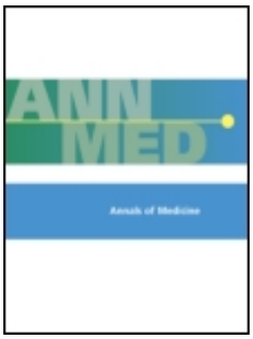

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REVIEW ARTICLE

The efficacy of cognitive behavioural therapy and advocacy interventions for women who have experienced intimate partner violence: A systematic review and meta-analysis

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Abstract

Objective. **To determine the efficacy of Advocacy and Cognitive Behavioural Therapy interventions (CBT) in reducing physical, psychological, sexual, or any intimate partner violence (IPV).**

Methods. **A systematic review and meta-analysis were conducted using randomized control trials (RCTs) published in MEDLINE, PsycINFO, Scopus, Cochrane, and Clinical trials. The occurrence of physical, psychological, sexual, and/or any IPV measured efficacy.**

Results. **Twelve RCTs involving 2666 participants were included. Advocacy interventions resulted in significant reductions in physical (standardized mean difference (SMD) –0.13; 95% confidence interval (CI) –0.25, –0.00) and psychological (SMD –0.19; 95% CI –0.32, –0.05) but not in sexual (SMD –0.20; 95% CI –0.43, 0.02) or any IPV (SMD –0.32; 95% CI –0.69, 0.04). CBT interventions showed a significant reduction in physical (SMD –0.79; 95% CI –1.26, –0.33) and psychological (SMD –0.80; 95% CI –1.25, –0.36) but not sexual (SMD –0.35; 95% CI –1.73, 1.03) or any IPV (SMD 0.09; 95% CI –0.05, 0.23).**

Conclusions. **Both advocacy and CBT interventions reduced physical and psychological IPV but not sexual or any IPV. Limitations include the low number of studies and the heterogeneity of interventions.**

Key words: Advocacy, cognitive behavioural therapy, intimate partner violence, meta-analysis, systematic review, women

Key messages

- Advocacy and cognitive behavioural therapy interventions reduced the occurrence of physical and psychological intimate partner violence for female victims.
- Advocacy and cognitive behavioural therapy interventions did not reduce the occurrence of sexual intimate partner violence for female victims.

Introduction

Intimate partner violence (IPV) is a global public health problem. The World Health Organization's recent multi-country study found that almost 30% of women had experienced physical (defined as the use of physical force against the woman by her partner including: pushing, shoving, confinement, pinching, slapping, kicking, biting, strangling, etc.) and/or sexual violence (e.g. sexual coercion or forced to have/perform sexual activities) by their intimate partner (1). Psychological IPV was defined as the use of threats by the intimate partner to hurt the woman or the use of verbal or non-verbal acts including: threats to harm, constant criticism, humiliating or belittling, threats to harm themselves, threats of abandonment, jealousy, intimidation, etc. Evidence on the prevalence of experiencing psychological abuse from their intimate partner, from the WHO multi-country study, ranged from 20% to 75% across countries. Furthermore, the proportion of women reporting one or more controlling behaviours by their partner varied from 21% in Japan to almost 90% in urban United Republic of Tanzania, making it difficult to provide a useful context for this type of violence due to the great variation across cultures where such behaviour may be more acceptable (2). The potential consequences of being a victim of psychological IPV include mental health problems, substance use, and somatoform disorders (1).

IPV is one of the leading contributors to the burden of disease among women (3). IPV victimization impacts negatively on women's physical, mental, sexual, reproductive health and quality of life (4–7). Depression, post-traumatic stress disorder, and substance abuse are associated with IPV victimization (8–10), with evidence suggesting IPV victimization is associated with the onset of developing these disorders (11). Victims of IPV

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have higher health and social care services utilization and costs than non-victims (12). The annual health care costs for women experiencing IPV have been reported to be 42% higher compared to women without IPV and can persist as long as 15 years after the cessation of IPV (12,13). Therefore, it is important to identify and address IPV victimization early to improve health outcomes for victims and reduce health care costs.

Previous systematic reviews of interventions to reduce frequency of IPV among female victims have been undertaken (8,9,14–17). Only two systematic reviews included meta-analyses (15,17), and only three were based on randomized controlled trials (14,15,17). These reviews have examined advocacy, batterer and couple interventions (8); individual and couples-based addiction and IPV treatments (9); treatment programmes for IPV perpetrators, victims, or child witnesses (14); advocacy interventions only (15); interventions to reduce IPV among pregnant women (16,17); and one included mixed interventions (advocacy and cognitive behavioural therapy (CBT)) (17). Although advocacy and CBT interventions are the most commonly used interventions, none of the previous reviews examined their efficacy by the type of IPV experienced, nor compared the efficacy of advocacy and CBT interventions. Advocacy interventions included support provided by advocates and mentor mothers aiming to enhance female victim safety such as information, provision of legal support, housing and financial advice, and telephone social support, developing safety planning and facilitating access to community resources, without any psychotherapeutic approach. CBT interventions included a wide range of individual and group interventions that used cognitive and behavioural components, motivational interviewing, and/or problem-solving techniques to provide emotional, communication, and assertiveness skills to manage IPV and other co-morbid mental health problems and its symptomatology, delivered by health care providers. These definitions incorporate the WHO intervention descriptions as well as those provided by the authors of the interventions from the trials included in the systematic review and meta-analysis.

The most recent published review on advocacy interventions was in 2009 (15), and the recent World Health Organization clinical guidelines based on systematic reviews did not look at these two interventions separately for an effect on IPV (18). Therefore, there remains a need to 1) update the evidence; 2) review the efficacy of different types of randomized control trial (RCT) interventions to reduce IPV victimization; and 3) determine the efficacy of these interventions (advocacy and CBT) in reducing different types of IPV experienced (physical, psychological, sexual, and any IPV). A greater awareness of the most efficacious interventions for IPV would allow practitioners to select and deliver the best interventions, or make appropriate referrals when needed.

This review and meta-analysis focused on females experiencing IPV as women are more likely to be victims of IPV, suffering more severe IPV, and more likely to be murdered by their intimate partner in comparison to men (18). Moreover, evidence for psychoeducational batterer (19,20) and CBT interventions (21) for IPV victimization has produced inconclusive results and small effect sizes. Therefore, detecting and responding to IPV victimization may be more beneficial than addressing IPV perpetration. This review seeks to present and compare the effectiveness of existing options to address IPV victimization.

The aim of the present systematic review and meta-analysis was to determine the efficacy of advocacy and CBT interventions independently in reducing physical, psychological, sexual, and any IPV among female victims in comparison to usual care.

Methods

The review was undertaken in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) recommendations (22).

Search strategy

MEDLINE (1990 to 30 April 2013), PsycINFO (1990 to 30 April 2013), Scopus (1989 to 2014), the Cochrane Collaboration (1990 to 30 April 2013), and Clinical trials (1990 to 30 April 2013) databases were searched using a combination of Medical Subject Headings (MeSH) in MEDLINE, topics and key words in PsycINFO and Scopus for IPV interventions and randomized control trials. Table I describes the search strategy employed and the different terms searched based on the thesaurus for each database. In addition, a review of relevant RCTs and backward and forward searching of citations was conducted. Citations were included regardless of language and country of origin. Little was known about the effectiveness of interventions for IPV victims before 1990. Previous reviews suggest that all evidence regarding interventions to address IPV victimization was post 1990, therefore it was decided to include RCTs from 1990 onwards.

For the purpose of this review, those interventions that included both advocacy and safety planning as their goal were grouped as 'advocacy interventions' if the intervention did not include any psychotherapeutic approach that used cognitive and behavioural components. IPV victimization was an additional variable measured in some of the included studies where CBT techniques focused not only on addressing IPV. When interventions included both CBT and advocacy, the interventions were grouped as 'CBT'. For this review we defined 'usual care' as that care typically provided at that setting or usual care with minimal additions such as an information card or leaflet listing the addresses and telephone numbers of local support agencies.

Authors were consulted for clarification when it was not clear from the description of the intervention in the publication whether the intervention was based on CBT techniques, or when data provided in the paper were insufficient to allow calculations to be undertaken. Where data were not available or not provided by authors, studies were not included in the meta-analysis. Therefore, only 12 manuscripts were included in the meta-analysis.

Eligibility criteria

Trials were eligible for inclusion if 1) they were randomized controlled trials or cluster randomized trials, 2) the outcome was the frequency or occurrence of IPV, and 3) they compared advocacy or CBT interventions to usual care. Screening interventions only and interventions delivered at home for domestic violence (mothers and children) were excluded.

Data extraction

Authors J.T.M. and G.G. independently assessed all articles against these eligibility criteria. Where there was disagreement, the decision whether to include or exclude each trial was reached through discussion with M.T. and K.H. Authors J.T.M. and G.G. independently extracted the following information using a standardized form: publication year, setting, per-group sample size (numbers recruited, numbers analysed), study and control interventions (brief descriptions including frequency and duration; outcomes assessed, length of follow-up and assessments used; and effects of the interventions) (Table II).

Table I. Description of search terms.

Database	Time-frame of search	Key words	Limitations applied
MEDLINE	1990 to 30 April 2013	Key words for intervention: intervention studies, clinical trial, evaluation studies, behaviour therapy, cognitive therapy, behaviour control, counselling, substance abuse treatment centres, treatment outcome, therapy (subheading), disease management, health promotion, prevention and control (subheading), brief psychotherapy, advocacy intervention Key words for IPV: domestic violence, battered women, spouse abuse (MeSH terms), family violence, intimate partner violence	Human, women, 18 years or older, RCT
PsycINFO	1990 to 30 April 2013	Key words for intervention: behaviour modification, behaviour therapy, clinical trials, cognitive behavioural therapy, cognitive therapy, group intervention, group psychotherapy, harm reduction, intervention, prevention, primary mental health prevention, treatment, advocacy interventions Key words for IPV: intimate partner violence, partner abuse	Human, women, 18 years or older, journal article
Scopus	1989 to 2014	Key words for intervention: intervention studies, evaluation studies, clinical trial, behaviour therapy, cognitive therapy, behaviour control, counselling, substance abuse treatment centres, treatment outcome, therapy, health promotion, brief intervention, advocacy interventions Key words for IPV: intimate partner violence, domestic violence, family violence, battered women, spouse abuse, partner abuse	Human, women, 18 years or older
Cochrane Library	1990 to 30 April 2013	Key words for intervention: interventions Key words for IPV: intimate partner violence and domestic violence	
Clinical Trials	1990 to 30 April 2013	Key words for intervention: intervention studies, evaluation studies, cognitive behaviour therapy, prevention and control, advocacy intervention, brief psychotherapy Key words for IPV: intimate partner violence	Women, 18 years or older

Assessment of methodological quality

Two authors (J.T.M. and G.G.) independently assessed the methodological quality of the trials included in the review using the Risk of Bias tool (23) for reporting randomized controlled trials. Differences in responses on the Risk of Bias tool were resolved through discussion with authors M.T. and M.F. and resolved by consensus without further analysis of Cohen's kappa. The Risk of Bias tool produces a quality interpretation with ratings of 'Yes' (low risk of bias), 'No' (high risk of bias), and 'Unclear' (uncertain risk of bias) for six key domains: 1) Sequence generation, 2) Allocation concealment, 3) Blinding of participants, personnel, and outcome assessors, 4) Incomplete outcome data, 5) Selective outcome reporting, and 6) Other sources of bias. The evaluation ranged from low-risk to high-risk methodology, with low risk equating to higher methodological quality. Only domain 1 was used as a criterion for inclusion in the current review; all other domains were considered to assess methodological quality of included studies. We included studies that were not described as single-blinded.

Main and subgroup analysis

RCTs where advocacy interventions were compared to control conditions were analysed separately from those where CBT were compared to control conditions. The occurrence of physical, psychological, sexual, and/or any IPV at follow-up was used to measure efficacy. When studies showed physical IPV disaggregated by violent acts, the highest violent act frequency score for evaluating physical IPV outcome was used. For those studies that were not disaggregated by types of violence, the measure 'any IPV' was used to measure efficacy. When the outcome was disaggregated to severe or minor violence, severe data were used (frequency score). Indicators for the four types of IPV (physical, psychological, sexual, any IPV) were provided by the authors directly from the manuscript, usually summing the single items for each type of violence (subscales). None of the trials included in the meta-analysis had more than one intervention group.

Statistical analysis

The principal summary measure was the standardized mean difference (SMD). For each RCT, the SMD and corresponding 95% confidence intervals (CIs) for the assessed outcome were retrieved or calculated. Data entry and statistical analysis were performed with the use of Review Manager software, version 5.0. (24). As the outcome data were presented in some studies as dichotomous data and in others as continuous data, odds ratios were recalculated as standardized mean differences (SMD), allowing dichotomous and continuous data to be pooled together (25). The standard errors of the log odds ratios were converted to standard errors of a standardized mean difference by multiplying by the same constant ($\sqrt{3}/\pi = 0.5513$). This allowed the standard error for the log odds ratio and hence a confidence interval to be calculated (26). When data from more than one follow-up period were reported, data from the latest follow-up period were included in the meta-analysis, combining outcomes assessed at multiple time periods. As this could be considered one of the factors affecting the evaluation of efficacy, additional meta-analyses were conducted (Table IV) grouping by similar follow-up points (from 'up to six months' to 'over six months follow-up'). Similarly, due to the clinical heterogeneity of the interventions included, extra analyses were conducted, where possible, to assess if the duration of the intervention (from 'up to five sessions' to 'over five sessions') increased the efficacy of the interventions.

Results

The search resulted in 1585 citations (Figure 1). A total of 1507 abstracts were excluded at the screening stage as they did not include interventions to reduce IPV victimization among adult

Table II. Summary of trials.

Authors	Setting, participants	Study interventions	Participant characteristics	Length of follow-up	Outcomes	Results	Meta-analysis Yes/No	Original data	
Summary of advocacy intervention trials ($n = 10$)									
Sullivan, 1991 RCT	Domestic violence shelter Initial participants $n = 46$ IG: 30 CG: 16 Numbers analysed $n = 41$ IG: 25 CG: 16	IG: 4–6 h/wk for 10 weeks post domestic violence shelter of one-on-one advocacy counselling, accessing needed community resources CG: Received standard shelter care and no additional services	Women exiting a battered women's shelter IG: Violence in the prior 3 months; pushed (91.2%) being raped (43.9%), and/or threatened with a gun or a knife (41.5%) CG: not reported	Post-intervention, 10 weeks post-intervention	**1. IPV measured by CTS** 2. Resources 3. Independence from assailant	Greater effectiveness in accessing needed resources	No		
Sullivan, 1992 RCT	Domestic violence shelter Initial participants $n = 146$ Numbers analysed $n = 141$ IG: 71 CG: 70	Same as above	To stay at the shelter 1 night or more Severity of abuse at baseline (1 = less – 5 = more) IG: 3.5 CG: 3.6	10 weeks post-domestic violence shelter	**1. IPV measured by CTS and Index of Psychological Abuse (IPA)** 2. Quality of life 3. Social Support 4. Depression 5. Fear and anxiety 6. Effectiveness in obtaining resources 7. Self-efficacy 8. Independence from assailant 9. Emotional attachment to assailant	No differences between groups. More access to resources, better social support, and greater quality of life for IG	Yes	**IG 30%**	**CG 42%**
Sullivan, 1994 RCT	Total lost to follow-up; $n = 10$ (groups not specified)	Same as above		6 months	Same as above	No difference between groups. More access to resources, greater quality of life for IG	No		
Sullivan, 1999 RCT	Domestic violence shelter Initialparticipants $n = 284$ Numbers analysed $n = 278$ IG: 135 CG: 130 lost to follow-up $n = 13$ (groups not specified)	Same as above	To stay at the shelter 1 night or more Baseline any IPV/physical IPV/physical IPV M(SD) IG: 2.53 (0.71) CG: 2.52 (0.66) Depression IG: 2.39 (0.65) CG: 2.44 (0.61)	6, 12, 18, and 24 months	Same as above	Less physical IPV post intervention and 2-year follow-up for IG. No significant differences between groups over time for emotional IPV	Yes	**M (SD) IG** **P** 0.80 (1.08) **Ps** 1.46 (0.67)	**CG** 1.09 (1.13) 1.57 (0.68)
McFarlane, 2000 RCT	2 prenatal clinics Numbers recruited 329 IG1: 98 IG2: 118 CG: 113 Numbers analysed 259: IG1: 73 IG2: 92 CG: 94	IG1: 'counselling'—unlimited access to advocate offering support, education, referral, assistance in accessing resources IG2: 'outreach', same as 'counselling', plus mentor mother CG: 'brief' intervention—women offered wallet-sized card	Screen positive for abuse Baseline any IPV/physical IPV M IG1: 43 CG2: 43.8 CG: 45.1	2, 6,12, and 18 months	**1. Violence measured by SVAWS—threats and actual physical abuse** 2. Community Resource Assessment	Outreach decreased violence scores at 2 months post delivery more than counselling alone. But not sustained at 6,12, or 18 month follow-up	No		

(*Continued*)

Table II. (*Continued*)

Authors	Setting, participants	Study interventions	Participant characteristics	Length of follow-up	Outcomes	Results	Meta-analysis Yes/No	Original data	
Tiwari, 2005 RCT	Public hospital prenatal clinic Initial participants 110 IG: 55 CG: 55 Numbers analysed: IG: 51 CG: 55	IG: 30 minutes empowerment intervention, consisted of advice in the areas of safety, choice-making, and problem-solving, and helped women to value themselves positively, plus information brochure CG: standard care: a wallet-sized card with information on community resources	Screen positive for abuse Baseline any IPV/severe physical IPV M (SD) IG: 0.82 (3.0) CG: 0.35 (1.2) Mental health SF-36 *n* (%) IG: 60 (13) CG: 64 (10)	6 weeks post delivery	**1. IPV measured by CTS modified and translated version of Form-R** 2. Quality of life (Chinese version) 3. Depression	Reported less psychological (but not sexual) IPV, minor (but not severe) physical IPV and had significantly lower postnatal depression scores	Yes	**M (SD) IG** **P** 0.25 (1.2) **Ps** 0.79 (1.0) **S** 0.03 (0.11)	**CG** 0.17 (0.54) 1.6 (2.2) 0.12 (0.55)
McFarlane, 2006 RCT	2 primary care public health clinics Initial participants: 360 IG: 180 CG: 180 Numbers analysed 319: IG: 161 CG: 158	IG. Nurse case management protocol for 20 minutes, empowering abused women by increasing independence/control CG: provision of a referral card listing a safety plan and sources for IPV services	Screen positive for abuse Baseline assault M (SD) IG: 23.2 (15.3) CG: 23.4 (16.4)	6, 12, 18, and 24 months	**1. Threats and physical abuse measured by SVAWS** 2. Homicide risk 3. Employment harassment 3. Community resource 4. Safety behaviour	Two years following treatment, both treatment groups reported significantly fewer threats of abuse assaults, but there were no significant differences between groups	Yes	**M (SD) IG** **P** 7.6 (12.2) **Ps** 8.9 (11.6)	**CG** 7.9 (12.1) 9.6 (11.7)
Tiwari, 2010 RCT	Community centre Participants: 200 IG: 100 CG: 100	IG: 12-week advocacy intervention comprising empowerment and telephone social support CG: received usual community services including child care, health care and promotion, and recreational programmes	Screen positive for IPV Baseline physical IPV M (SD) IG: 1.68 (4.21) CG: 1.55 (4.10) Depression IG: 37.88 (14.90) CG: 39.33 (15.60)	3 and 9 months	**1. IPV measured by Chinese CTS2** 2. Depression 3. Quality of life 4. Social support	The IG significantly reduced the number of partner psychological aggression events by 1.87 more than the CG. The between-group differences for physical assault and sexual coercion were not significant	Yes	**M (SD) IG** **P** 0.23 (1.27) **Ps** 10.07 5.91 **S** 0.03 (0.30)	**CG** 0.45 (1.74) 12.11 (8.57) 0.14 (0.75)
Taft, 2011 RCT	Primary care clinics Initial participants: 174 IG: 113 CG: 61 Numbers analysed: IG: 90 CG: 43	IG: 12 months advocacy and home visiting support from trained and supported non-professional mentor mothers. Assistance in developing safety strategies, providing information and support with parenting and information about referral to community services CG: clinician care	Disclose IPV Baseline any IPV total score (SD) IG: 22.5 (23.0) CG: 23.6 (19.4) Depression M (SD) IG: 15 (5.7) CG: 12.9 (6.0)	12 months	**1. IPV measured by CAS** 2. Depression 3. Well-being 4. Parenting stress 5. Social support	The odds of experiencing violence at follow-up, adjusted for baseline abuse, were 0.47 (95% CI 0.21–1.05)	Yes	**IG** **M (SD)** 15.9 (16.7)	**CG** **M (SD)** 21.8 (21.2)

(*Continued*)

Table II. (*Continued*)

Authors	Setting, participants	Study interventions	Participant characteristics	Length of follow-up	Outcomes	Results	Meta-analysis Yes/No	Original data
Tiwari, 2012 RCT	Community centre Participants: 200 IG: 100 CG: 100 None lost at FU	IG: 12-week advocacy intervention comprising empowerment and telephone social support CG: Received usual community services including child care, health care and promotion, and recreational programmes		3 and 9 months	**1. IPV measured by Chinese CTS2** 2. Depression 3. Quality of life 4. Social support 5. Safety-promoting behaviours 6. Utilization of health services	Same as Tiwari, 2010	No (same data as Tiwari, 2010)	
Summary of CBT intervention trials ($n = 13$)								
Melendez, 2003 RCT	Family planning clinic Initial participants: 360 IG (4 sessions): 128 IG (8 sessions): 112 CG: 120 Numbers analysed: 152	IG: gender-specific HIV/STD prevention intervention with two dosage levels, four-session, eight-session, same format: 2-hour, small group sessions consecutively each week, once a week CG: Assessment only	To report IPV was not an inclusion criterion Recent physical violence (past 12 months) was reported by 42% ($n = 152$) and sexual coercion (46%, $n = 70$). Not reported per group Sexual risk behaviour at baseline	1, 6, 12 months	**1. Risk of physical abuse** 2. Unprotected vaginal and anal sex occasions 3. Negotiation skills	The intervention did not increase or decrease the incidence of subsequent IPV during the 1-year follow-up period	No	
Rychtarik, 2005 RCT	Participants recruited from a programme for women experiencing stress as a result of their partner's drinking Initial participants: 171 IG (coping skills training): 55 IG (12-step facilitation): 58 CG: 58 Numbers analysed: Not reported	IG: coping skills training (CST) intervention: Each session's content then focused on applying this approach to certain types of problematic drinking-related situations experienced by women with partners with alcoholism IG: twelve-step facilitation (TSF) intervention: participants learned to view their problem as one of co-dependence CG: delayed treatment control	To report IPV was not an inclusion criterion IPV (physical) at baseline (%) IG (CST): 55 IG (TSF): 45 CG: 41 Partner substance abuse	6 and 12 months	**1. IPV measured by CTS** 2. Depression 3. Meaning-seeking 4. Treatment expectancies received 5. Feelings 6. Skill acquisition and CST attendance	CTS participants reported a significantly lower incidence of physical IPV during the 6-month follow-up period. Physical IPV declined significantly from 50% to 37% in the CST group, but a non-significant increase was reported from 44% to 51% for the TSF group	No	

(*Continued*)

Table II. (*Continued*)

Authors	Setting, participants	Study interventions	Participant characteristics	Length of follow-up	Outcomes	Results	Meta-analysis Yes/No	Original data	
Gilbert, 2006 RCT	Outpatient methadone maintenance treatment programme Initial participants: 34 IG: 16 CG: 18 Follow-up: 31	IG: relapse prevention and relationship safety (RPRS) intervention consisted of eleven 2-hour group sessions and one individual session, designed to promote relationship safety and reduce drug use, delivered twice weekly for 6 weeks CG: One information session	To report physical aggression, sexual coercion, injury-related abuse or psychological IPV in the past 90 days Baseline any IPV/physical IPV IG: 10 (63%) CG: 8 (44%) Substance use (heroin) IG: 12 (75%) CG: 14 (78%)	3 months	1. **IPV measured by CTS 2** 2. Drug and alcohol use, 3. Depression 4. PTSD 5. Sexual risk behaviour	IG participants reported a decrease in minor sexual or physical IPV, minor psychological IPV and severe psychological at the 3-month follow-up	Yes	**IG** ***n* (%)** **P** 2 (13) **S** 1 (06) **Ps** 5 (31) **Any IPV** 2 (13)	**CG** ***n* (%)** 7 (44) 2 (13) 13 (81) 7 (44)
El-Mohandes, 2008 RCT	6 prenatal care sites Initial participants: 1044 IG: 521 CG: 523 Number analysed: 723 350 in IG 373 in CG	IG: integrated cognitive behavioural intervention individual sessions focusing on 4 risk factors. The IPV intervention based on empowerment theory and emphasized safety planning and behaviours CG: usual prenatal care		22–26 weeks gestation, 34–38 weeks gestation, and at 10.3 weeks post partum	**1. IPV measured by CTS** 2. Depression 3. Active smoking 4. Environmental tobacco smoke exposure	Significant reductions between baseline and post partum were observed for IPV (36.8% to 9.9%). No significant differences were seen in the change for IPV between groups	No		
Joseph, 2009 RCT	6 prenatal care sites Initial participants: 1044 IG: 521 CG: 523 Numbers analysed: IG: 423 CG: 427	IG: integrated cognitive behavioural intervention individual sessions focusing on 4 risk factors. The IPV intervention based on empowerment theory and emphasized safety planning and behaviours CG: usual care		22–26 and 34–38 weeks estimated gestational age, respectively	**1. IPV measured by revised CTS** 2. Depression	Number of risks did not differ between the intervention and usual care. Women in the IG more frequently resolved some or all of their risks than did women in the CG	No		

(*Continued*)

Table II. (*Continued*)

Authors	Setting, participants	Study interventions	Participant characteristics	Length of follow-up	Outcomes	Results	Meta-analysis Yes/No	Original data	
Weir, 2009 RCT	Criminal justice system Initial participants: 529 IG1: 177 IG2: 177 CG: 175 Number analysed: 446 151 in IG1 149 in IG2 146 in CG	IG1: HIV risk reduction group, MI intervention-based discussions addressing ambivalence about behaviour change, plans of action IG2: HIV and IPV risk reduction group, IPV risk was addressed, using a similar approach as that used for HIV risk behaviour CG: counselling and testing for HIV, hepatitis C, and STDs and a handbook of services	To report IPV was not an inclusion criterion IPV at baseline IG1: 32 IG2: 31 CG: 27 Sexual behaviour in last 30 days IG1: 51 IG2: 48 CG: 40	3, 6, and 9 months	**1. IPV measured by CTS2** 2. HIV risk behaviours (drug use and sexual) 3. Life stability	There were no significant differences between the HIV/IPV group and the control group in the reduction of IPV at any of the assessments. The prevalence and incidence of violence also found no significant differences between the HIV/IPV and control group	No		
Kiely, 2010	6 prenatal care sites Initial participants: 1044 IG: 521 CG: 523 Numbers analysed: IG: 150 CG: 156	IG: integrated cognitive behavioural intervention individual sessions focusing on 4 risk factors. The IPV intervention based on empowerment theory and emphasized safety planning and behaviours CG: usual prenatal care	Only participants that reported IPV at baseline were assessed for this outcome IG: 169 (32.4%) CG: 167 (31.9%) Depression at baseline IG: 101 (59.8%) CG: 106 (63.5%)	22–26 weeks gestation, 34–38 weeks gestation, and post partum	**1. IPV measured by the AAS. Frequency of physical assault and sexual coercion (partner to self) was measured by the CTS**	IG participants were less likely to have recurrent episodes of IPV victimization. Women with minor IPV were significantly less likely to experience further episodes during pregnancy and post partum	Yes	**IG** ***n* (%)** 17 (12.7)	**CG** ***n* (%)** 29 (21.2
Kaslow, 2010 RCT	University-affiliated hospital serving indigenous people IG: 86 women CG: 87 Numbers analysed: IG: 86 CG: 45	IG: Culturally informed, empowerment-focused psycho-educational group intervention of 10 manualized, 90-minute group meetings. Specific to African American women CG: referred for standard psychiatric and medical care offered by the hospital, including free weekly suicide and IPV support groups	Physical IPV at baseline M (SD) IG: 42.9 (29.4) CG: 50.1 (26.9) Depression at baseline IG: 35.4 (12.2) CG: 35.2 (12.6) Suicidal ideation at baseline IG: 12.8 (9.7) CG: 15.2 (11.3)	Post intervention, 6 and 12 months	**1. IPV measured by the Index of Spouse Abuse (ISA) physical and non-physical subscales** 2. Suicidal ideation 3. Depression 4. Post-traumatic stress symptoms 5. Psychological distress	IG participants reduced the scores in inventory of abuse at three follow-ups. No interaction effects were found in depressive symptoms, post-traumatic stress symptoms, or general distress in reaction to the IPV exposure variables	Yes	**IG** **P** **M (SD)** 16.3 (20.3) **NP** **M (SD)** 26.1 (24.7)	**CG** 34.1 (24.4) 45.25 (26.4)

(*Continued*)

Table II. (*Continued*)

Authors	Setting, participants	Study interventions	Participant characteristics	Length of follow-up	Outcomes	Results	Meta-analysis Yes/No	Original data	
Miller, 2011 RCT	Family planning clinics Total $n = 906$ 75% retention rate at FU	IG: intervention constituted enhanced IPV screening, which focused first on educating clients about reproductive coercion and the many forms of IPV and provided information on local IPV and sexual assault resources CG: standard care, which involved responding to two violence screening questions	To report IPV was not an inclusion criterion At baseline intervention clinics reported more past 3-month IPV (21% compared with 14%, $P = 0.002$) and past 3-month birth control sabotage (11% compared with 7% in control clinics, $P = 0.054$)	12 to 24 weeks after intervention	**1. IPV measured by CTS2 and the Sexual Experiences Survey** 2. Reproductive coercion 3. Use of IPV services 4. Relationship changes	There were no significant changes in past 3 month IPV at follow-up for women in either the IG or CG, regardless of IPV status at baseline	Yes	**IG** ***n* (%)** 97 (22.1)	**CG** ***n* (%)** 70 (15.7)
Johnson, 2011 RCT	Inner-city battered women's shelters IG: 35 CG: 35 Numbers analysed not reported	IG: CBT (a maximum of 12 sessions approximately twice weekly while in shelter) plus standard shelter services (SSS) CG: standard shelter services (SSS) providing referrals for treatment in the community	Any IPV in the month prior to shelter admission Physical IPV IG: 31 (88.6) CG: 34 (97.1) PTSD: IG: 31 (88.6) CG: 30 (85.7)	1 week, 3 and 6 months post-shelter	**1. IPV measured by CTS2** 2. PTSD 3. Mood, anxiety, and substance use 4. Trauma history 5. Depression 6. Empowerment 6. Resource loss 7. Social support	IG participants reported significantly lower likelihood of re-abuse over the 6-month follow-up period	No		
Zlotnick, 2011 RCT	Primary care and private clinics Initial participants: 54 IG: 28 CG: 26 Numbers analysed: 46 (85%)	IG: IPT-based intervention, four 60-min individual sessions over a 4-week period before delivery and followed by one 60-min individual 'booster' session; designed to increase knowledge about IPV and its impact, about post-partum depression, and enhance stress management skills CG: Usual medical care plus educational material and resources for IPV	Those women who screened positive for recent (past year) IPV were eligible Any IPV M (SD) IG: 33.4 (28.4) CG: 38.7 (39.0) PTSD IG: 9.96 (10.62) CG: 16.11 (23.49) Depression IG: 7.18 (4.36) CG: 8.77 (6.07)	5–6 weeks after intake, 2 weeks after delivery, and 3 months post partum	**1. IPV measured by CTS 2** 2. PTSD 3. Depression	No significant differences between groups at post-intake, 2-week, or 3 months post partum. Both groups reduced frequencies of any IPV	Yes	**IG** **M (SD)** 16.3 (28.6)	**CG** **M (SD)** 12.1 (23.1

(*Continued*)

Table II. (*Continued*)

Authors	Setting, participants	Study interventions	Participant characteristics	Length of follow-up	Outcomes	Results	Meta-analysis Yes/No	Original data	
Carlson, 2012 RCT	National AIDS Foundation (NAF) IG: 49 IG2: 58 CG: 59 Numbers analysed: Not reported	IG: relationship-based HIV sexual risk reduction intervention; 4-weekly relationship-based sessions on knowledge and skills related to HIV/STI risk reduction IG2: same 4-weekly sessions as in the treatment condition plus 2 wrap-around sessions engaging motivational interviewing CG: wellness promotion; 4-weekly sessions on overall health and wellness knowledge and skills	To report IPV was not an inclusion criterion IPV at baseline IG1: 0.38 IG2: 0.52 CG: 0.40	2 weeks following the completion of the intervention, 3 and 6 months	**1. IPV measured by CTS2**	IG participants show reductions in IPV, physical IPV reduce from 0.40, 0.38 to 0.15, 0.17 at 6 months follow-up. Sexual violence also decreases after intervention, from 0.12, 0.13 to no participants reported experiencing sexual violence at 6 months follow-up	No		
Hegarty, 2013 RCT	Primary care (family doctors and her patients) IG: 25 doctors 137 women CG: 27 doctors 135 women Numbers analysed: IG: 96 women CG: 100 women	IG: intervention consisted of training GPs, notification to GPs when women screened positive for fear of a partner, and invitation to women for brief counselling for relationship and emotional issues. Based on the psychosocial readiness model CG: received usual care if they presented to their doctor with concerns during the trial period	To be fearful of a partner Any IPV at baseline IG: 101 (75%) CG: 93 (71%) Mental health status (SF-12) M (SD) IG: 36.6 (11.9) CG: 35.9 (11.9)	6 and 12 months	**1. IPV measured by CAS (not specified outcome)** 2. Quality of life 3. Mental health 4. Safety plan; and safety-promoting behaviour checklist 5. Anxiety and depression 6. Inquiry about safety of women and their children (Likert Scale)	The number of women who had a CAS with 7 or more decreased in both groups from baseline (101 of 135 women in the IG and 93 of 132 women in the CG) to month 12 (44 of 93 women in the IG and 40 of 96 women in the CG)	Yes	**IG *n* (%)** 44 (47)	**CG *n* (%)** 40 (42)

AAS = Abuse Assessment Screen; Any IPV = any intimate partner violence; CAS = Composite Abuse Scale; CG = control group; CTS = Conflicts Tactics Scale; CTS2 = Revised Conflicts Tactics Scale; HIV = human immunodeficiency virus; IG = intervention group; IG2 = intervention group (second arm); IPA = Index of Psychological Abuse; IPT = interpersonal treatment; IPV = intimate partner violence; MI = motivational interviewing; NP = non-physical violence; P = physical violence; Ps = psychological violence; RPRS = relapse prevention and relationship safety; S = sexual violence; SF-36 = Short-form 36–quality of life; STI = sexually transmitted infections; SVAWS = severity of violence against women scale.

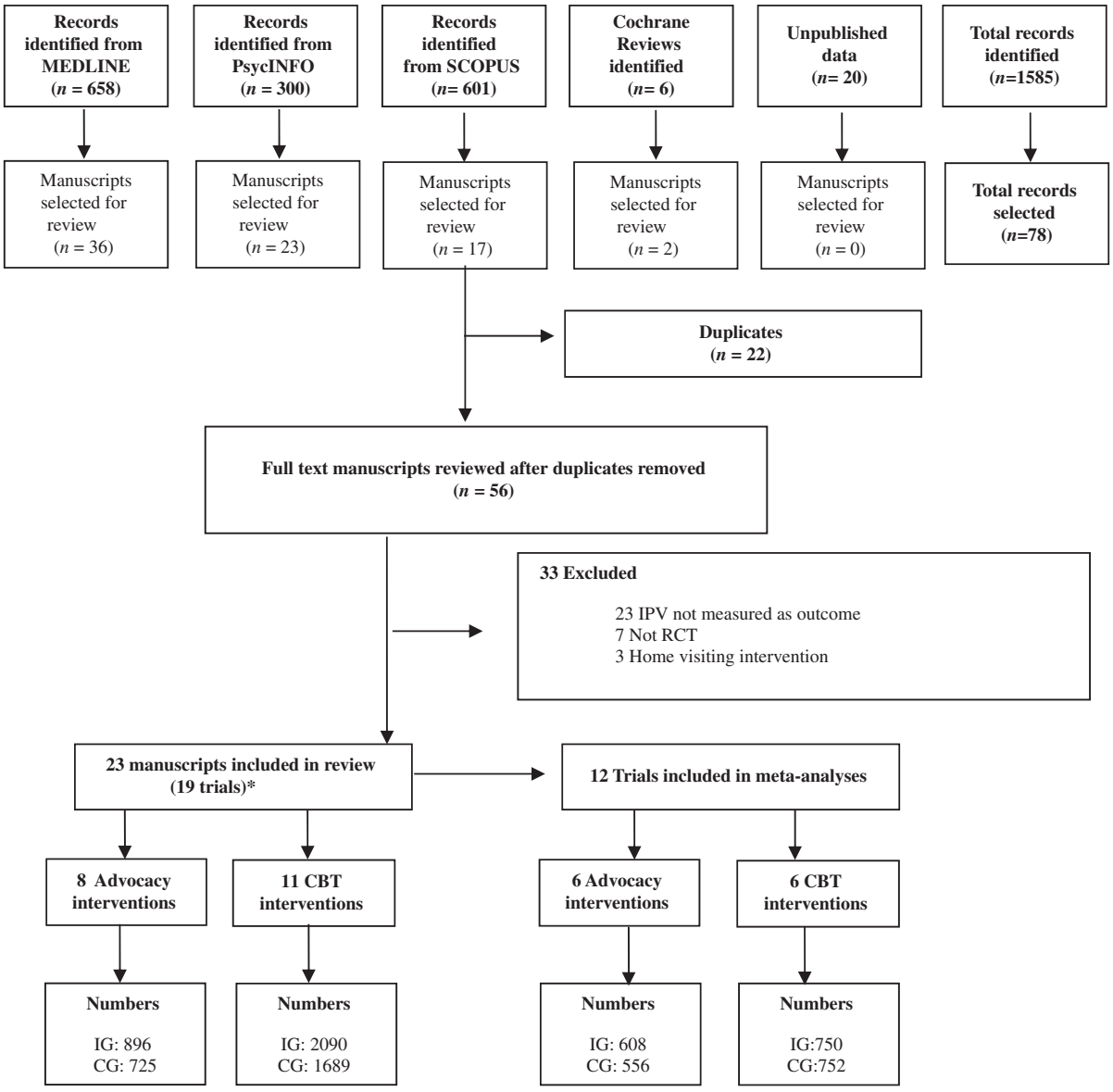


Figure 1. Flow chart for the selection of eligible studies. IPV = intimate partner violence; RCT = randomized control trial; IG = intervention group; CG: control group. *Three trials reported four manuscripts.

females. Rather they included interventions that addressed IPV perpetration, sexual abuse in childhood, anger management, Post traumatic stress disorder (PTSD) and relapse prevention; interventions for couples; not CBT interventions; pharmacological trials; IPV screening studies and descriptive studies. The remaining 78 abstracts were selected for assessment and read in full-text. After removing 22 duplicate references, 33 of the remaining 56 studies were excluded because IPV frequency or occurrence was not assessed or presented at follow-up ($n = 23$) (27–49), they were not RCTs ($n = 7$) (50–56), or they evaluated a home visiting (mothers and children) intervention ($n = 3$) (57–59).

Altogether 23 manuscripts were included from 19 RCTs. One advocacy manuscript reported additional outcomes (safety-promoting behaviours and utilization of health services) (60) from the same female sample (61). Tiwari et al. (61) was included in the meta-analysis. Three CBT manuscripts reported three different analyses from the same female sample (62–64), with Kiely et al. (64) being the most focused on IPV; and two manuscripts reported outcomes from the same sample but using different follow-up time-frames: 10 weeks (65) and six months (66) post intervention. Of the 19 RCTs included, eight were of advocacy (61,65,67–72), and 11 were of CBT interventions (64,73–82). Six advocacy (61,65,68,70–72) and six CBT studies (64,75,77–79,82) were included in the meta-analysis.

The characteristics of the manuscripts are described in Table II. Of the 19 RCTs, 14 were conducted in the USA (64,65, 67–69,71,73–80), two (61,70) in China, two in Australia (72,82), and one in Mongolia (81). Recruitment setting of the included studies is described in Table II. A total of 5400 women, mean age 30.6 years old (range 20–48 years) were recruited; 31% of participants were Afro-American, 16% were white non-Hispanic, 15% were Hispanic, 10% were black, 6% were Chinese, 5% were Australian, 3% were Mongolian, and 12% were classified as 'other', e.g. European American, Asian American, and other ethnicities not specified. Only one RCT included female drug users in the sample (75), and women were recruited to six RCTs during pregnancy (64,69,70,72,78,79). A total of 896 participants received an advocacy intervention, and 2090 received a CBT intervention.

Quality and publication bias assessment

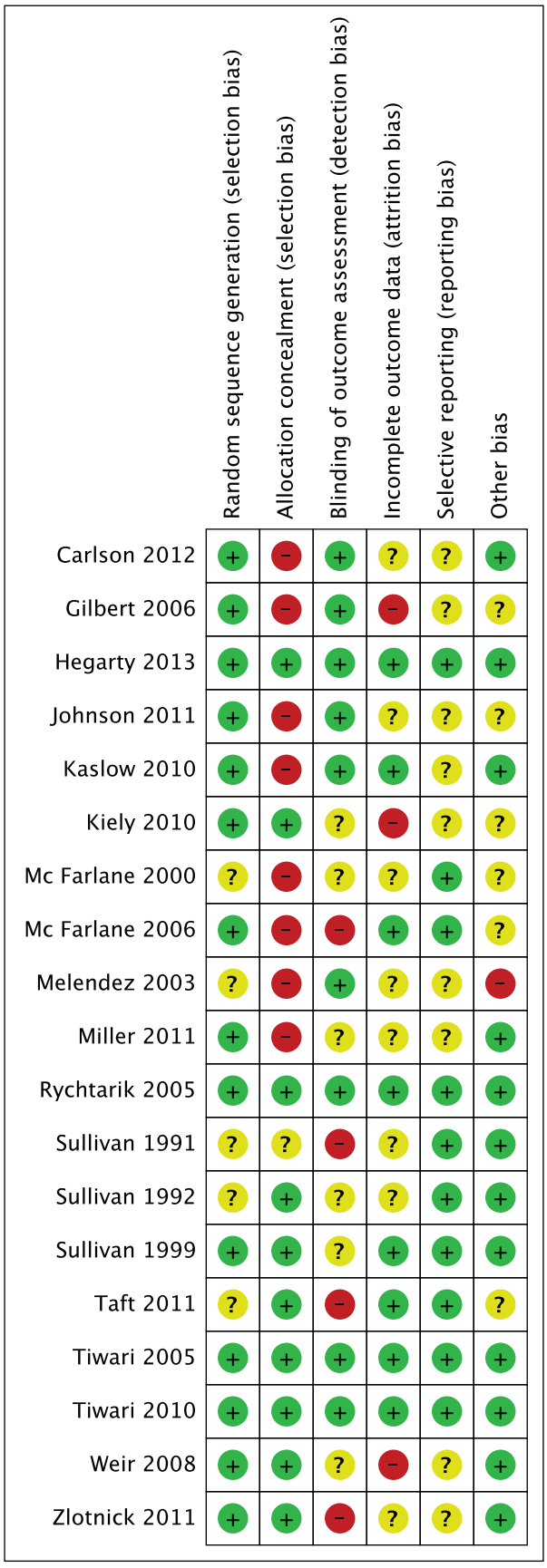
A summary of authors' judgements about each risk of bias item for each included study is described in Table III. Only six key domains were assessed as it was not feasible to blind participants or those delivering advocacy or CBT interventions. Six of the 19 trials satisfied at least four of the six risk-of-bias criteria, the rest fulfilled three or fewer (64,65,67,69,71–73,75,76,78,79–81). Four studies satisfied all of the criteria (61,70,74,82). Information regarding allocation sequence generation and allocation concealment is described in Table III. No trials were double-blinded, but in eight trials the evaluators were blind to group allocation (61,70,73–75,77,80,81). Three studies used survey or telephone interventions to assess outcomes (64,78,82), and three trials reported that the outcome assessors were different to the person providing the intervention (65,68,76). Four studies mentioned they were not single-blinded or did not give any explicit information about blinding (67,71,72,79). Eight RCTs (61,68,70–72,74,77,82) reported data on drop-outs. An intention-to-treat analysis was used in 11 trials (64,70,72–74,76–78,80–82), although in some cases many fewer patients were analysed than were enrolled and randomized. There was no selective reporting bias by investigators, with all outcome measures described in the methods reported in the results. The sample of women in Kiely et al. (64) reported more than one health risk factor (from IPV, depression, and passive and active smoking) at baseline and received more than one intervention to address their multiple needs. Therefore, it is not clear how many women received more than one intervention, and as a result there may be an interactive effect from receiving more than one intervention. In one study the same research nurses provided the intervention and the care of the control group (71), and one study showed insufficient statistical power—groups did not differ statistically across the variables studied (75). One RCT (78) measured IPV in all women, not only those who reported experiencing it in the last three months at baseline. No other biases were detected. In all of the trials, participants' characteristics were similar between intervention and control groups at baseline. Only four trials found one significant difference between groups at baseline (61,72,74,81). The three cluster randomized trials (72,78,82) were also assessed using the domains for assessing risk of bias in cluster-randomized trials. No recruitment biases were found. Baseline differences were reduced by using stratified or pair-matched randomization of clusters in two RCTs (72,82). A low risk analysis was considered in two RCTs (72,82), and comparability with individually randomized trials was accepted by authors.

Qualitative analysis

Advocacy interventions

All advocacy interventions were delivered on an individual basis and compared with usual care. Substantial heterogeneity was found in the intensity of advocacy interventions included and populations varied in the meta-analysis, but all interventions were similar and based on the same approach. Two RCTs tested interventions of less than five sessions (70,71), while five trials tested interventions over five sessions (61,65,67,68,72) with intervention duration ranging from 10 weeks (65,67,68) to 12 months (72). Three separate trials, conducted among women in domestic violence shelters (65,67,68), compared the same intervention (10-week intensive one-to-one advocate service) to standard domestic violence shelter services (usual care), developing a safety plan and accessing community resources on leaving the

Table III. Risk of bias summary of advocacy and CBT interventions: review of authors' judgements about each risk of bias item for each included study. + (Green): yes (low risk of bias), ? (Yellow): unclear, − (Red): No (high risk of bias).



shelter. Women were followed up for 10 weeks (65), 6 months (66), and 12, 18, and 24 months (68) after leaving the shelter. One trial (60,61) compared the same advocacy intervention to usual community services including child care, health care and promotion, and recreational programmes. Three trials (69,70,72) were conducted among pregnant women. Three trials compared an empowerment intervention to usual care (69–71). Finally, one RCT (72) compared a 12-month mentor mother advocacy intervention to clinician's care. Advocates did not deliver the intervention in four trials (69–72).

CBT interventions

Eight CBT interventions were delivered on a one-to-one basis (62–64,76,78–80,82), and five were group interventions (73–75,77,81). Four trials assessed interventions of up to five CBT sessions (64,78,79,82), and seven interventions consisted of interventions with more than five sessions (73–77,80,81). Three trials tested an intervention designed to reduce HIV/sexually transmitted disease (STD), also addressing IPV (73,76,81). One study tested the efficacy of an intervention aimed at enhancement of social support in a sample of pregnant women with recent IPV (79) as social support has been found to be protective against the negative effect of IPV and women's mental health. A CBT for PTSD in women in domestic violence shelters (80) was tested. The only trial conducted among female drug users tested a drug relapse prevention and relationship safety intervention to promote relationship safety and reduce drug use (75). One trial assessed the efficacy of an intervention for psychological symptoms associated with IPV, such as suicidality (77). Two more trials among pregnant women (64) used a CBT intervention focusing on four risk factors (IPV, depression, and passive and active smoking), while one trial conducted among pregnant women (78) focused on reproductive coercion and IPV education. Rychtarik et al. (74) tested a coping skills training for women to conceptualize their distress from problematic drinking-related situations, offering problem-solving skills. The final RCT assessed a brief counselling after an IPV screening to increase women's quality of life, safety, mental health, and reduce IPV victimization (82). Interventions were delivered by female facilitators (73,81), social workers (64), family planning counsellors (78), psychologists, therapists (74,75,77,79,80), general practitioners (82), and county health department staff (76).

Assessed outcomes and evidence synthesis

There was variation in the length of time participants were followed up post intervention or post partum across trials, ranging from immediately post intervention (67) to 24 months (68) for advocacy. For CBT interventions this ranged from end of intervention (77,80) to 12 months post intervention (73,74,77,82). Various scales, subscales, and single questions were employed to measure IPV.

Physical IPV was the most frequent type of IPV assessed. All RCTs assessed this type of violence. A total of 13 trials (61,64,65,67,68,70,74–76,78–81) used various versions of the Conflict Tactics Scale (83). Possible scores range from 0 to 6 for each of the Conflict Tactics subscales (physical assault, injury, psychological aggression, sexual coercion, negotiation), with higher scores indicating higher levels of IPV. One trial (73) assessed physical IPV at baseline asking if women had ever been hit by a man with whom they had had a sexual relationship, and when this occurred. At each follow-up interview, participants were asked whether they had been hit by a partner since the last interview. Kaslow et al. (77) assessed physical and non-physical IPV using the Index of Spouse Abuse (84). McFarlane et al. (69,71) assessed physical IPV using the Severity of Violence Against Women Scale (SVAWS) (85). Two trials (72,82) assessed IPV using the Composite Abuse Scale (86). Data from five trials of CBT interventions (73,74,76,80,81) could not be included in the meta-analysis due to the lack of available data for comparison (the means and/or standard deviations were not reported in the manuscript, and the authors were not able to supply these data). Therefore, the meta-analysis with physical IPV as the outcome included five trials of 518 randomized patients receiving advocacy (61,65,68,70,71) and two trials of 45 participants receiving CBT interventions (75,77). Some trials reported data of this outcome disaggregated by violent acts, the higher violent act score being used to report this type of violence (65,66). One study reported the outcome disaggregated into severe or minor IPV; data for severe IPV were used (75).

Psychological IPV was assessed in 14 RCTs (61,65,68–72,75–77,79–82) using the Conflict Tactics Scale (61,70,75,76,79–81), the Index of Psychological Abuse (65,68), the SVAWS (69,71), the Index of Spouse Abuse (77), and the Composite Abuse Scale (72,82). Six trials were included in the meta-analysis where the occurrence of psychological IPV was the outcome: four trials were conducted among 447 randomized participants receiving advocacy (61,68,70,71) and two trials of CBT interventions among 45 participants (75,77). Studies reported this type of violence as emotional violence, psychological, threats, or non-physical outcome.

Sexual IPV was the least frequent outcome assessed, with 11 trials (61,64,70,72,75,76,78–82) assessing it using the Conflict Tactics Scale (61,64,70,75,76,79–81), the Composite Abuse Scale (72,82), and the Sexual Experiences Survey (78). Although trials assessed this type of violence using subscales, not all of them reported the outcome in this manner. Three trials were included in the meta-analysis where the frequency or occurrence of sexual IPV was the outcome: two trials of advocacy among 151 participants (61,70) and one trial of a CBT intervention among 16 participants (75).

Any IPV was reported in some trials when IPV was not disaggregated by type of violence, combining physical and sexual (64,75,78), or presenting means and SD of the total score (72,79,82). Six trials were included in the meta-analysis where the occurrence of any IPV was the outcome (64,72,75,78,79,82)—one trial of advocacy among 90 participants (72), and five trials of a CBT intervention among 721 participants (64,75,78,79,82).

Physical IPV results

Participants allocated to receive advocacy showed a significant reduction in the occurrence of physical IPV compared to those allocated to usual care (SMD –0.13; 95% CI –0.25, –0.00) (Figure 2). Those receiving CBT interventions (only two RCTs were included, and the significance should be considered with caution given the small effect size) showed a significant reduction in physical IPV occurrence compared to those allocated to usual care (SMD –0.79; 95% CI –1.26, –0.33) (Figure 2). Analysed together, both interventions showed a significant reduction in physical IPV occurrence compared to those allocated to usual care (SMD –0.17; 95% CI –0.29, –0.05) (Figure 2). For advocacy, Sullivan and Bybee's paper (68) was the major contributor to this outcome with 265 IPV victims. For CBT interventions, Gilbert et al. (75) was the major contributor to this outcome, with 34 IPV victims.

Two potential factors that could have contributed to the efficacy of the interventions were studied—the different follow-up periods compared across trials and the heterogeneity of the interventions. Additional factors that may have contributed to the efficacy of the interventions were who delivered the intervention

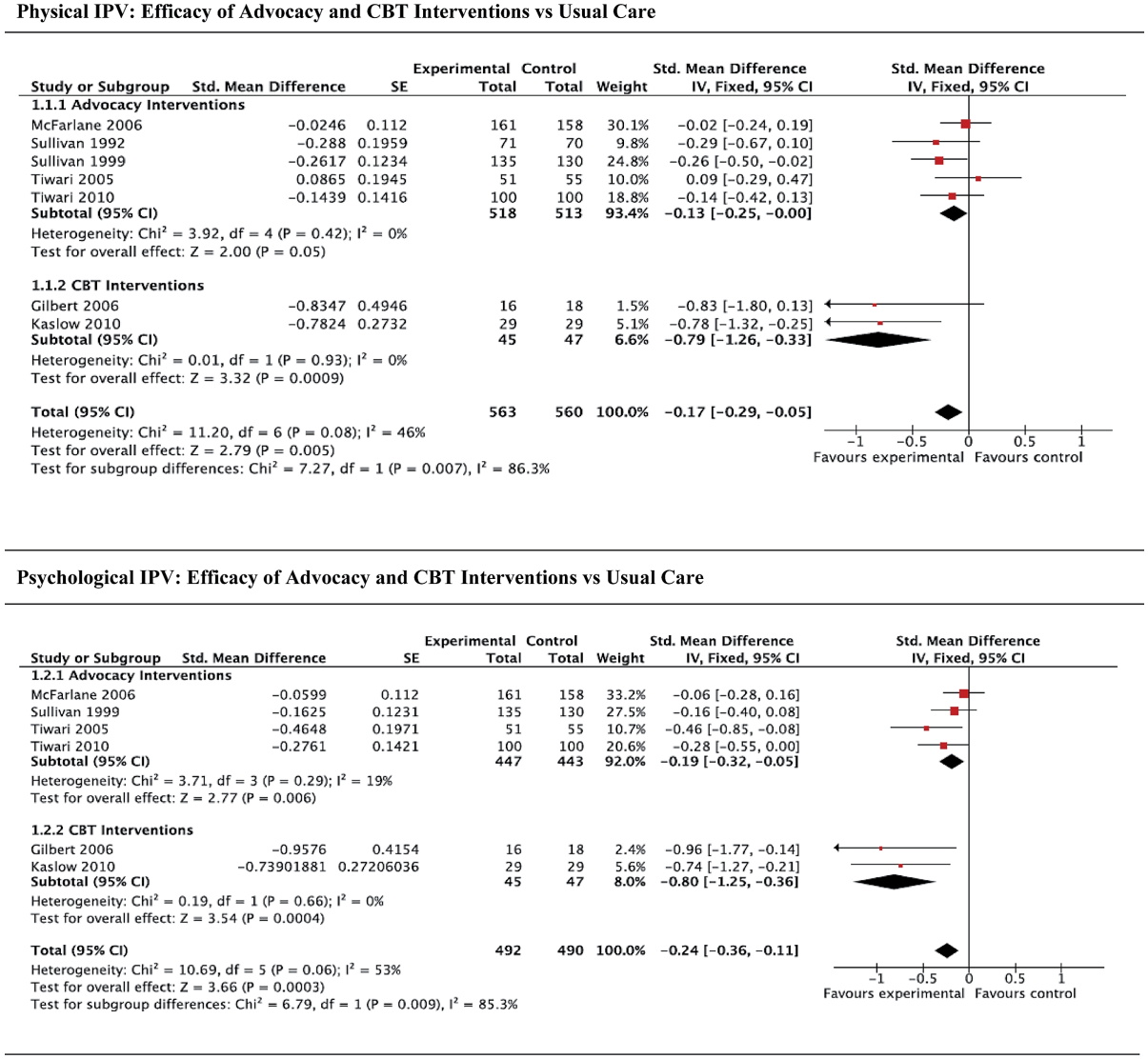


Figure 2. Physical, psychological, sexual, and any IPV: efficacy of advocacy and CBT interventions versus usual care. Weights are from fixed effects analysis. CI = confidence interval; SMD = standard mean differences.

and the level of training or qualification of that professional. However, the manuscripts confirm that all CBT intervention facilitators were trained to provide the intervention and two CBT interventions were digitally recorded (75,77). For CBT interventions, the wide diversity of professionals delivering the interventions did not allow for the comparison of grouping by type of professional to determine whether the qualifications of those delivering the intervention could affect the evaluation of efficacy. Advocacy interventions were delivered by advocates with the exception of four studies (69–72); only three of them were included in the meta-analysis (70–72), and as a result a comparison was not possible. Experience of IPV was the eligibility criteria for inclusion in all trials included in the meta-analysis, with one exception (78). The wide variety of settings (primary care, prenatal clinic, community centres, drug dependence centres, and shelters) for recruitment and delivery of the interventions and the small numbers of studies from each setting included in the meta-analysis did not allow the evaluation of efficacy to be considered by intervention setting. Future research should address the impact of intervention setting. A comparison was conducted of those interventions assessed of up to six months and over six months follow-up. Those receiving advocacy interventions showed a non-significant reduction in physical IPV occurrence compared to those allocated to usual care, grouping by follow-up (Table IV). Those receiving CBT interventions showed a significant reduction in physical IPV occurrence compared to those allocated to usual care, grouping by follow-up, although only one study was included where participants were followed up for over six months (Table IV). Comparing outcomes assessed at different follow-up periods did not impact on the efficacy of advocacy interventions; however, it may have impacted on CBT interventions. Regarding intensity of the interventions compared, interventions were grouped into those with up to five sessions and those with more than five sessions. For advocacy interventions, the intensity of the interventions may have affected efficacy, but this cannot be confirmed without the *q* statistic (Table IV). Advocacy interventions with more than five sessions were more effective (Table IV). All CBT interventions included in the meta-analysis for this type of violence had more than five sessions (Table IV). The heterogeneity was 46% and considered moderate, therefore no further analysis of the heterogeneity was conducted. Despite the low number of trials included, funnel plots of the efficacy outcome IPV were produced (Figure 3). Physical IPV showed a tendency towards symmetry discharging reporting

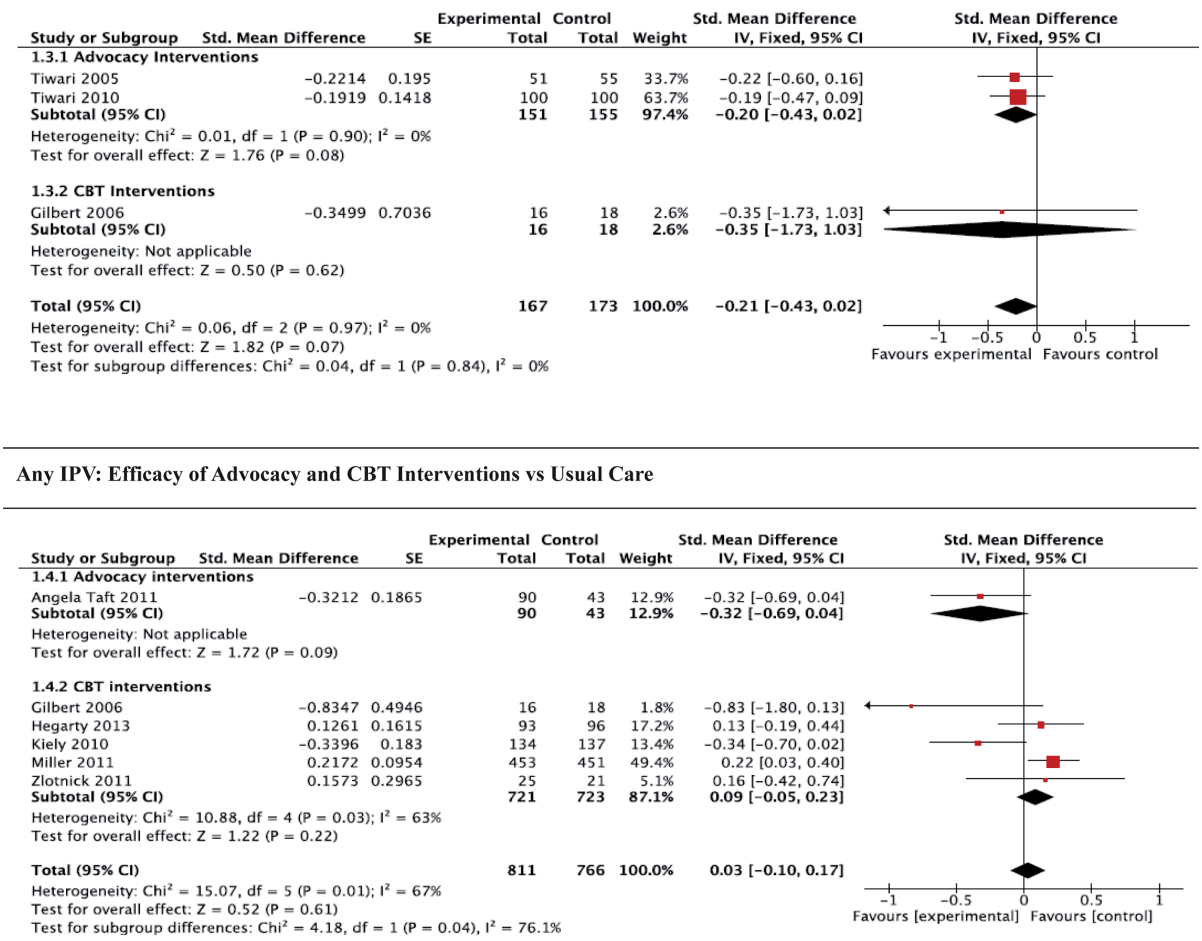


Figure 2. (*Continued*)

biases. Larger trials, mostly advocacy interventions, are distributed at the top of the funnel plot.

Psychological IPV results

Participants allocated to receive advocacy intervention showed a significant reduction in psychological IPV occurrence compared to those allocated to usual care (SMD –0.19; 95% CI –0.32, –0.05) (Figure 2). Those receiving CBT interventions (only two RCTs were included) showed a significant reduction in psychological IPV occurrence compared to those allocated to usual care (SMD –0.80; 95% CI –1.25, –0.36) (Figure 2). Analysed together both types of interventions showed a significant reduction in psychological IPV occurrence compared to those allocated to usual care (SMD –0.24; 95% CI –0.36, –0.11) (Figure 2). Tiwari et al. (70) was the major contributor to this outcome with 106 IPV victims for advocacy, and Gilbert et al. (75) was the major contributor to this outcome for CBT interventions with 34 IPV victims.

We also compared outcomes for these interventions at up to six months follow-up and over six months follow-up. Comparing outcomes assessed at different follow-up periods did not appear to impact on the efficacy of advocacy interventions, but it did impact on the efficacy of CBT interventions (Table IV). All advocacy interventions (up to five and over five sessions) showed a reduction in psychological IPV occurrence compared to those allocated to usual care (Table IV). All CBT interventions included in the meta-analysis for this type of violence consisted of more than five sessions (Table IV). The heterogeneity of 53% reported could be considered moderate. No further analysis of the heterogeneity was conducted. A tendency towards asymmetric funnel plots was found but, given the low number of trials, it was not possible to confirm this (Figure 3).

Sexual IPV results

Participants allocated to receive advocacy showed a non-significant reduction in sexual IPV occurrence, compared to those allocated to usual care (SMD –0.20; 95% CI –0.43, 0.02) (Figure 2). Those receiving CBT interventions (only one study) showed a non-significant reduction in sexual IPV occurrence, compared to those allocated to usual care (SMD –0.35; 95% CI –1.73, 1.03) (Figure 2). One possible explanation for the non-significance of the outcomes for this type of violence could be the low number of trials included and the variability of the results (i.e. wide confidence intervals). Comparisons of the length of follow-up and intensity of the interventions could not be estimated due to the lack of studies for grouping. The low number of trials did not allow conclusions about publication bias to be made (Figure 3).

Any IPV results

Only one advocacy trial reported data in this manner. Participants allocated to receive advocacy intervention showed a non-significant reduction in the occurrence of any IPV compared to

Table IV. Efficacy of advocacy and CBT interventions versus usual care grouping by follow-ups and intensity of interventions.

Type of violence, follow-up, and no. of sessions	Advocacy interventions				CBT interventions			
	SMD	95% CI	Participants (*n*)		SMD	95% CI	Participants (*n*)	
Physical IPV			Exp.	Cont.			Exp.	Cont.
Follow-up, months								
<6	−0.11	−0.26, 0.04	357	355	−0.15	−0.62, 0.31	46	43
>6	−0.12	−0.29, 0.04	296	288	−0.78[a]	−1.32, −0.25	29	29
Total	−0.08	−0.17, 0.01	653	643	−0.42	−0.77, −0.07	75	72
No. of sessions								
<5	0.00	−0.19, 0.19	212	213	Not estimable[b]			
>5	−0.23	−0.39, −0.06	306	300	−0.79	−1.23, −0.33	45	47
Total	−0.13	−0.25, −0.00	518	513	−0.79	−1.23, −0.33		
Psychological IPV								
Follow-up, months								
<6	−0.07	−0.24, 0.09	286	285	−0.29	−0.73, 0.16	46	43
>6	−0.04	−0.18, 0.10	396	388	−0.74 [a]	−1.27, −0.21	29	29
Total	−0.06	−0.16, 0.05	682	673	−0.47	−0.81, −0.13	72	72
No. of sessions								
<5	−0.46 [a]	−0.85, −0.08	51	55	Not estimable [b]			
>5	−0.21	−0.39, −0.03	235	230	−0.80	−1.25, −0.36	45	47
Total	−0.26	−0.42, −0.09	286	285	−0.80	−1.25, −0.36	45	47
Sexual IPV								
Follow-up, months								
<6	Not estimable [b]				Not estimable [b]			
>6	Not estimable [b]				Not estimable [b]			
No. of sessions								
<5	Not estimable [b]				Not estimable [b]			
>5	Not estimable [b]				Not estimable [b]			
Any IPV								
Follow-up, months								
<6	Not estimable [b]				0.08	−0.08, 0.24	628	627
>6	Not estimable [b]				0.13 [a]	−0.19, 0.44	93	96
Total					0.09	−0.05, 0.23		
No. of sessions								
<5	Not estimable [b]				0.11	−0.03, 0.25	705	705
>5	Not estimable [b]				0.83 [a]	−0.13, 1.80	16	18
Total					0.12	−0.02, 0.26		

[a]Only one study included.
[b]Not estimated: lack of studies for grouping.
Exp.: Participants allocated to experimental group; Cont.: Participants allocated to control group.

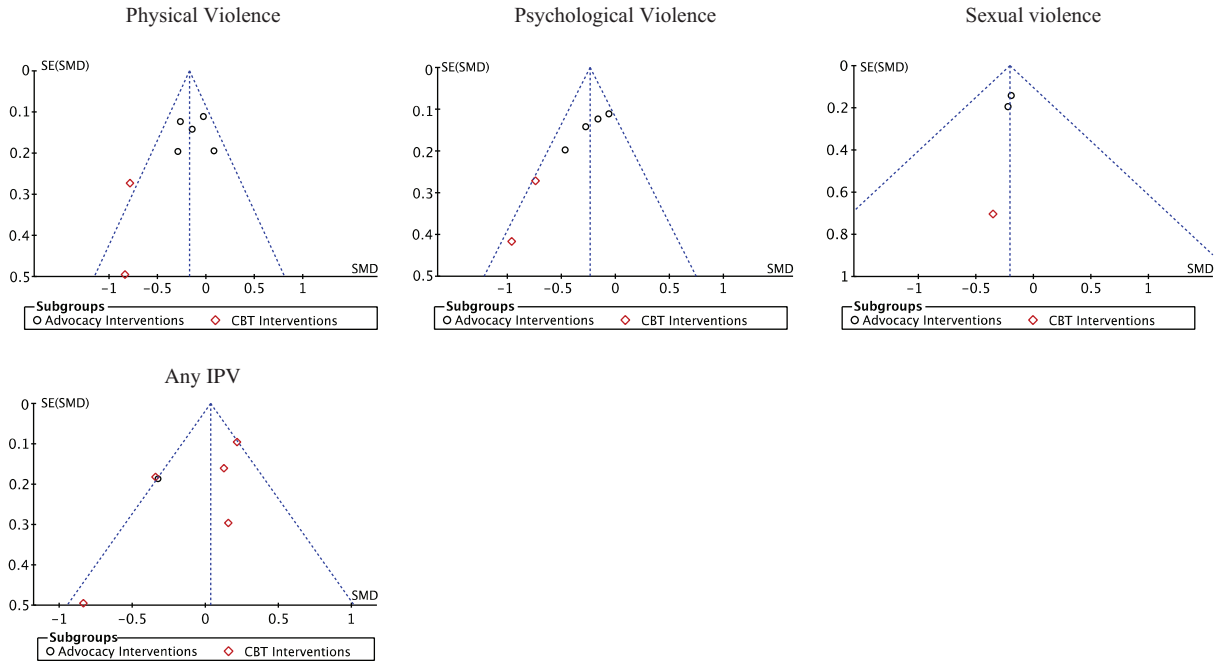


Figure 3. Funnel plot: physical violence, psychological violence, sexual violence, any IPV.

those allocated to usual care (SMD –0.32; 95% CI –0.69, –0.04) (Figure 2). Five CBT trials reported occurrence of IPV in this manner. Those receiving CBT interventions showed a non-significant reduction in any IPV occurrence compared to those allocated to usual care (SMD 0.09; 95% CI –0.05, 0.23) (Figure 2). Analysed together, both interventions showed a non-significant reduction in any IPV occurrence compared to those allocated to usual care (SMD 0.03; 95% CI –0.10, 0.17) (Figure 2). For CBT interventions, Gilbert et al. (75) was the major contributor to this outcome, with 34 IPV victims.

It was not possible to compare outcomes for advocacy trials by length of follow-up due to the lack of included studies for this outcome. Those receiving CBT interventions showed a non-significant reduction in any IPV occurrence compared to those allocated to usual care at up to six months follow-up. Outcomes for over six months follow-up could not be assessed due to the lack of studies for grouping (Table IV). Comparing outcomes assessed by duration of follow-up does not appear to affect the efficacy of CBT interventions (Table IV). No advocacy trials could be assessed for the intensity of the intervention. All CBT interventions contained up to five sessions, with one exception (75), and it seems there was no difference found when interventions with up to five sessions were grouped (Table IV). An increased heterogeneity was found (67%) for this outcome. Any IPV showed a tendency towards symmetry discarding reporting biases (Figure 3). Despite this, the small numbers of trials included did not allow firm conclusions to be drawn regarding whether publication biases existed.

Discussion

Summary of key evidence

This is the first meta-analysis to consider the efficacy of advocacy and CBT interventions independently in reducing the occurrence of IPV, and it is the first to discriminate the type of intervention indicated for each type of IPV experienced (physical, psychological, sexual, and any IPV). Nineteen RCTs were identified; however, only six RCTs of advocacy and six RCTs of CBT interventions were included in the meta-analysis. The current evidence suggests that both advocacy and CBT interventions may be significantly more efficacious in reducing physical and psychological IPV than usual care. The small effect size and the heterogeneity of interventions do not allow us to draw firm conclusions. Sexual IPV was not reduced by either advocacy or CBT interventions in the few studies included in our review for this outcome.

These findings serve to update previous systematic reviews (15) and try to report an evidence base on the effectiveness of CBT interventions that was previously unknown, enhancing our understanding of what works to reduce specific types of IPV victimization. A different number of studies were included in our review compared to a previous review on advocacy interventions (15). This is due to the fact that we excluded interventions focused on mothers and children. Due to the low number of studies included in the meta-analysis, the results should be interpreted with caution. Therefore, while the current evidence is insufficient to draw conclusions about the effectiveness of CBT interventions in reducing or eliminating IPV, some recommendations and implications for future research can be made. One previous meta-analysis conducted in 2009 evaluated the effectiveness of advocacy interventions (15). Our findings are consistent with that meta-analysis (15), which also found that advocacy was effective for women who actively sought help. The current meta-analysis adds to these findings by confirming that intensive advocacy interventions were effective in reducing physical IPV, but evidence is equivocal regarding psychological and sexual IPV. While screening 'asymptomatic individuals' for IPV does not improve the health status of those screened, there remains a need for more evidence regarding the types of intervention that may be effective in specific settings (87).

Psychological IPV is frequently reported as part of violent intimate relationships, and it has been found to affect negatively women's health as significantly as the other types of IPV (88). Our findings show that CBT interventions were effective for physical and psychological IPV but were not found to be effective when the outcome was any IPV victimization. The CBT studies that assessed psychological IPV showed encouraging results in reducing this type of violence, but the small number of studies (only two) needs to be considered. CBT interventions aim to provide the necessary skills (e.g. cognitive restructuring, motivational interviewing techniques, thought-stopping, coping skills, problem-solving, etc.) to protect IPV victims from further psychological IPV. Whilst women are in still in relationships where IPV is happening, counselling interventions may increase women's perceived support and comfort to discuss abuse with trusted others. This in turn may lead to positive changes in women's readiness to take some action and their own self-efficacy, and these 'internal' changes may collectively lead to increases in safety behaviours and improvement in women's mental health (89). Furthermore, CBT interventions are recommended for women who are no longer experiencing violence (18). It may be that these CBT skills assist women to re-evaluate their relationships and that this in turn changes the dynamic of psychological abuse. Furthermore, CBT interventions may also be effective for physical IPV when disaggregated by types of violence. CBT interventions varied between integrated approaches where at least two health topics were addressed (HIV/IPV prevention intervention; relationship safety and relapse prevention; cigarette exposure, prenatal outcomes, and IPV; PTSD and IPV) and those that focused on IPV only. The use of mental health interventions with women experiencing IPV is supported by this meta-analysis and by research suggesting that PTSD symptoms among IPV victims are associated with an increased risk of re-abuse (90). Moreover, the recent WHO guidelines recommend CBT interventions for women who are experiencing PTSD and have experienced IPV in the past (7). The findings by Johnson et al. (80) advocate that integrated interventions for PTSD and IPV may be a promising treatment for recent IPV victims living in shelters. The research question here implies CBT would be provided to reduce abuse primarily or its effect on mood or PTSD symptoms. Future research should answer this question assessing outcomes other than IPV occurrence, to understand whether the reduction in IPV victimization is the effect of recovery in other domains such as mental health symptoms and/or quality of life. However, the efficacy of advocacy interventions, which reduced both physical and psychological IPV, was also supported by our analyses. Our findings suggest that a combination of both types of intervention should be considered to enhance outcomes for IPV victims. The World Health Organization's recent clinical guidelines recommend aspects of advocacy and cognitive behaviour therapy. While IPV is not a medical disorder, it is a relevant topic for medical professionals who may assist women experiencing IPV victimization within their practice, primary care being a setting for early intervention in IPV (2). Lifetime rates of IPV victimization in women attending general practice range from 21% to 53% (91); from 1.0% to 20% (17) during pregnancy; and the prevalence of physical abuse among female drug users ranges from 25% to

57% (75). The findings from this systematic review and meta-analysis could help them be more aware of available interventions and the efficacy of interventions and, therefore, make appropriate referrals. An increased understanding is crucial to assist professionals to provide appropriate assistance in terms of screening, assessment, offering support, and referral to interventions for women suffering IPV. Many of the interventions included in this review were conducted in health care settings including: primary care (82), specialized medical settings such as drug treatment centres (75), prenatal care sites (64,70), and community centres (61).

In clinical practice, these are easily combined in a women-centred approach (82), where the clinician provides over a series of consultations a mixture of information-giving, safety promotion and planning, motivational interviewing and non-directive problem-solving, and facilitating access to resources and support.

Our study has some limitations. The heterogeneity of the interventions studied and their duration, the differences in the sample sizes, length of follow-up, and the use of various scales to assess IPV limited the pooling of data. We tried to discriminate by conducting comparisons with similar follow-up time-frames and similar numbers of sessions in terms of intensity, but these appeared not to impact significantly on the results. However, the fact that there were only a few studies included may have contributed to this finding. Intensive advocacy interventions (five or more sessions) may be more effective than those with up to five sessions in reducing physical and psychological IPV. Brief CBT interventions (up to five sessions) may be not effective in reducing any IPV, but CBT interventions with over five sessions significantly reduced physical and psychological IPV, suggesting that CBT interventions of longer duration are more effective. However, the low number of CBT trials with interventions of more than five sessions included in the meta-analysis did not allow this to be tested.

These limitations resulted in a limited number of six studies included in the meta-analyses, and the inability to determine the efficacy of some interventions for some types of violence. This in turn may account for the lack of positive results for all trials included. In addition, only one outcome was considered, the frequency or occurrence of IPV, whereas the primary outcome for many trials was quality of life or mental health as it was hypothesized that brief CBT interventions may take longer to affect IPV (82). Therefore, we found a reasonable degree of clinical dissimilarity across trials. Study populations were also heterogeneous: from recruiting from shelters once the victim had already left the abusive relationship (65,67,68,80) to recruiting IPV victims identified using screening tools (61,64,69–71,82). Furthermore, it should be taken into account that, with the exception of Mongolia, the remaining 18 RCTs included in our systematic review were conducted in developed countries such as USA, Australia, and Hong Kong; and one study included African-American women. The results from this meta-analysis could assist professionals in referring IPV victims to the most appropriate intervention modality.

There are several recommendations for future research. Firstly, due to the low number of RCTs, future reviews may consider including other study designs, such as quasi-experimental studies which employed controlled trials without randomization, to increase the statistical power. For sexual IPV, we were unable to conclude whether advocacy and CBT interventions were effective due to insufficient evidence as there were too few studies included in the meta-analysis. Further RCTs are needed to examine effectiveness of CBT interventions in reducing IPV, and whether both (advocacy and CBT) interventions are effective in reducing sexual IPV. A three-arm RCT comparing advocacy and CBT interventions with usual care to reduce IPV should be considered to compare directly the efficacy of these two interventions. No trial reported any adverse effects as a result of participating in their trials. No trial has considered the cost-effectiveness of addressing IPV among victims. This should be included in future trials.

This systematic review and meta-analysis found some support for the effectiveness of advocacy and CBT interventions in reducing physical and psychological IPV. However, the heterogeneous trials and the small effect sizes reported suggest these results should be interpreted with caution. Future intervention trials should include a combination of both types of intervention (advocacy and CBT) to improve outcome for IPV victims over the longer term. For clinicians, it is reassuring to know that the use of CBT interventions have small but encouraging positive effects on IPV, especially for psychological IPV due to the psychological nature of CBT interventions, and should be combined with advocacy and empowerment of women to keep women safe from IPV.

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