VAW prevention interventions with control arms in recent years, leading to a substantial and growing global body of literature. By the end of 2024, all global regions except Europe had evidence of two or more VAW prevention interventions having been evaluated and shown to prevent VAW. In total 92 interventions to prevent VAW have been shown to have higher quality scores (5 or 6) across the global literature. In all, 71 studies were shown to have 'worked' according to this paper's operational definition of one or more physical or sexual IPV outcome reducing in response to the intervention ($p \leq 0.05$). This clearly shows that VAW is preventable, confirming previous findings (Kerr-Wilson et al., 2020; Leight et al., 2023). However, the majority of the global literature comes from three regions: Sub-Saharan Africa, Central and South-East Asia and North America. There is a huge need for further research on what works to prevent VAW in the diverse socio-cultural contexts of Latin America and the Caribbean, Europe, the Middle East and North Africa and East Asia and the Pacific, and further research in the already more research established regions.

Our findings provide a clear message to practitioners and funders about the importance of supporting interventions that have an element that addresses relationship and conflict management skills. We have shown that this is associated with a three times greater likelihood of success, sending an important message to the field. Further, there is suggestive evidence from our sensitivity analysis that points to the value of addressing poverty as a risk factor. We have also shown that interventions delivered in conflict and humanitarian settings have generally not been effective, which is the same finding as a previous systematic review (Spangaro et al., 2021). Further research is needed to understand the weaknesses and determine the scope of a next generation of interventions for these settings.

Our review points to an association between higher quality evaluation research and intervention impact on VAW, which supports the importance of prioritising well-designed and adequately funded evaluations in building the global literature on VAW prevention. This complements an earlier review showing that strong intervention design and delivery is associated with a greater likelihood of intervention success (Jewkes et al., 2021a) and a review pointing to the same conclusion (Cork et al., 2020) There is a considerable concern that in this time of constrained research funding (Stark et al., 2025), fewer well-designed evaluations of interventions will be funded and the opportunities to advance knowledge of VAW prevention will be further constrained.

Higher quality studies were more likely to show that the intervention impacted VAW than lower quality ones. Some of the studies were described as pilot or feasibility studies and thus were knowingly underpowered in respect of impact on VAW outcomes. Such studies can

**Table 5**
Multivariable logistic regression model of factors associated with intervention success in preventing VAW.

| Risk factor/context | Models with 'worked' defined as impact on any VAW outcome ($p \leq 0.05$) | | | | Sensitivity analysis: Models with 'worked' defined by consistent impact on one or more VAW outcomes | | | |
|---|---|---|---|---|---|---|---|---|
| | Model 1 | | Model 2 | | Model 3 | | Model 4 | |
| | aOR(95%CI)[a] | p-value | aOR(95%CI)[b] | p-value | aOR(95%CI)[a] | p-value | aOR(95%CI)[b] | p-value |
| Study quality score | 1.40(1.05, 1.86) | 0.022 | 1.43(1.07, 1.92) | 0.016 | 1.42(1.04, 1.92) | 0.025 | 1.44(1.06, 1.95) | 0.021 |
| Poor conflict and relationship skills | 3.19(1.49, 6.82) | 0.003 | 3.35(1.56, 7.18) | 0.002 | 3.89(1.73, 8.78) | 0.001 | 4.11(1.82, 9.25) | 0.001 |
| Patriarchal gender norms and norms supporting use of VAW | 1.15(0.51, 2.58) | 0.733 | 1.50(0.65, 3.46) | 0.346 | 0.81(0.34, 1.93) | 0.628 | 1.04(0.43, 2.54) | 0.930 |
| Mental health & thoughts | 1.32(0.53, 3.30) | 0.555 | 1.61(0.60, 4.31) | 0.341 | 1.63(0.59, 4.46) | 0.345 | 2.00(0.68, 5.89) | 0.210 |
| Poverty | 1.25(0.55, 2.83) | 0.595 | 1.69(0.71, 4.00) | 0.232 | 1.99(0.87, 4.56) | 0.103 | 2.70(1.14, 6.42) | 0.024 |
| Harmful alcohol drinking and illicit drug use | 1.69(0.61, 4.67) | 0.312 | 1.73(0.62, 4.85) | 0.295 | 1.68(0.60, 4.75) | 0.324 | 1.74(0.60, 5.05) | 0.305 |
| Women's disempowerment | 0.80(0.38, 1.67) | 0.557 | 0.73(0.34, 1.56) | 0.420 | 0.87(0.41, 1.85) | 0.719 | 0.78(0.36, 1.69) | 0.536 |
| Living in conflict-affected and humanitarian settings | | | 0.08(0.01, 0.76) | 0.028 | | | 0.10(0.01, 0.89) | 0.039 |

[a] Model with risk factors and quality score.
[b] Model with risk factors, quality score and context.

provide very important information about a range of issues and point to how an intervention can be strengthened prior to more rigorous evaluation. However, we had some concern about instances where such studies showed no evidence of any difference in VAW outcomes and the investigators still recommended the intervention for further research in a randomised controlled trial (Gilchrist et al., 2021). It is critical for building the field that pilot and feasibility studies be conducted prior to more extensive evaluations and that potential evidence of non-effect be taken as seriously as promise of impact on VAW. There is a need for more flexible funding so that, where needed, multiple pilot and feasibility studies be conducted into an intervention prior to more extensive evaluations. Rigorous evaluations, with sufficient sample sizes and follow up periods, and with analyses conducted to identify any change in advance specified outcomes, are vital for advancing the field. Authors also need to accept that not all interventions will be effective (Sharma et al., 2020). Funders and journal editors have a responsibility to promote higher quality science by ensuring that strong study designs can be afforded within grants, and studies with negative or equivocal fundings can be published.

We found particular disjunction in evaluations from certain disciplines and the CONSORT criteria (CONSORT Group, 2010). Presenting baseline and endline prevalence scores is a core element in good reporting captured in CONSORT, but these were often not presented. Some major studies with multiple arms dropped one or more from follow up (Roy et al., 2024). The CONSORT requirement that the estimated effect size and its precision per outcome be presented was often not followed which made it difficult to confirm findings or identify effect sizes. In public health, the CONSORT (CONSORT Group, 2010) provides a clear benchmark that was developed to elevate standards of evaluations and enable scrutiny. This approach is not the norm in other disciplines. Studies were more likely to score highly on our quality criteria where public health methods of evaluation had been used because these criteria drew from CONSORT (CONSORT Group, 2010). Whilst this may be argued to be a bias of the present study design, we are of the opinion that the criteria used provide basic markers of good practice in VAW prevention intervention evaluations. The lack of standardisation of reporting across disciplines limits the ability of the field to learn from interventions that are more common in certain disciplines. This limits our ability to understand more about evaluations of interventions that have not yet realised expected promise, notably in impacting economic and mental health risk factors. Overall, two-thirds of studies were designed so that the endline was measured a year or more after baseline and the global literature now has a number of studies that have longer follow up. A notable example here is the Bandebereho couples IPV and parenting intervention in Rwanda which has been shown to have retained its impact on VAW six years after the baseline (Doyle et al., 2023). We noted that some studies with large sample sizes had implemented a very large increase in the size of their endline assessment which enabled them to show statistical significance between study arms at an absolute difference that was very likely less than the measurement error (e.g. of 3% or less) (Sharma et al., 2020).

Most evaluations had women or girls as research participants. There were only seven studies exclusively conducted with men and boys, and all of these were older studies. Despite men and boys perpetrating most VAW, they are often not included in VAW prevention interventions. Overall, only just over a third of interventions included men or boys as participants, and all of these studies were conducted in Sub-Saharan Africa, North America or Central and South-East Asia, which is clearly inadequate. Half of the studies that included men and boys recruited them into the intervention with their female partner as couples, for example in the Indashyikirwa intervention in Rwanda (Dunkle et al., 2020). There was a suggestion that couples' interventions may be an effective strategy, but the current analysis did not show this at a level of effect that was statistically significant. Couples' interventions have only been evaluated in Sub-Saharan Africa and Central and South-East Asia. VAW and harsh parenting practices very often co-occur in homes, so it is notable that there were only five interventions that combined interventions to reduce both IPV and violence against children. Where the interventions were designed for this dual violence prevention goal, there were notable examples of success; however often these were parenting interventions with a VAW outcome included for the evaluation, and these interventions did not yield VAW impacts (Doyle et al., 2023). Female sex workers are particularly vulnerable to VAW from clients, police and, intimate partners (Jewkes et al., 2021b). There were only seven evaluated interventions to reduce VAW among sex workers. The effective interventions, with one exception (Wechsberg et al., 2011), mostly reduce violence experienced from clients, rather than partners, indicating a need for substantially more innovation in this sector.

VAW is particularly prevalent in urban informal settlements, where there are multiple intersecting risk factors for VAW (Mannell et al., 2023). According to the United Nations Statistics Division, globally over a billion people currently live in slums or slum-like conditions in

cities and this will rise, yet only 11 studies were conducted with populations living in informal settlements (Gibbs et al., 2020b; United Nations Department of Social and Economic Affairs Statistics Division, 2025; Christofides et al., 2020). Similarly, VAW is highly prevalent in conflict-affected regions and humanitarian settings, and yet only 12 studies have been conducted here, almost all in Sub-Saharan Africa (Ellsberg et al., 2021). We have furthermore shown that the interventions in conflict settings have been particularly unlikely to be effective. This may also have been an indicator that some of the interventions thus far evaluated do not sufficiently account for the conflict or humanitarian context and what can be feasibly addressed in these highly abnormal settings. The review shows that new thinking around interventions for conflict-affected settings is clearly needed. There needs to be a concerted focus on what works to prevent VAW in informal settlements and conflict-affected settings.

Interventions in Sub-Saharan Africa, Central and South-East Asia and Latin America were much more likely to have tried to address poverty and women's disempowerment as risk factors and include economic interventions, than in North America, where poverty has not been addressed at all. In contrast North American interventions were much more likely to have mental health strengthening components and address harmful alcohol use, and have individual psychotherapy and safety planning as interventions, than those in other regions. This suggests that the low-and-middle-income countries mobilise an underlying model of VAW risk that more strongly emphasises the structural drivers of VAW, than drivers operating at an individual-level. We have shown that this approach has resulted in some particularly successful examples of VAW prevention interventions in Sub-Saharan Africa (Pronyk et al., 2006a; Gibbs et al., 2020b; Kapiga et al., 2019), whilst acknowledging that some of the interventions that address harmful alcohol use as a key risk factor have also been shown to have notable effect (Murray et al., 2020). Two studies have showcased the potential for public policy on alcohol access to impact VAW. A 5-year evaluation of an alcohol ban in Bihar State, India and a study of the impact of alcohol sales bans and restrictions during the Covid-19 pandemic in South Africa on femicide have shown that alcohol restrictions can have a very substantial population-wide impact on VAW, of a magnitude not achieved by smaller-scale interventions (Chakrabarti et al., 2024; Abrahams et al., 2025).

The review has shown that the interventions most consistently associated with success in reducing VAW addressed conflict and relationship skills. This is normally achieved in group interventions using participatory learning approaches, that normally also address gender norms, such as Stepping Stones (Jewkes et al., 2008a; Gibbs et al., 2020b). The review has shown that it is the skills building component of these interventions that drives their effectiveness in VAW prevention. This suggests that there may be a point in VAW prevention interventions that focuses on the relationship and dyad, i.e. the immediate context of violence, which is partway between the more distant structural drivers and (usually – in 83% of interventions) women's individual factors. Intervening on relationship skills seems to be particularly valuable, whilst recognising that relationship dynamics may be driven by alcohol or the stress of poverty, in which case addressing these may be beneficial for the couple. We also recognise that given the number of interventions that were not primarily designed for VAW prevention, we cannot exclude the possibility that having a relationship skills component could be operating in this analysis as an indicator of a more strongly designed VAW-prevention intervention.

We also found some evidence suggesting that addressing more risk factors in an intervention may be associated with a greater likelihood of impact. Although it has previously been asserted that muti-component interventions are more likely to be effective than single component ones (Jewkes et al., 2015), our review suggests that it is more likely to be the number of risk factors that are addressed that is more important, than the number of components used. Some of the interventions with the most components, notably DREAMS, were notably unsuccessful in multiple evaluations in reducing VAW (Wambiya et al., 2023; Roberts et al., 2023). Our findings on the value of multiple intervention components are discouraging. It is likely that complex interventions are often delivered by intervention teams that lacked the breadth of expertise and capacity to deliver different elements at consistently high quality and dose needed to impact VAW.

None of the intervention methods were associated with a greater likelihood of the intervention reducing VAW. However, after accounting for intervention quality, the current evidence, based on the direction of effect, suggests that more caution may be needed when using approaches based on stand-alone individual counselling or psychotherapy, cash or asset transfer-only interventions, life skills training, safety planning, web-based methods and interventions with only savings and vocational training. There is currently more evidence to support community mobilisation interventions, including with influencers (such as faith leaders), group-based manualised interventions with participatory learning approaches, group counselling, microfinance or loan interventions, and health or social services professional-delivered counselling interventions, with the field having examples of well-designed interventions impacting VAW prevalence using these methods. More research is needed in these areas, with robust, thoughtful study designs. A clear conclusion is that some of the studies with these interventions have been shown to be effective, but none of the interventions are magic bullets.

### 4.1. Strengths and limitations

This was not a systematic review and it is possible we have missed studies. Our quality score is both a strength and limitation of the analysis. It is a strength in that it is a multi-dimensional scale that has six equally important dimensions and each was scored 0/1 and thus given equal weight in deriving the scale. As a sensitivity analysis, we explored different ways of categorising key variables and found that there was very little difference in the final analysis shown in the multi-variable model. We considered whether loss to follow up should be treated as a three-level variable with up to 30%, 31-39% and 40% and over as the categories. Also, whether the duration between baseline and endline should be up to six months, over six and under 12 months and 12 months and over. Also, whether to categorise the sample size as up to 50 participants per arm, 51-300 and over 300. We acknowledge that these cut points are arbitrary, and the range of different assumptions used in sample size calculations was very wide. With a dichotomised outcome, a sample size of 300 per arm would still give a study limited power and generally much larger sample sizes are needed to show effect, especially if the design is a cluster randomised controlled trial. We recognise that some of the studies classified as low quality on sample size may have been well designed pilot (or feasibility) studies, but they did not have an ability to show change between arms of the study (Ioannidis et al., 2013).

We also considered including other dimensions of study quality including whether there was imputation of the primary outcome or not, whether an intention to treat analysis was used. Also whether quasi-experimental studies with repeat cross-sectional surveys should be considered lower quality than randomised controlled trials. This was because the number of sites was much lower than used in a RCT and normally pragmatically chosen, intention to treat could not be used in the analysis, further causal inference is more challenging as these studies are at a greater risk of bias due to non-comparable study sites and baseline and endline sample differences due to chance (Schweizer et al., 2016). We also considered whether to mark down the quality of studies that presented their outcomes as heavily adjusted models, where there was a strong possibility of adjustment variables having been included to achieve a p value of $<0.05$. However, these papers almost always had other indicators of lower quality evaluations. Our ultimate decision was not to include these in our quality score in the interests of parsimony.

This review has several limitations. It is based on published

quantitative evaluations from 2000 to 2024 with control arms. We recognise that there may be promising interventions that are not included here as they have not yet been evaluated or had evaluations published in the review period, or evaluated quantitatively with control arms. The review only drew upon literature published in English. The review is based on scrutiny of information reported in papers and, where available, supplementary materials published on-line. Additional information was not collected from authors, nor clarity sought from them, except in one case where we found a typographic error in the published paper (Mahapatro et al., 2024). The approach to presentation of results in papers and data analyses strategies varied considerably.

In this review, we have included every study that had a VAW outcome and we are referring to the studies as 'VAW prevention studies' as we assume that the inclusion of this outcome signals an expectation that the intervention might reduce VAW. However, many of the interventions were not primarily designed to prevent VAW; rather they were parenting interventions (Lachman et al., 2021), or HIV prevention interventions (Chabata et al., 2021), or interventions addressing poverty (Buller et al., 2018), and thus the VAW outcome may have been more of a lofty ambition than a realistic expectation grounded in the theory of change that underpinned the intervention design and implementation plans. We have discussed interventions that worked, according to our definition which required $p \leq 0.05$, but cannot exclude the possibility that some of the studies may have had chance findings, or findings influenced by the flexible analytic choices in the primary studies.

In cases where the authors' assessment of the evaluation outcomes differed from our conclusions drawn from an independent analysis of the study's findings (as shown in the paper or supplementary materials), we used the determination of effectiveness based on our investigation. We recognise that at times this differs from statements in the paper and also inferences drawn in other reviews. We recognise that some of the evaluated interventions may have provided benefit outside the timeframe of the evaluation. However, we are not able to draw any conclusions about this possibility. We acknowledge that there were elements of pragmatism in developing the quality score and we hope we have used sensitivity analysis to consider key elements of potential bias in the selected factors. We also recognised that much as adding study design to the quality score did not substantially change coefficients, the current composite does not capture unmeasured confounding risks that differentiate quasi-experimental from randomized designs. Nor did we have any ability to take into account publication bias.

We were not able to conduct a quantitative analysis of pooled effect as the intervention, participant, as study quality diversity would have rendered the results very difficult to interpret meaningfully. We would have liked this review to encompass an analysis of good practice in supporting women who have experienced VAW, including those living in severely violent relationships. Unfortunately, research into this field in Sub-Saharan Africa and low-and-middle-income countries is still at an early stage and therefore needs to be the focus of future work.

## 5. Conclusions

Our review has highlighted marked global inequality in research on the prevention of VAW as well as a considerable mismatch between VAW prevalence and risk factors and in the participant groups enrolled, intervention design and the distribution of high-quality studies across global regions. Although the number of evaluations is rapidly rising, the VAW prevention research field remains disproportionately small compared to the scale of the problem and its social, economic and health impact, and there is considerable scope for enhancement of the quality of both intervention and research. Notwithstanding the marked inequity in VAW prevention research, we have shown that the global literature on VAW prevention is now sizable and we are positioned to be able to provide preliminary evidence of which factors are associated with greater success. We eagerly anticipate the future growth of the field and the strong likelihood of greater clarity being shown as the field further grows. Our findings of the importance of interventions providing skills to women and men to navigate their relationships and inevitable moments of disagreement or conflict is incredibly important for practitioners and policy makers. These are actionable findings that, if translated into programming, can considerably reduce the lived experiences of VAW of women in communities. Similarly, the importance of using rigorous research methods for evaluations is salutary and confirms the importance of maintaining research rigor when evaluating these very complex interventions. Our potential finding on addressing poverty warrants further research.

## CRediT authorship contribution statement

**Rachel Jewkes:** Writing – original draft, Methodology, Investigation, Formal analysis, Conceptualization. **Leane Ramsoomar:** Writing – review & editing, Methodology, Investigation, Conceptualization. **Pinky Mahlangu:** Writing – review & editing, Methodology, Investigation. **Esnat Chirwa:** Writing – review & editing, Methodology, Investigation, Formal analysis. **Andrew Gibbs:** Writing – review & editing, Methodology, Investigation, Conceptualization.

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## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ssmmh.2026.100697.

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