



Review Article

Psychological interventions for post-traumatic stress disorder in women survivors of intimate partner violence: A systematic review and meta-analysis

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ABSTRACT

Intimate partner violence (IPV) is one of the most common forms of violence against women. Gender-based violence is a major issue for women throughout their lifespan and comorbid mental health complaints are documented. The estimated worldwide prevalence is nearly 1 in 3, with female survivors reporting physical and/or sexual assault by an intimate partner at some time in their life. Scientific panels are currently addressing interest in both understanding risk factors and improving support services for this population. Up to now, previous research made poor efforts to explore the effectiveness of psychological interventions, in particular psychotherapy, in addressing mental health problems among women survivors of intimate partner violence. Our search aimed to summarize the available literature about psychological treatments for post-traumatic stress disorder (PTSD) in female survivors with a focus on the effectiveness of cognitive-behavioral therapy in addressing those symptoms. Twenty-six studies providing cognitive-behavioral therapies, psychodrama, interpersonal therapy, and active psychological intervention were included in a systematic review. Meta-analysis was restricted to thirteen studies that implemented cognitive behavioral therapies with similar treatment components. A strong reduction of PTSD severity was found ($g = 1.52$; 95 %-CI = 1.33, 1.71; $p < 0.01$) with moderate to large heterogeneity between studies ($I^2 = 64\%$; $Q = 80.81$). Evidence for publication bias was observed (Egger's test; $t = 2.396$; $p = 0.02$). Results suggest cognitive behavioral therapy is effective for PTSD symptoms improvement in women survivors of intimate partner violence. The core interventions' components included psychoeducation, relaxation with diaphragmatic breathing, trauma exposure, imagery, and problem-solving.

1. Introduction

Intimate partner violence (IPV) refers to any behavior by a current or former intimate partner within the context of marriage, cohabitation, or any other formal or informal union, that causes physical, sexual, or psychological harm (World Health Organization, 2021). The World Health Organization (World Health Organization, 2021) reports that IPV

lifetime prevalence among 15 and older women ranges between 22 % and 31 %, with a 24 % average prevalence among the youngest age cohort. Due to its global impact, violence perpetration is typically associated with males, while victimization is with females. However, there have also been reports of men experiencing IPV as victims (Shuler, 2010; Scott-Storey et al., 2023).

IPV encompasses both physical and psychological sides of abuse,

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despite consensus on the ‘psychological’ definition still lacking (Dokkedahl et al., 2022). Experts emphasize that intervention and/or prevention support services development for women exposed to IPV are urgently required (Oram et al., 2022). This is a particularly pressing need given the costs for individuals and societies in terms of mental health (Bonomi et al., 2009; Santambrogio et al., 2021).

A common result of IPV is posttraumatic stress disorder (PTSD) (Birkley et al., 2016; Golding, 1999; Taft et al., 2011). According to the current International Classification of Diseases (ICD-11, WHO, 2022) symptoms of PTSD are categorized into three groups: (i) re-experiencing the traumatic event(s) with emotions of fear or horror; (ii) avoidance of traumatic reminders; (iii) sense of a current threat manifested as hypervigilance and/or exaggerated startle response. The Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR, APA, 2022) lists four clusters of PTSD symptoms among adults: (i) intrusions; (ii) persistent avoidance of trauma-related stimuli; (iii) changes in mood and cognition; (iv) alterations in arousal and reactivity. Dissociative experiences and/or delayed symptoms expression might be provided as specifiers to extend the formal diagnosis. Symptoms must be more than 1-month long-lasting and disrupt social and/or occupational functioning. In addition to posttraumatic symptoms, mood (Devries et al., 2013), substance misuse (Mason and O’Rinn, 2014), and self-harm behaviors (Carranza et al., 2022) are common, which may affect both women’s and children’s well-being (Rakovec-Felser, 2014).

Current clinical practice guidelines on the prevention and treatment of PTSD such as the UK’s NICE Guideline (National Institute for Health and Care Excellence (NICE), 2018) recommend as a first-line intervention for adults with a diagnosis of PTSD, or clinically relevant PTSD symptoms, individual trauma-focused Cognitive Behavioral Therapy (CBT) or Eye Movement Desensitization and Reprocessing (EMDR) as an option. International Society for Traumatic Stress Studies Guidelines also indicate that the strongest evidence was found for psychological treatments for PTSD, in particular for CBT with a trauma focus (CBT-TF) (generic), cognitive processing therapy (CPT), cognitive therapy (CT), EMDR and prolonged exposure (PE) (Bisson and Olf, 2021). Evidence for Imagery Rescripting (ImRs) in reducing aversive memories is also reported (Morina et al., 2017; Raabe et al., 2015), alone or in combination with other treatments.

Psychological interventions encompass any evidence-based practices provided by psychologists or other health professionals (Australian Psychological Society, 2018), aimed at “assessing, improving, maintaining, promoting, or modifying health, functioning, or health conditions” (Castelpietra et al., 2017). According to this definition, a psychopathological condition is not necessarily required. Interventions mainly include supportive counseling, psychotherapy (such as Cognitive Behavioral Therapy, Eye Movement Desensitization and Reprocessing, and Interpersonal Psychotherapy), self-help approaches, or psychoeducation. Some systematic reviews and meta-analyses have investigated the effectiveness of psychological interventions addressing mental health issues within IPV (Arroyo et al., 2017; Emezue et al., 2022; Karakurt et al., 2022). Arroyo et al. (2017) collected 21 short-term interventions delivered to adult IPV survivors from 2003 to 2014. Selected studies counted 1’418 participants including both women as individuals and married/cohabitating couples. Interventions targeted different outcomes along with PTSD, including depression, emotional well-being, life functioning, self-esteem, general distress, substance misuse, and sense of safety. Eleven studies included PTSD symptoms as an outcome measure. Karakurt et al. (2022) explored the effectiveness of psychological treatments addressed to female IPV victims across a wide range of psychological complaints, including anxiety, depression, health, PTSD, sense of safety, self-efficacy, self-esteem, social support, quality of life, and stress. A subgroup analysis of ten studies focusing on PTSD symptoms was conducted. In the end, Emezue et al. (2022) provided data about the promising efficacy of digital psychological interventions in improving IPV survivors’ mental health. Out of 17 studies chosen for meta-analysis, four studies enrolling female participants only assessed

PTSD symptoms. Any of these searches gave insight into posttraumatic stress symptom clusters. Both Arroyo et al. (2017) and Karakurt et al. (2022) conducted a subgroup analysis of studies using CBT-based protocols but some issues are worth to be mentioned: Arroyo et al. (2017) provided only evidence on short-term interventions and a literature review up to 2014 published papers, whereas Karakurt et al. (2022) did not provide an accurate description of psychological interventions’ contents and PTSD was a minor topic.

1.1. Aims

The present study aimed to (i) find and collect the available literature about psychological interventions for PTSD symptoms in women survivors of IPV at post-treatment and follow-up, including as comparators no treatment, waitlist, or any other type of treatment, (ii) conduct a systematic review to list any kind of psychological intervention to address PTSD symptoms, (iii) give focus on CBT effectiveness to address PTSD symptoms improvement through a meta-analysis.

2. Methods

The systematic review and meta-analysis were conducted and reported following PRISMA guidelines (Page et al., 2021). The review protocol is available on request from the corresponding author.

2.1. Eligibility criteria

Studies were included if they were conducted on adult women survivors of IPV who underwent any psychological treatment for PTSD symptoms measured by any type of validated instrument (i.e., clinician-administered interview, self-report questionnaire, checklist); intervention programs limited to providing a medicolegal safety aid were excluded (e.g. civil protection order). Studies were included if they were conducted in both outpatients and inpatients. Comorbid medical conditions nor co-occurrent pharmacological treatment did not represent an exclusion criterion. Studies were included if they were based upon an open study (i.e., pre-post PTSD symptoms’ assessment in one group at least) or a randomized controlled or comparative study. Any types of comparators were allowed (i.e., no treatment, waitlist, treatment as usual, other treatment). Single case studies, case series, commentaries, editorials/opinion papers, reviews, and protocols were excluded. Studies were included only if they reported data (or the authors were willing to provide such data on request) on the effects of a treatment program for PTSD symptoms (mean, SD, sample size at baseline, post-test, and, when available, follow-up). No publication date or language restriction for the search was used.

2.2. Search strategy and study selection

The search was performed by five independent reviewers (AZ, FF, VC, VV, FR) for all articles published until 23rd September 2022. Studies were identified by conducting a systematic search of Pubmed and Science Direct electronic databases. Medical Subject Headings and keywords related to “intimate partner violence” (“intimate partner violence” or “intimate partners abuse” or “abuser” or “domestic violence”) combined through the Boolean operator AND with MeSH terms and keywords related to “post-traumatic stress disorder” (“PTSD” or “Post-traumatic stress disorder” or “posttraumatic stress disorder”) were used.

This search was carried out independently by the reviewers. Reference sections of included studies were checked.

First, studies were assessed by reading the title, then studies retained at the title stage were assessed by reading the abstract. Finally, the full-text of remained studies was accessed. Discrepancies were discussed at a meeting between the reviewers who conducted the search.

2.3. Data extraction

All relevant information was extracted from each of the included studies by the independent reviewers and inserted into a shared worksheet. The following data were collected: means, standard deviations, sample sizes of pre and post-intervention PTSD assessments, and eventually follow-up.

See Supplementary Materials for the full data extraction form (Table S1).

2.4. Meta-analysis: summary measures

Data collection resulted in methodological heterogeneity between interventions, thus comparisons between outcome measures would have been unfeasible. On the other hand, studies that assessed CBT effectiveness on PTSD symptoms shared a similar methodological approach. Due to ethical issues, studies comparing CBT with waitlist or control were poor (i.e. [Latif et al., 2021](#)) and only one provided usual care as a comparator of choice (i.e. [Johnson et al., 2011](#)). More often, studies comparing CBT protocols differing in intervention modules, session frequency, or delivery format were retrieved. Follow-up measurements up to 12 months were collected from eleven studies. For these reasons, a primary meta-analysis on the effectiveness of CBT interventions in reducing PTSD symptoms was evaluated by pre-post assessments comparison. Effect sizes (Hedges' g ; [Hedges and Olkin, 1985](#)) and standard errors were extracted from pre and post-within-group PTSD measurements following the procedure of [Harrer et al. \(2021\)](#). Since no specific prior information on the correlation between measurements was available, we computed effect sizes and relative standard errors assuming the independence of the samples for the primary analysis. Nevertheless, given that a positive correlation between pre and post-measurements was likely from a clinical point-of-view, we performed sensitivity analyses by computing effect sizes assuming weak ($r = 0.2$), moderate ($r = 0.5$), and strong ($r = 0.8$) pre-post correlation.

Within-group mean difference (MCBT) has been calculated by the difference between the mean value at baseline and the mean value at posttreatment. First, standardized mean difference (SMCBT) has been computed by dividing MCBT by the pooled standard deviation. Then, the standard error of SMCBT measurement (Cohens' d) has been extracted. Hedge's g correction has been applied to correct SMCBT for small-sample bias. Variance of the random effects was estimated with Paule-Mandel (PM) moment-based estimator, which provides accurate estimates and does not require distributional assumptions. The estimated size of effect has been interpreted by following Cohen's recommendations (Cohen, 1997). The same procedure was used for follow-up measurements. Follow-up assessments falling <6 months had been incorporated into the 6-month group. Finally, a single predictor meta-regression model was implemented to explore the contribution of the number of sessions to the observed effect size.

All analyses were performed using R Statistical Software (v4.1.2; R Core Team 2021).

2.5. Publication bias

To assess publication bias, a visual inspection of the funnel plot ([Duval and Tweedie, 2000](#)) and Egger's test ([Egger et al., 1997](#); [Sterne et al., 2011](#)) were used. Publication bias reflects the tendency to publish scientific studies based on the nature and direction of the results ([Dickersin, 1990](#)), thus an asymmetrical funnel plot would suggest a trend of this kind ([Sterne et al., 2005](#)). A non-statistically significant result of the t -test for the null hypothesis of an intercept (b) equal to zero allows for discarding publication bias ([Egger, 1997](#)).

2.6. Inconsistency analysis

To verify heterogeneity in effect sizes, the I^2 statistic, the Chi-squared

test (χ^2), and the τ^2 were calculated). The I^2 statistic estimates the proportion of variance between studies that is due to heterogeneity ([Higgins and Thompson, 2002](#)). I^2 values (%) of 25, 50 and 75 are usually considered as benchmarks for low, moderate, and high heterogeneity, respectively. A χ^2 test (or Q index) with a p -value ≤ 0.1 provides evidence for heterogeneity not to be attributable to chance. τ^2 represents the estimated between-study variance and is usually calculated when conducting random effects meta-analysis ([Higgins & Green, 2011](#)). τ^2 can be calculated according to different estimators ([Veroniki et al., 2016](#)). Here, the estimator proposed by Paule and Mandel ([Paule and Mandel, 1982](#)) has been used.

3. Results

3.1. Selection of the studies

The search through the databases and additional hand research produced 1'567 records. The selection process ended up with 26 eligible studies (3'453 patients) to include in the systematic review. Heterogeneity between treatment protocols was relevant. Meta-analysis was restricted to CBT interventions ($k = 13$; 872 patients) for two reasons: (a) CBT is the first-line treatment for PTSD and (b) treatment components across CBT-based interventions' were more consistent. The PRISMA flowchart is provided in Figure S2 (Supplementary Materials).

3.2. Qualitative synthesis: descriptive characteristics of the included studies

Publication years ranged from 2003 to 2021. Six studies ([Crespo and Arinero, 2010](#); [Crespo et al., 2021](#); [Echeburúa et al., 2014](#); [Labrador and Alonso, 2007](#); [Mondolfi Miguel and Pino-Juste, 2021](#); [Moreira et al., 2022](#)) were conducted in Europe, 16 ([Allard et al., 2018](#); [Ford-Gilboe et al., 2020](#); [Galano et al., 2021](#); [Gallegos et al., 2020](#); [Galovski et al., 2022](#); [Glass et al., 2017](#); [Graham-Bermann et al., 2019](#); [Johnson et al., 2011](#); [2020](#); [Koci et al., 2014](#); [Kubany et al., 2003](#); [Kubany et al., 2004](#); [Resick et al., 2008](#); [Kaslow et al., 2010](#); [Varcoe et al., 2021](#); [Zlotnick et al., 2011](#)) in North America, 0 in South America, 3 ([Kamran Ehsan and Rowland, 2021](#); [Latif et al., 2021](#); [Orang et al., 2018](#)) in Asia, 1 in Africa ([Meffert et al., 2021](#)), and 0 in Oceania. Sample sizes ranged from 12 to 725 women aged between 18 and 72 years old. The median drop-out rate was 20 %.

Summary of the included studies is provided in Supplementary Materials (Table S2).

3.3. Characteristics related to psychological interventions

3.3.1. Cognitive-Behavioral psychotherapies

CBT standard. An 8-week 12-session multicomponent CBT was provided by [Crespo & Arinero \(2010\)](#) and [Labrador et al. \(2007\)](#). In [Crespo & Arinero \(2010\)](#) two versions of the same program were designed: one with exposure and another without it. The 'exposure' protocol was further evaluated for effectiveness by [Crespo et al. \(2021\)](#) comparing group and individual delivery formats. [Johnson et al. \(2011\)](#) enrolled 70 women coping with IPV who were allocated into two arms: HOPE plus standard shelter services (SSS) or SSS alone. HOPE program is based on CBT principles, providing cognitive restructuring, psychoeducation about both IPV and PTSD, and teaching empowerment strategies and skills. HOPE effectiveness in reducing PTSD symptoms among IPV women was further compared with Person-Centered Therapy (PCT) by [Johnson et al. in 2020](#). In the end, a culturally adapted self-help trauma-focused CBT intervention was offered by [Latif et al. \(2020\)](#) to 25 female Pakistani shelter residents allocated to the treatment arm. The effectiveness of a trauma-focused CBT self-help manual was compared with a waitlist control group.

Cognitive Processing Therapy (CPT). CPT ([Resick and Schnicke,](#)

1993) is a CBT-based intervention for PTSD that focus on reducing traumatic distressing memories. CPT was offered by Resick et al. (2008) to 150 women who were randomly allocated into three treatment arms: CPT standard, Written Account (WA), or CPT with cognitive portion only (CPT-C). PTSD severity symptoms were assessed at pre-, post-, and 6 months follow-up. Massed and standard CPT were then compared in effectiveness by Galovski et al. (2021); six matched pairs of patients were offered 12 therapy sessions delivered once/twice a week (standard format, sCPT) or within 5 days (intensive format, mCPT).

Cognitive Trauma Therapy (CTT). CTT was assessed for effectiveness in several studies (Allard et al., 2018; Echeburúa et al., 2014; Kubany et al., 2003, 2004). Participants were women aged between 36 and 42 years on average who had experienced violence and were referred by agencies providing services to IPV survivors. In particular, CTT for Battered Women (CTT-BW) (Kubany et al., 2003, 2004) was designed to treat PTSD in women with histories of physical and/or sexual abuse.

Mindfulness-Based Stress Reduction (MBSR). MBSR (Williams and Kabat-Zinn, 2013) is a ‘third-wave’ non-trauma-focused CBT intervention. An 8-week MBSR program has been proposed by Gallegos et al. (2020) to a small group of American women coping with post-traumatic symptoms due to IPV. The MBSR group was compared with an active wellness control group.

Narrative Exposure Therapy (NET). NET (Neuner, Schauer and Elbert, 2011; Schauer, 2015) is a short-term intervention helping people to link ‘hot’ (sensory–bodily–emotional) and ‘cold’ (episodic) memory traces of traumatic events. Orang et al. (2017) assessed 45 IPV-affected women with a diagnosis of PTSD randomized to either NET or TAU. The study examined PTSD, depression, and perceived stress symptoms. An adaptation of the cognitive-narrative intervention program (Gonçalves and Machado, 1999) was provided to 23 shelter residents by Moreira et al. (2020).

3.3.2. Interpersonal therapy (IPT)

IPT (Morkowitz and Weissman, 2012) has been developed within a psychodynamic framework and was originally proposed for treating major depressive disorder. Meffert et al. (2021) tested interpersonal therapy in a sample of Kenyan HIV-positive women suffering from IPV meeting the criteria for major depressive disorder and PTSD. A crossover randomized clinical trial was set up to compare IPT + TAU ($n = 123$) and Waitlist + TAU ($n = 133$). After 3 months, the Waitlist + TAU arm was offered IPT.

3.3.3. Psychodrama

Psychodrama is a group-based approach developed by J.L. Moreno who used the theater as a therapeutic tool (Giacomucci, 2021). In Mondolfi Miguel and Pino-Juste (2021), 17 participants were offered a 20 sessions psychodrama program of 2 h each. The effectiveness of the program was determined quantitatively by pre-post intervention assessment and qualitatively by recording participants’ testimonies in a narrative format.

3.3.4. Eidetic psychotherapy

Another pre-post study was set up in Pakistan by Kamran Ehsan and Rowland (2021) to investigate the effectiveness of Eidetic Psychotherapy (EP). Eidetic therapy (Ahsen, 1965) is an imagery-based intervention consisting of 10–12 sessions delivered over 12–15 weeks. Lower levels of PTSD at baseline predicted the greatest improvement. Independence was found between the characteristics of the abuser and the victim and the amount of improvement in PTSD symptomology.

3.3.5. Active psychological interventions

In addition to psychotherapies, interventions providing psychological support (in-person or online) to women suffering from IPV are here reported.

720 abused women attended the study of Glass et al. (2017), where a

tailored internet-based safety action intervention was proposed accounting for participant characteristics. Treatment and control conditions received the same emergency safety plans printable or accessible anytime online, whereas controls received general safety action plans. All participants completed measures via websites at baseline, 6-, and 12 months. In the study by Kaslow et al. (2010), participants were 208 low-socioeconomic-status African American women with a recent history of IPV and a suicide attempt. They were randomized to the Nia program or TAU (standard care including weekly meeting groups) and assessed at baseline, postintervention, and 6- and 12-month follow-up. Nia consisted of 10 manualized, culturally informed, empowerment-focused psychoeducational groups.

Koci et al. (2014) investigated the treatment effectiveness of safe shelter and justice services on 300 abused women. Women were interviewed at entry, and at three further time points. The ROS health promotion intervention was offered by Varcoe et al. (2019) to 152 Indigenous women who had experienced IPV in their lifetimes. Trauma, depressive symptoms, social support, mastery, personal agency, interpersonal agency, and chronic pain disability were examined pre-, post-intervention, and at 6 months follow-up. Ford-Gilboe et al. (2020) compared the effectiveness of a tailored and interactive online intervention (iCAN Plan 4 safety) with a static non-tailored version of the same tool. 462 Canadian adult women were allocated to the two treatment arms respectively. The safety and health intervention provided evidence of effectiveness in both groups, with women receiving the tailored and interactive intervention showing more benefits in primary outcome measures (depressive and PTSD symptoms) at both baseline and follow-ups (3-, 6-, 12 months). In the end, the effectiveness of the Mom’s Empowerment Program (MEP) in the context of IPV was assessed by Graham-Bermann et al. (2019) and Galano et al. (2021). MEP (Graham-Bermann and Miller, 2013; Miller et al., 2014) is a brief group program that provides social support for mothers suffering from IPV. The core modules of MEP are (a) advocacy needs, (b) psychoeducation about violence, and (c) skills for promoting positive mental health.

3.4. Meta-analysis: results

Random-effects meta-analysis pooled effect showed a strong reduction of PTSD symptoms by CBT ($g = 1.52$; $CI = 1.33, 1.71$; $p < 0.01$), with moderate to high heterogeneity between studies ($I^2 = 64\%$; $\tau^2 = 0.17$; $Q = 80.81$) (Fig. 1). One study (Latif et al., 2021) was judged to have an effect size too large to be plausible ($g = 16.01$; $CI = 12.78, 19.25$), hence we excluded it from the primary analysis; the leave-one-out method confirmed the contribution in overall heterogeneity, with I^2 dropping from 82 % to 64 %. There was evidence for heterogeneity in effect size among treatment subgroups referring to the same study. Subgroup analyses were also performed. Included studies were divided into those (1) using clinician-administered and/or self-report instruments, (2) providing an individual or group intervention. Comparable effect size was found, with slightly higher heterogeneity among self-report measurements and group interventions with respect to comparators (Table 1). Nine studies provided follow-up assessment measurements ≤ 6 months for each intervention arm (Supplementary Material, Table S4). Since only a few studies ($k = 4$) provided 12 months of follow-up, the effect size at 1 year was not computed because we would get biased, not informative estimates.

Funnel plot asymmetry (Fig. 2) suggests the possibility of publication bias (Egger’s test; $t = 2.396$, $p = 0.0241$).

3.5. Meta-regression

The number of sessions was selected as a single predictor since the literature suggests a “dose-dependent” effect on the effectiveness of CBT interventions (e.g. Høifødt et al., 2011; Pybis et al., 2017). The meta-regression model revealed no predictive role for the number of sessions on the pooled effect size (74.28 % residual I^2) (Supplementary

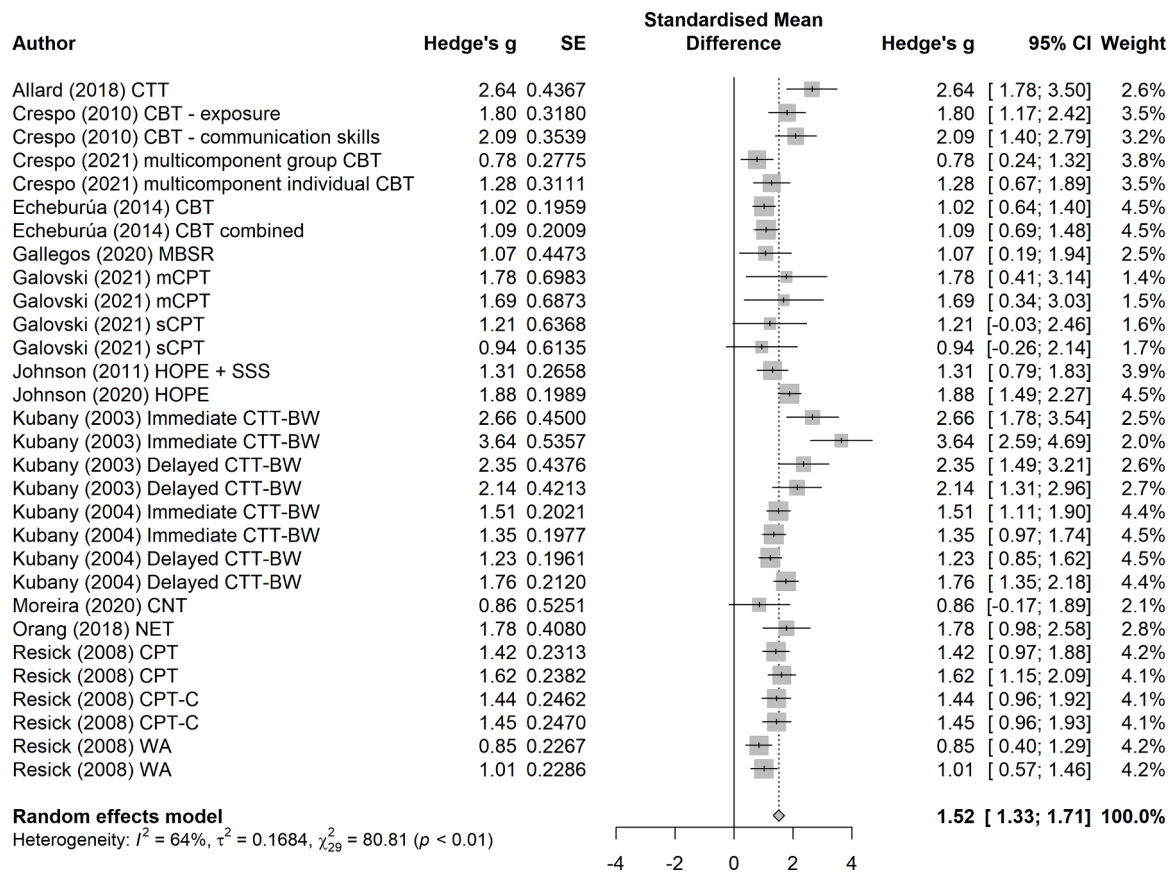


Fig. 1. Forest plot. Hedges' g, SE, and 95 % Confidence intervals are reported.

Table 1
Subgroup analysis assuming pre-post measurements independence.

	Subgroup Analysis: Independent samples					
	k	g	95 %-CI	p	I ²	P _{subgroup}
PTSD assessment measure						0.83
self-report	10	1.58	1.12; 2.04	<0.01**	0.70	
clinician-administered	18	1.52	1.28; 1.77	<0.01**	0.65	
Intervention format						0.10
individual	24	1.59	1.35; 1.83	<0.01**	0.66	
group	4	1.43	0.82; 2.04	0.01*	0.73	

Note. ** and *** denote $p < 0.05$ and $p < 0.01$ respectively.

Materials, Table S4).

3.6. Sensitivity analysis

A two-level sensitivity analysis was performed to test whether (i) effect sizes would change assuming a correlation between pre-post measurements and (ii) cognitive interventions that focus on the identification and modification of personal beliefs and schemas would differ in effectiveness from those adopting either behavioral strategies alone or process-oriented intervention approaches (e.g., MSBR). Weak correlation assumption resulted in $g = 1.19$ [1.02, 1.36], moderate in $g = 1.48$ [1.26, 1.70], and strong in $g = 2.15$ [1.79, 2.52]. An uptrend was also found in heterogeneity, with 54 %, 67 %, and 83 % I^2 values respectively; a similar pattern was observed in the $k = 9$ subset of studies reporting ≤ 6 -month follow-up measurements (Supplementary

Materials, Table S5). Subgroup analysis confirmed a comparable effect size between self-report and clinician-administered measurements. Superiority in effectiveness was found between group and individual delivery formats within the 'strong correlation' scenario (Supplementary Materials, Table S6). A visual summary of the analysis is provided in Fig. 3.

Finally, similar results to the primary analysis were observed when selecting a subset of studies ($k = 24$) including cognitive elements in their intervention ($g = 1.57$, $CI = 1.33; 1.81$; $p < 0.001$, $I^2 = 64.1\%$) (Supplementary Materials, Fig. S2). Minimal improvement in effectiveness and heterogeneity reduction was found.

4. Discussion

IPV is one of the most common forms of violence against women and is related to many negative sequelae for the individual, family, and society as a whole.

According to our knowledge, this is the first systematic review and meta-analysis of the currently available psychological interventions for women coping with PTSD due to IPV. In our search, studies providing psychological intervention for PTSD in IPV were included in a systematic review whilst a meta-analysis was conducted on cognitive-behavioral interventions. Wide-ranging psychological treatments for IPV-related PTSD were identified. Assessment time points were given at baseline, immediate post-intervention, and, when possible, at follow-up (3-, 6-, and/or 12 months). PTSD assessment was often coupled with depression, anxiety, and self-esteem measurements. Post-treatment trauma symptoms' improvement was documented across almost all studies and maintained at follow-up.

Only a few studies have given insights into PTSD symptoms' clusters, in favor of a more general PTSD overall measure. Higher improvements were observed when exposure to trauma was included in the

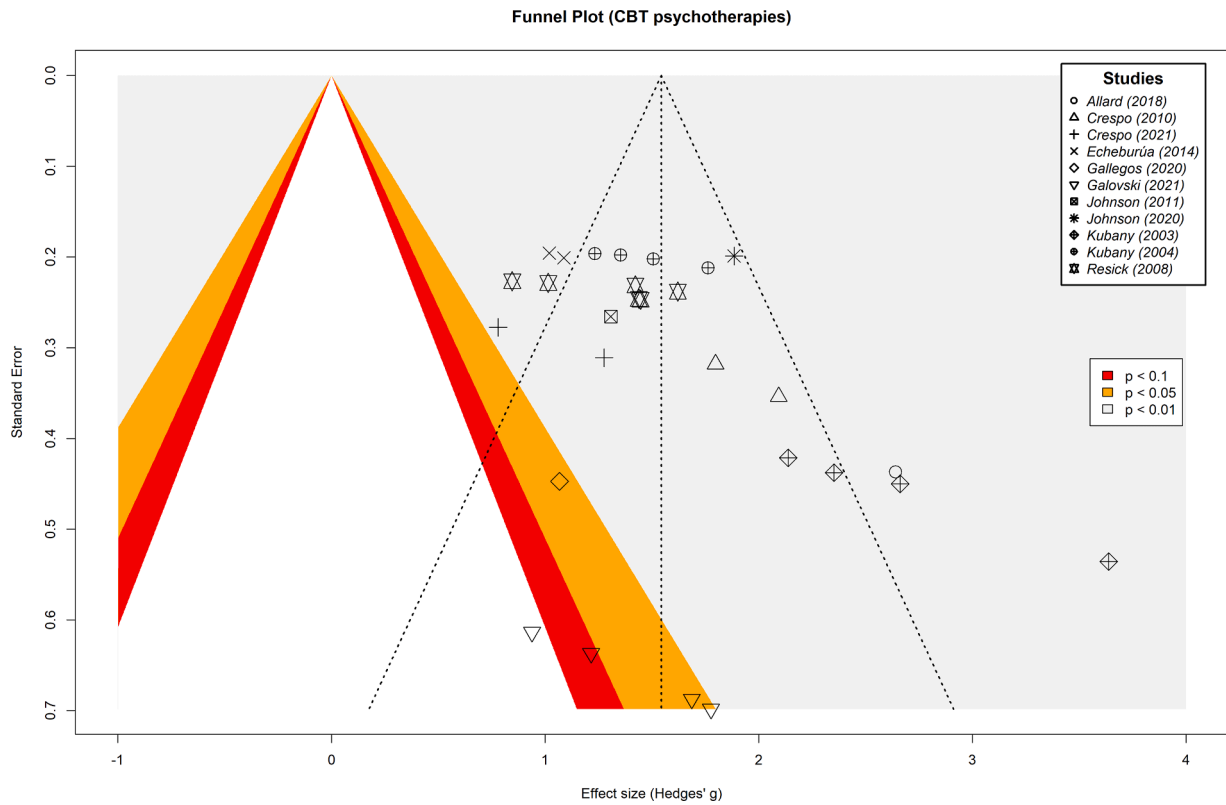


Fig. 2. Funnel plot displays publication bias.

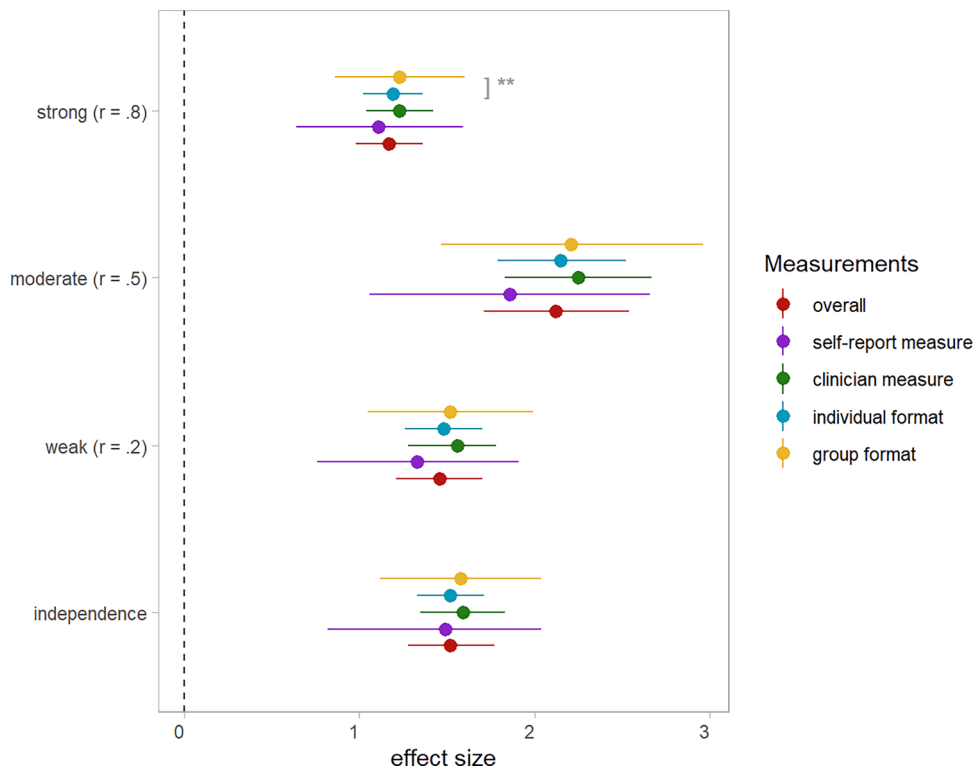


Fig. 3. Effect sizes across different scenarios are displayed through a combined plot. The black dashed line represents the absence of effectiveness. Note: “**” denotes $p < 0.05$.

intervention protocol. Data collection resulted in methodological heterogeneity between intervention components, whereas studies providing cognitive-behavioral therapy were more consistent.

Furthermore, CBT is a recommended first-line treatment for PTSD by international guidelines. For these reasons, we choose to focus our meta-analysis on thirteen CBT studies. Studies included in the meta-analysis

counted 872 adult women aged between 32 and 42 years old on average. Interventions' modules comprised (a) psychoeducation on violence, (b) cognitive restructuring, (c) re-exposure to trauma and violence reminders (except Gallegos et al., 2020), (d) trauma-related stress management, and (e) facilitating assertiveness, communication, and coping skills. Data on recommended treatments such as EMDR and Imagery Rescripting were missing.

CBT-based interventions resulted in a strong reduction of PTSD symptoms when assuming independence between pre and post-measurements ($g = 1.52 [1.33, 1.71]$) even in the long-term ($g = 1.58 [1.33; 1.84]$). Heterogeneity across studies was relevant. Comparable outcomes were observed when restricting the analysis to a subset of studies integrating cognitive components in their intervention, such as cognitive disputing and restructuring of irrational beliefs. This implies that interventions focusing on modifying the content of dysfunctional thoughts related to traumatic events (i.e., cognitive psychotherapy), do not necessarily yield better or worse results compared to processes-based approaches, such as mindfulness-based interventions. However, further comparative studies are required to validate this hypothesis in the future. Similar results were found by Arroyo et al. (2017) ($g = 1.26 [0.81, 1.70]$), which focused on brief-CBT benefits on PTSD. Nevertheless, some papers written in foreign languages were missing (e.g. Labrador and Alonso, 2007), and results referred to interventions provided up to 2014. Karakurt et al. (2022) suggest CBT (with or without empowerment modules) to be effective in improving PTSD symptoms but, given the poor number of studies, the confidence intervals of the estimates are too wide to draw conclusions. Emezue et al. (2022) provided data about online psychological interventions as a whole with no focus on CBT. An additional contribution of our search was to conduct a subgroup analysis on therapy formats and PTSD assessment instruments, which was not provided by previous findings. Subgroup analysis gave comparable results for group and individual therapy formats in treatment effectiveness, as well as for clinician-administered and self-report assessment measures. The meta-regression analysis showed that the number of sessions did not significantly influence the observed effect size, suggesting that CBT can be effectively applied to IPV populations with PTSD over different intervention durations. This flexibility may allow for its application in a variety of settings, including outpatient/community services, as well as emergency services.

Median dropout rate was in line with the average rate of psychotherapy discontinuation reported in the literature across different disorders and psychotherapy settings (e.g., Hans and Hiller, 2013; Pozza et al., 2013; Swift et al., 2017) and with the expected dropout rate for guideline-recommended psychological PTSD treatments (Varker et al., 2021). Reasons for dropouts were seldom reported; some studies found more distress in symptoms' re-experiencing or avoidance behavior at baseline (Allard et al., 2018), history of maltreatment/availability of legal support/alcohol consumption (Crespo et al., 2010), and demographics (e.g. being African-American, lower household income) (Resick et al., 2008) could have affected treatment retention. Methodological complaints and sample characteristics of the study itself have been proposed as playing factors in explaining psychotherapy drop-out rates among PTSD survivors (Imel et al., 2013). For example, studies conducted among military veterans experiencing PTSD suggest female gender might negatively affect treatment drop-out (Hinton et al., 2022). In addition, higher drop-out rates have been documented for psychological therapies with a trauma focus (Lewis et al., 2020).

There is evidence that individual TF-CBT and EMDR, along with cognitive processing therapy (CPT), cognitive therapy (CT), and Prolonged Exposure (PE) are more effective than waitlist, treatment as usual, or other therapies if proposed as early interventions (Bisson et al., 2013; Bisson and Olf, 2021). EMDR appears to be more cost-effective than TF-CBT, which has, on the other hand, the largest evidence base (Mavranouzouli et al., 2020).

Beyond evidence-based protocols, a wide literature on self-help psychological interventions is documented, including tailored online

programs focused on psychoeducation, safety, and health prevention. Given the peculiarity of this population, standard in-person psychotherapy might be sometimes hard to apply, thus self-help interventions might have flourished as they can be accessed autonomously with no strict therapeutic setting.

4.1. Limitations and future directions

The generalizability of these results is subject to certain limitations. First, since studies with a controlled arm were missing in the literature, an open meta-analysis was set up, thus CBT effectiveness in PTSD symptoms reduction might be overestimated. Second, sample sizes and session frequency were quite heterogeneous among studies, nevertheless, session contents were comparable, including psychoeducation, trauma exposure, cognitive restructuring, and alternative coping skills teaching. Third, CBT effectiveness was tested for PTSD symptoms improvement only, whereas a more comprehensive clinical overview should level up to a formal assessment of core beliefs and cycles of victimization modification right after the intervention and in the long term. In the end, quality appraisal/risk of bias assessment was not conducted.

Social desirability and symptoms misinterpretation (over or under-detection) may introduce bias in self-report outcomes, leading to clinician-rated and self-report measurement disagreement (Cody et al., 2017). In our research, no significant difference was found between self-report and clinician-rated instruments in contributing to the prediction of treatment outcomes, where both instruments have given comparable results. However, within a psychopathological pattern, different symptoms may be more sensitive to self-report or clinician assessment, thus it could be best to include both (Cuijpers et al., 2010). As any relevant information is lost, intentional (dis)simulation could be accounted for in the assessment stage as economic benefits and/or having children might affect symptoms reporting. Professionals comprised a wide variety of professions, including post-graduate psychologists, clinical psychologists, social workers, and general therapists; benefits were observed regardless of the professional who delivered the treatment.

Within the context of significant interpersonal relationships, controlling behaviors by the abusive partner is strongly correlated with intimate partner violence (Aizpurua et al., 2021; Hamberger et al., 2017). The playing role of adverse childhood experiences and pre-existing Early Maladaptive Schemas (EMSs; Young et al., 2003) has been found within both IPV victims and perpetrators (Celsi et al., 2021; Khosravi et al., 2011; Pilkington et al., 2021); mistrust/abuse schema appeared to be implicated in both perpetrating and suffering intimate partner violence (Pilkington et al., 2021).

To date, there is a lack of consensus on the first-in-line intervention for women survivors of IPV coping with PTSD. Further research on CBT effectiveness is needed to provide greater consistency of results, with an agreement on the intervention program. Rigorous meta-analysis was not possible given controlled condition missingness among the eligible studies. When a new treatment is going to be evaluated for effectiveness, TAU can be provided as an alternative, albeit only one study (Johnson et al., 2011) adopted standard care services as a comparator, whereas waitlist is not feasible due to ethical issues.

Higher PTSD symptoms at baseline seem to be associated with higher drop-out rates and treatment discontinuation, suggesting women with higher PTSD levels might be effortful to engage in long-term psychotherapy (Arroyo et al., 2017). However, there is controversy about PTSD severity in affecting retention rate (Eftekhari et al., 2020; Storm et al., 2021). Since intrinsic motivation can affect the success of psychological interventions, motivational interviewing, which is largely used among substance misuse population, might be proposed to women to bring out cognitive dissonance toward giving up on the (abusive) relationship. In addition, exploring the reasons for dropping out of the treatment should be required to identify the main predictors of drop-out and improve the

intervention schedule in the future. Only a few studies explored feelings of shame and trauma-related guilt, thus providing intervention addressing these beliefs about the self; a formal assessment of these aspects should be performed since they are likely to occur in trauma survivors (McClearly-Silts et al., 2016; Murray et al., 2019).

Future research should thus (i) test CBT effectiveness with standard care interventions, (ii) evaluate long-term CBT benefits with a focus on maladaptive interpersonal schemas modification, (iii) give more PTSD symptoms' cluster deepness (e.g. trauma re-experiencing, avoidance) within CBT interventions, and (iv) explore whether active psychological treatments are effective to be provided as an alternative for women who cannot attend in-person psychotherapy. In addition, future research should focus on complex PTSD (c-PTSD), which was recently identified by ICD-11 as a new clinical condition requiring evidence for effective interventions. Although EMDR's effectiveness in improving PTSD symptoms is ascertained (e.g. Mazzoni et al., 2022), no work fulfilling our inclusion criteria was found, thus it would be important to integrate it further.

The present search was not pre-registered on PROSPERO review database, which could have exposed it to a risk of bias.

5. Conclusions

In conclusion, this systematic review and meta-analysis resulted in a wide range of PTSD-focused interventions addressing women survivors of intimate partner violence. Our study suggests CBT is effective for PTSD symptoms improvement, notwithstanding overall effect size might be overestimated due to the methodological complaints. Interventions usually provide strategies based on cognitive restructuring and behavioral exposure, whose application in PTSD treatments is encouraged by current international guidelines.

Notes

CBT notation covers all cognitive behavioral therapies, including "third-wave" approaches.

CRedit authorship contribution statement

Federica Ragucci: Writing – review & editing, Writing – original draft, Visualization, Software, Resources, Methodology, Formal analysis, Data curation, Conceptualization. **Malgorzata Dragan:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Conceptualization. **Alessandro Cuomo:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Conceptualization. **Andrea Fagiolini:** Writing – review & editing, Writing – original draft, Validation, Supervision, Conceptualization. **Andrea Pozza:** Writing – review & editing, Writing – original draft, Validation, Supervision, Resources, Project administration, Methodology, Data curation, Conceptualization.

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.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.jadr.2024.100802](https://doi.org/10.1016/j.jadr.2024.100802).

References

Ahsen, A., 1965. *Eidetic Psychotherapy: A Short Introduction*. Nai Matboat, Lahore.

- Aizpurua, E., Copp, J., Ricarte, J.J., Vázquez, D., 2021. Controlling behaviors and intimate partner violence among women in Spain: an examination of individual, partner, and relationship risk factors for physical and psychological abuse. *J. Interpers. Violence* 36 (1–2), 231–254. <https://doi.org/10.1177/0886260517723744>.
- Allard, C.B., Norman, S.B., Thorp, S.R., Browne, K.C., Stein, M.B., 2018. Mid-treatment reduction in trauma-related guilt predicts PTSD and functioning following cognitive trauma therapy for survivors of intimate partner violence. *J. Interpers. Violence* 33 (23), 3610–3629. <https://doi.org/10.1177/0886260516636068>.
- American Psychiatric Association, 2022. *Trauma- and stressor-related disorders*. *Diagnostic and Statistical Manual of Mental Disorders, 5th ed.* American Psychiatric Association. text rev.
- Australian Psychological Society. Evidence-based psychological interventions in the treatment of mental disorders. A review of the literature. 4th ed. Melbourne: APS, 2018.
- Arroyo, K., Lundahl, B., Butters, R., Vanderloo, M., Wood, D.S., 2017. Short-term interventions for survivors of intimate partner violence: A systematic review and meta-analysis. *Trauma, Violence, & Abuse* 18 (2), 155–171.
- Birkley, E.L., Eckhardt, C.I., Dykstra, R.E., 2016. Posttraumatic stress disorder symptoms, intimate partner violence, and relationship functioning: a meta-analytic review. *J. Trauma Stress* 29 (5), 397–405. <https://doi.org/10.1002/jts.22129>.
- Bisson, J.I., Roberts, N.P., Andrew, M., Cooper, R., Lewis, C., 2013. Psychological therapies for chronic post-traumatic stress disorder (PTSD) in adults. *Cochrane Database Syst. Rev.* 2013 (12) <https://doi.org/10.1002/14651858.CD003388.pub4>. CD003388.
- Bisson, J.I., Olf, M., 2021. Prevention and treatment of PTSD: the current evidence base. *Eur. J. Psychotraumatol.* 12 (1) <https://doi.org/10.1002/14651858.CD003388.pub4>.
- Bonomi, A.E., Anderson, M.L., Rivara, F.P., Thompson, R.S., 2009. Health care utilization and costs associated with physical and nonphysical-only intimate partner violence. *Health Serv. Res.* 44 (3), 1052–1067. <https://doi.org/10.1111/j.1475-6773.2009.00955.x>.
- Carranza, A.B., Wallis, C.R.D., Jonsson, M.R., Klonsky, E.D., Walsh, Z., 2022. Nonsuicidal self-injury and intimate partner violence: directionality of violence and motives for self-injury. *J. Interpers. Violence* 37 (3–4), 1688–1707. <https://doi.org/10.1177/0886260520922372>.
- Castelpietra, G., Salvador-Carulla, L., Almborg, A.-H., Fernandez, A., Madden, R., 2017. Working draft: classifications of interventions in mental health care. An expert review. *Eur. J. Psychiatry* 31. <https://doi.org/10.1016/j.ejpsy.2017.10.001>.
- Celsi, L., Paleari, F.G., Fincham, F.D., 2021. Adverse childhood experiences and early maladaptive schemas as predictors of cyber dating abuse: an actor-partner interdependence mediation model approach. *Front. Psychol.* 12, 623–646. <https://doi.org/10.3389/fpsyg.2021.623646>.
- Cody, M.W., Jones, J.M., Woodward, M.J., Simmons, C.A., Gayle Beck, J., 2017. Correspondence between self-report measures and clinician assessments of psychopathology in female intimate partner violence survivors. *J. Interpers. Violence* 32 (10), 1501–1523. <https://doi.org/10.1177/0886260515589566>.
- Crespo, M., Arinero, M., 2010. Assessment of the efficacy of a psychological treatment for women victims of violence by their intimate male partner. *Span. J. Psychol.* 13 (2), 849–863. <https://doi.org/10.1017/S113874160000250X>.
- Crespo, M., Arinero, M., Soberón, C., 2021. Analysis of effectiveness of individual and group trauma-focused interventions for female victims of intimate partner violence. *Int. J. Environ. Res. Public Health* 18 (4), 1952. <https://doi.org/10.3390/ijerph18041952>.
- Cuijpers, P., Li, J., Hofmann, S.G., Andersson, G., 2010. Self-reported versus clinician-rated symptoms of depression as outcome measures in psychotherapy research on depression: a meta-analysis. *Clin. Psychol. Rev.* 30 (6), 768–778. <https://doi.org/10.1016/j.cpr.2010.06.001>.
- Devries, K.M., Mak, J.Y., Bacchus, L.J., Child, J.C., Falder, G., Petzold, M., Astbury, J., & Watts, C.H., 2013. Intimate partner violence and incident depressive symptoms and suicide attempts: a systematic review of longitudinal studies. *PLoS Med.* 10 (5), e1001439. <https://doi.org/10.1371/journal.pmed.1001439>.
- Dickersin, K., 1990. The existence of publication bias and risk factors for its occurrence. *JAMA* 263 (10), 1385–1389. <https://doi.org/10.1001/jama.1990.03440100097014>.
- Dokkedahl, S.B., Kirubakaran, R., Bech-Hansen, D., Kristensen, T.R., Elklit, A., 2022. The psychological subtype of intimate partner violence and its effect on mental health: a systematic review with meta-analyses. *Syst. Rev.* 11 (1), 163. <https://doi.org/10.1186/s13643-022-02025-z>.
- Duval, S., Tweedie, R., 2000. Trim and fill: a simple funnel-plot-based method of testing and adjusting for publication bias in meta-analysis. *Biometrics* 56 (2), 455–463. <https://doi.org/10.1111/j.0006-341x.2000.00455.x>.
- Echeburúa, E., Sarasua, B., Zubizarreta, I., 2014. Individual versus individual and group therapy regarding a cognitive-behavioral treatment for battered women in a community setting. *J. Interpers. Violence* 29 (10), 1783–1801. <https://doi.org/10.1177/0886260513511703>.
- Egger, M., Davey Smith, G., Schneider, M., Minder, C., 1997. Bias in meta-analysis detected by a simple, graphical test. *BMJ* 315 (7109), 629–634. <https://doi.org/10.1136/bmj.315.7109.629>.
- Eftekhari, A., Crowley, J.J., Mackintosh, M.A., Rosen, C.S., 2020. Predicting treatment dropout among veterans receiving prolonged exposure therapy. *Psychol. Trauma Theory Res. Pract. Policy* 12 (4), 405–412. <https://doi.org/10.1037/tra0000484>.
- Emezue, C., Chase, J.-A.D., Udmuangpia, T., Bloom, T.L., 2022. Technology-based and digital interventions for intimate partner violence: a systematic review and meta-analysis. *Campbell Syst. Rev.* 18 (3), e1271. <https://doi.org/10.1002/cl2.1271>.
- Ford-Gilboe, M., Varcoe, C., Scott-Storey, K., Perrin, N., Wuest, J., Wathen, C.N., Case, J., Glass, N., 2020. Longitudinal impacts of an online safety and health intervention for

- women experiencing intimate partner violence: randomized controlled trial. *BMC Public Health* 20 (1), 260. <https://doi.org/10.1186/s12889-020-8152-8>.
- Galano, M.M., Stein, S.F., Grogan-Kaylor, A.C., Clark, H.M., Graham-Bermann, S.A., 2021. Investigating the effects of the Moms' Empowerment Program on 8-year traumatic stress symptom trajectories in women with histories of IPV. *Am. J. Orthopsychiatry* 91 (6), 776–788. <https://doi.org/10.1037/ort0000577>.
- Gallegos, A.M., Heffner, K.L., Cerulli, C., Luck, P., McGuinness, S., Pigeon, W.R., 2020. Effects of mindfulness training on posttraumatic stress symptoms from a community-based pilot clinical trial among survivors of intimate partner violence. *Psychol. Trauma Theory Res. Pract. Policy* 12 (8), 859–868. <https://doi.org/10.1037/tra0000975>.
- Galovski, T.E., Werner, K.B., Weaver, T.L., Morris, K.L., Dondanville, K.A., Nanney, J., Wamser-Nanney, R., McGlinchey, G., Fortier, C.B., Iverson, K.M., 2022. Massed cognitive processing therapy for posttraumatic stress disorder in women survivors of intimate partner violence. *Psychol. Trauma Theory Res. Pract. Policy* 14 (5), 769–779. <https://doi.org/10.1037/tra0001100>.
- Giacomucci, S., 2021. Essentials of psychodrama practice. In: *Social Work, Sociometry, and Psychodrama. Psychodrama in Counselling, Coaching and Education*, 1. Springer, Singapore. https://doi.org/10.1007/978-981-33-6342-7_13.
- Glass, N.E., Perrin, N.A., Hanson, G.C., Bloom, T.L., Messing, J.T., Clough, A.S., Campbell, J.C., Gielen, A.C., Case, J., Eden, K.B., 2017. The longitudinal impact of an internet safety decision aid for abused women. *Am. J. Prev. Med.* 52 (5), 606–615. <https://doi.org/10.1016/j.amepre.2016.12.014>.
- Golding, J.M., 1999. Intimate partner violence as a risk factor for mental disorders: a meta-analysis. *J. Fam. Violence* 14, 99–132. <https://doi.org/10.1023/A:1022079418229>.
- Gonçalves, O.F., Machado, P.P., 1999. Cognitive narrative psychotherapy: research foundations. *J. Clin. Psychol.* 55 (10), 1179–1191. [https://doi.org/10.1002/\(SICI\)1097-4679\(199910\)55:10<1179::AID-JCLP2>3.0.CO;2-L](https://doi.org/10.1002/(SICI)1097-4679(199910)55:10<1179::AID-JCLP2>3.0.CO;2-L).
- Graham-Bermann, S.A., Howell, K.H., Miller-Graff, L.E., Galano, M.M., Lilly, M.M., Grogan-Kaylor, A., 2019. The moms' empowerment program addresses traumatic stress in mothers with preschool-age children experiencing intimate partner violence. *J. Aggress. Maltreat. Trauma* 28 (10), 1151–1172. <https://doi.org/10.1080/10926771.2018.1494652>.
- Graham-Bermann, S.A., Miller, L.E., 2013. Intervention to reduce traumatic stress following intimate partner violence: An efficacy trial of the Moms' Empowerment Program (MEP). *Psychodyn. Psychiatry* 41 (2), 329–349.
- Hamberger, L.K., Larsen, S.E., Lehmer, A., 2017. Coercive control in intimate partner violence. *Aggress. Violent Behav.* 37, 1–11. <https://doi.org/10.1016/j.avb.2017.08.003>.
- Hans, E., Hiller, W., 2013. Effectiveness of and dropout from outpatient cognitive behavioral therapy for adult unipolar depression: a meta-analysis of nonrandomized effectiveness studies. *J. Consult. Clin. Psychol.* 81 (1), 75–88. <https://doi.org/10.1037/a0031080>.
- Harrer, M., Cuijpers, P., Furukawa, T.A., Ebert, D.D., 2021. *Doing Meta-Analysis with R: A Hands-On Guide*. Chapman & Hall/CRC Press, Boca Raton, FL and London. ISBN 978-0-367-61007-4.
- Hedges, L.V., Olkin, I., 1985. *Statistical Methods For Meta-Analysis*. Academic Press, San Diego, CA.
- Higgins, J.P.T., Thompson, S.G., 2002. Quantifying heterogeneity in a meta-analysis. *Stat. Med.* 21 (11), 1539–1558. <https://doi.org/10.1002/sim.1186>.
- Hinton, E., Steel, Z., Hilbrink, D., Berle, D., 2022. Anger and predictors of drop-out from PTSD treatment of veterans and first responders. *Behav. Cogn. Psychother.* 50 (2), 237–251. <https://doi.org/10.1017/S1352465821000382>.
- Højfød, R.S., Strøm, C., Kolstrup, N., Eisemann, M., Waterloo, K., 2011. Effectiveness of cognitive behavioural therapy in primary health care: a review. *Fam. Pract.* 28 (5), 489–504. <https://doi.org/10.1093/fampra/cmr017>.
- Imel, Z.E., Laska, K., Jakupcak, M., Simpson, T.L., 2013. Meta-analysis of dropout in treatments for posttraumatic stress disorder. *J. Consult. Clin. Psychol.* 81 (3), 394–404. <https://doi.org/10.1037/a0031474>.
- Johnson, D.M., Palmieri, P.A., Zlotnick, C., Johnson, N.L., Hoffman, L., Holmes, S.C., Ceroni, T.L., 2020. A randomized controlled trial comparing HOPE treatment and present-centered therapy in women residing in shelter with PTSD from intimate partner violence. *Psychol. Women Q.* 44 (4), 539–553. <https://doi.org/10.1177/0361684320953120>.
- Johnson, D.M., Zlotnick, C., Perez, S., 2011. Cognitive behavioral treatment of PTSD in residents of battered women's shelters: results of a randomized clinical trial. *J. Consult. Clin. Psychol.* 79 (4), 542–551. <https://doi.org/10.1037/a0023822>.
- Kamran Ehsan, M., Rowland, D.L., 2021. Possible role for imagery-based therapy in managing PTSD in Pakistani women experiencing domestic abuse: a pilot study using eidetic therapy. *Int. J. Environ. Res. Public Health* 18 (5), 2478. <https://doi.org/10.3390/ijerph18052478>.
- Karakurt, G., Koç, E., Katta, P., Jones, N., Bolen, S.D., 2022. Treatments for female victims of intimate partner violence: systematic review and meta-analysis. *Front. Psychol.* 13, 793021. <https://doi.org/10.3389/fpsyg.2022.793021>.
- Kaslow, N.J., Leiner, A.S., Reviere, S., Jackson, E., Bethea, K., Bhaju, J., Rhodes, M., Gantt, M.J., Senter, H., Thompson, M.P., 2010. Suicidal, abused African American women's response to a culturally informed intervention. *J. Consult. Clin. Psychol.* 78 (4), 449–458. <https://doi.org/10.1037/a0019692>.
- Koci, A.F., McFarlane, J., Cesario, S., Symes, L., Bianchi, A., Nava, A., Gilroy, H., Liu, F., Paulson, R., Montalvo-Liendo, N., Zahed, H., 2014. Women's functioning following an intervention for partner violence: new knowledge for clinical practice from a 7-year study. *Issues Ment. Health Nurs.* 35 (10), 745–755. <https://doi.org/10.3109/01612840.2014.901450>.
- Kubany, E.S., Hill, E.E., Owens, J.A., 2003. Cognitive trauma therapy for battered women with PTSD: preliminary findings. *J. Trauma Stress.* 16 (1), 81–91. <https://doi.org/10.1023/A:1022019629803>.
- Kubany, E.S., Hill, E.E., Owens, J.A., Iannce-Spencer, C., McCaig, M.A., Tremayne, K.J., Williams, P.L., 2004. Cognitive trauma therapy for battered women with PTSD (CTT-BW). *J. Consult. Clin. Psychol.* 72 (1), 3–18. <https://doi.org/10.1037/0022-006X.72.1.3>.
- Labrador, F.J., Alonso, E., 2007. Eficacia a corto plazo de un programa de intervención para el trastorno de estrés postraumático en mujeres mexicanas víctimas de violencia doméstica. *Rev. Psicopatol. Psicol. Clín.* 12 (2), 117–130. <https://doi.org/10.5944/rppc.vol.12.num.2.2007.4038>.
- Latif, M., Husain, M.I., Gul, M., Naz, S., Irfan, M., Aslam, M., Awan, F., Sharif, A., Rathod, S., Farooq, S., Ayub, M., Naeem, F., 2021. Culturally adapted trauma-focused CBT-based guided self-help (CatCBT GSH) for female victims of domestic violence in Pakistan: feasibility randomized controlled trial. *Behav. Cogn. PsychOther* 49 (1), 50–61. <https://doi.org/10.1017/S135246582000685>.
- Lewis, C., Roberts, N.P., Gibson, S., Bisson, J.I., 2020. Dropout from psychological therapies for post-traumatic stress disorder (PTSD) in adults: systematic review and meta-analysis. *Eur. J. Psychotraumatol.* 11 (1), 1709709. <https://doi.org/10.1080/20008198.2019.1709709>.
- Mason, R., O'Rinn, S.E., 2014. Co-occurring intimate partner violence, mental health, and substance use problems: a scoping review. *Glob. Health Action* 7. <https://doi.org/10.13402/gha.v7.24815>.
- Mavranzeouli, I., Megnin-Viggars, O., Grey, N., Bhutani, G., Leach, J., Daly, C., Dias, S., Welton, N.J., Katona, C., El-Leithy, S., Greenberg, N., Stockton, S., Pilling, S., 2020. Cost-effectiveness of psychological treatments for post-traumatic stress disorder in adults. *PLoS One* 15 (4), e0232245. <https://doi.org/10.1371/journal.pone.0232245>.
- Mazzoni, G.P., Miglietta, E., Ciulli, T., Rotundo, L., Pozza, A., Gonzalez, A., Fernandez, I., 2022. Group Eye Movement Desensitization Reprocessing (EMDR) Psychotherapy and recurrent interpersonal traumatic episodes: a pilot follow-up study. *Clin. Neuropsychiatry* 19 (6), 379–389.
- McCleary-Sills, J., Namy, S., Nyoni, J., Rweyemamu, D., Salvatory, A., Steven, E., 2016. Stigma, shame and women's limited agency in help-seeking for intimate partner violence. *Glob. Public Health* 11 (1–2), 224–235. <https://doi.org/10.1080/17441692.2015.1047391>.
- Meffert, S.M., Neylan, T.C., McCulloch, C.E., Blum, K., Cohen, C.R., Bukusi, E.A., Verdelli, H., Markowitz, J.C., Kahn, J.G., Bukusi, D., Thirumurthy, H., Rota, G., Rota, R., Oketch, G., Opiyo, E., Ongeri, L., 2021. Interpersonal psychotherapy delivered by nonspecialists for depression and posttraumatic stress disorder among Kenyan HIV-positive women affected by gender-based violence: randomized controlled trial. *PLoS Med.* 18 (1), e1003468. <https://doi.org/10.1371/journal.pmed.1003468>.
- Miller, L.E., Howell, K.H., Graham-Bermann, S.A., 2014. The effect of an evidence-based intervention on women's exposure to intimate partner violence. *Am. J. Orthopsychiatry*, 84 (4), 321–328. <https://doi.org/10.1037/h0099840>. Moher, D., Altman, D. G., Liberati, A., & Tetzlaff, J. (2011). PRISMA statement. *Epidemiology* (Cambridge, Mass.), 22(1), 128. doi.org/10.1097/EDE.0b013e3181fe7.
- Mondolfi Miguel, M.L., Pino-Juste, M., 2021. Therapeutic achievements of a program based on drama therapy, the theater of the oppressed, and psychodrama with women victims of intimate partner violence. *Violence Against Women* 27 (9), 1273–1296. <https://doi.org/10.1177/1077801220920381>.
- Moreira, A., Moreira, A.C., Rocha, J.C., 2022. Randomized controlled trial: cognitive-narrative therapy for IPV victims. *J. Interpers. Violence* 37 (5–6), 2998–3014. <https://doi.org/10.1177/0886260520943719>.
- Markowitz, J.C., Weissman, M.M., 2012. Interpersonal psychotherapy: past, present and future. *Clin. Psychol. PsychOther* 19 (2), 99–105. <https://doi.org/10.1002/cpp.1774>.
- Morina, N., Lancee, J., Arntz, A., 2017. Imagery rescripting as a clinical intervention for aversive memories: a meta-analysis. *J. Behav. Ther. Exp. Psychiatry* 55, 6–15. <https://doi.org/10.1016/j.jbtep.2016.11.003>.
- Murray, H.L., 2019. *Survivor guilt in a posttraumatic stress disorder clinic sample*. *J. Loss and Trauma* 23 (7), 600–607.
- Oram, S., Fisher, H.L., Minnis, H., Seedat, S., Walby, S., Hegarty, K., Rouf, K., Angénieux, C., Callard, F., Chandra, P.S., Fazel, S., Garcia-Moreno, C., Henderson, M., Howarth, E., MacMillan, H.L., Murray, L.K., Othman, S., Rotherham, D., Rondon, M.B., Howard, L.M., 2022. The lancet psychiatry commission on intimate partner violence and mental health: advancing mental health services, research, and policy. *Lancet Psychiatry* 9 (6), 487–524. [https://doi.org/10.1016/S2215-0366\(22\)00008-6](https://doi.org/10.1016/S2215-0366(22)00008-6).
- Orang, T., Ayoughi, S., Moran, J.K., Ghaffari, H., Mostafavi, S., Rasouljan, M., Elbert, T., 2018. The efficacy of narrative exposure therapy in a sample of Iranian women exposed to ongoing intimate partner violence-A randomized controlled trial. *Clin. Psychol. PsychOther* 25 (6), 827–841. <https://doi.org/10.1002/cpp.2318>.
- Page, M.J., McKenzie, J.E., Bossuyt, P.M., Boutron, I., Hoffmann, T.C., Mulrow, C.D., Shamseer, L., Tetzlaff, J.M., Akl, E.A., Brennan, S.E., Chou, R., Glanville, J., Grimshaw, J.M., Hróbjartsson, A., Lalu, M.M., Li, T., Loder, E.W., Mayo-Wilson, E., McDonald, S., Moher, D., 2021. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 372, n71. <https://doi.org/10.1136/bmj.n71>.
- Paule, R.C., Mandel, J., 1982. Consensus Values and Weighting Factors. *J. Res. Natl. Bur Stand.* 87 (5), 377–385. <https://doi.org/10.6028/jres.087.022> (1977).
- Pilkington, P.D., Noonan, C., May, T., Younan, R., Holt, R.A., 2021. Early maladaptive schemas and intimate partner violence victimization and perpetration: a systematic review and meta-analysis. *Clin. Psychol. Psychother.* 28 (5), 1030–1042. <https://doi.org/10.1002/cpp.2558>.

- Pozza, A., Coradeschi, D., Dettore, D., 2013. Do dysfunctional beliefs moderate the negative influence of comorbid severe depression on outcome of residential treatment for refractory OCD? A pilot study. *Clin. NeuroPsychiatry* 10 (3), 72–83.
- Pybis, J., Saxon, D., Hill, A., Barkham, M., 2017. The comparative effectiveness and efficiency of cognitive behaviour therapy and generic counselling in the treatment of depression: evidence from the 2nd UK National Audit of psychological therapies. *BMC Psychiatry* 17 (1), 215. <https://doi.org/10.1186/s12888-017-1370-7>.
- Raabe, S., Ehring, T., Marquenie, L., Olf, M., Kindt, M., 2015. Imagery rescripting as stand-alone treatment for posttraumatic stress disorder related to childhood abuse. *J. Behav. Ther. Exp. Psychiatry* 48, 170–176. <https://doi.org/10.1016/j.jbtep.2015.03.013>.
- Rakovec-Felser, Z., 2014. Domestic violence and abuse in intimate relationship from public health perspective. *Health Psychol. Res.* 2 (3), 1821. <https://doi.org/10.4081/hpr.2014.1821>.
- Resick, P.A., Galovski, T.E., Uhlmansiek, M.O., Scher, C.D., Clum, G.A., Young-Xu, Y., 2008. A randomized clinical trial to dismantle components of cognitive processing therapy for posttraumatic stress disorder in female victims of interpersonal violence. *J. Consult. Clin. Psychol.* 76 (2), 243–258. <https://doi.org/10.1037/0022-006X.76.2.243>.
- Resick, P.A., Schnicke, M.K., 1993. *Cognitive Processing Therapy For Rape victims: A treatment Manual*. Sage, Newbury Park, CA.
- Santambrogio, J., Colmegna, F., Biagi, E., Caslini, M., Di Giacomo, E., Stefana, A., Dakanalis, A., Clerici, M., 2021. [Intimate partner violence (IPV) and associated factors: a cross-sectional study in community psychiatry]. *Riv. Psichiatr.* 56 (1), 26–35. <https://doi.org/10.1708/3546.35217>.
- Schauer, M., Neuner, F., Elbert, T., 2011. *Narrative Exposure Therapy: A Short Term Treatment For Traumatic Stress Disorders*, 2nd ed. Hogrefe Publishing, Cambridge, MA.
- Schauer, M., Wright, J.D., 2015. Narrative exposure therapy. *International Encyclopedia of the Social & Behavioral Sciences*, Co-Ed2nd Ed. Elsevier, pp. 198–203.
- Scott-Storey, K., O'Donnell, S., Ford-Gilboe, M., Varcoe, C., Wathen, N., Malcolm, J., Vincent, C., 2023. What about the men? A critical review of men's experiences of intimate partner violence. *Trauma Violence Abuse* 24 (2), 858–872. <https://doi.org/10.1177/15248380211043827>.
- Shuler, I.C., 2010. Male victims of intimate partner violence in the United States: an examination of the review of literature through the critical theoretical perspective. *J. Crim. Justice Sci.* 5 (1), 163–173.
- Sterne, J.A.C., Becker, B.J., Egger, M., 2005. The Funnel Plot. *Publication Bias in Meta-analysis*. John Wiley & Sons, Ltd, pp. 73–98. <https://doi.org/10.1002/0470870168.ch5>.
- Sterne, J.A.C., Sutton, A.J., Ioannidis, J.P.A., Terrin, N., Jones, D.R., Lau, J., Carpenter, J., Rücker, G., Harbord, R.M., Schmid, C.H., Tetzlaff, J., Deeks, J.J., Peters, J., Macaskill, P., Schwarzer, G., Duval, S., Altman, D.G., Moher, D., Higgins, J.P.T., 2011. Recommendations for examining and interpreting funnel plot asymmetry in meta-analyses of randomised controlled trials. *BMJ* 343, d4002. <https://doi.org/10.1136/bmj.d4002>.
- Storm, M.P., Christensen, K.S., 2021. Comparing treatments for post-traumatic stress disorder - a systematic review. *Dan. Med. J.* 68 (9), A09200643.
- Swift, J.K., Greenberg, R.P., Tompkins, K.A., Parkin, S.R., 2017. Treatment refusal and premature termination in psychotherapy, pharmacotherapy, and their combination: a meta-analysis of head-to-head comparisons. *Psychotherapy* 54 (1), 47–57. <https://doi.org/10.1037/pst0000104>. (Chic).
- Taft, C.T., Watkins, L.E., Stafford, J., Street, A.E., Monson, C.M., 2011. Posttraumatic stress disorder and intimate relationship problems: a meta-analysis. *J. Consult. Clin. Psychol.* 79, 22–33. <https://doi.org/10.1037/a0022196>.
- Varcoe, C., Ford-Gilboe, M., Browne, A.J., Perrin, N., Bungay, V., McKenzie, H., Smye, V., Price Elder, R., Inyallie, J., Khan, K., Dion Stout, M., 2021. The efficacy of a health promotion intervention for indigenous women: reclaiming our spirits. *J. Interpers. Violence* 36 (13–14), NP7086–NP7116. <https://doi.org/10.1177/0886260518820818>.
- Varker, T., Jones, K.A., Arjmand, H.-A., Hinton, M., Hiles, S.A., Freijah, I., Forbes, D., Kartal, D., Phelps, A., Bryant, R.A., McFarlane, A., Hopwood, M., O'Donnell, M., 2021. Dropout from guideline-recommended psychological treatments for posttraumatic stress disorder: a systematic review and meta-analysis. *J. Affect. Disord. Rep.* 4, 100093. <https://doi.org/10.1016/j.jadr.2021.100093>.
- Veroniki, A.A., Jackson, D., Viechtbauer, W., Bender, R., Bowden, J., Knapp, G., Kuss, O., Higgins, J.P., Langan, D., Salanti, G., 2016. Methods to estimate the between-study variance and its uncertainty in meta-analysis. *Res. Synth. Methods* 7 (1), 55–79. <https://doi.org/10.1002/jrsm.1164>.
- Williams, J.M., Kabat-Zinn, J., 2013. *Mindfulness: Diverse Perspectives on its Meaning, Origins and Applications*. Routledge. <https://doi.org/10.4324/9781315874586>.
- World Health Organization, 2021. *Violence against women prevalence estimates, 2018: global, regional and national prevalence estimates for intimate partner violence against women and global and regional prevalence estimates for non-partner sexual violence against women*. Executive summary, Geneva.
- Young, J.E., Klosko, J.S., Schema, Weishaar M.E., 2003. *Therapy: A practitioner's Guide*, 1st ed. The Guilford Press, New York.
- Zlotnick, C., Capezza, N.M., Parker, D., 2011. An interpersonally based intervention for low-income pregnant women with intimate partner violence: a pilot study. *Arch. Womens Ment. Health* 14 (1), 55–65. <https://doi.org/10.1007/s00737-010-0195-x>.