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# Interventions in Health Settings for Male Perpetrators or Victims of Intimate Partner Violence

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## Abstract

**Background:** Intimate partner violence (IPV) is common in patients attending health care services and is associated with a range of health problems. The majority of IPV perpetrators are men and a substantial minority of men are victims, yet health care professionals have little evidence or guidance on how to respond to male patients who perpetrate or experience violence in their intimate relationships.

**Methods:** We conducted a systematic review to determine the effectiveness of interventions for male perpetrators or victims of IPV in health settings. Online databases, reference lists, Google Scholar, and grey literature were searched and inclusion/exclusion criteria applied. Narrative synthesis methods were used due to the heterogeneity of study types and outcome measures.

**Results:** Fourteen studies describing 10 interventions met our inclusion criteria: 9 randomised controlled trials, 4 cohort studies and 1 case control study. Interventions were predominantly therapeutic in nature and many were conducted in alcohol treatment settings.

**Conclusion:** Overall, the evidence for effectiveness of interventions in health care settings was weak, although IPV interventions conducted concurrently with alcohol treatment show some promise. More work is urgently needed in health care services to determine what interventions might be effective, and in what settings, to improve the response to male perpetrators or victims of IPV.

## Introduction

Intimate partner violence (IPV) is a major global problem, posing a challenge to public health and clinical practice. (World Health Organization, 2013a). It is defined as behaviour by an intimate partner or ex-partner that causes physical, sexual or psychological harm, including aggression, sexual coercion, psychological abuse and controlling behaviours (World Health Organization, 2013a). One in three women worldwide has experienced physical or sexual violence at the hands of a male intimate partner; the majority of interventions to date have consequently focused on identifying and responding to female victims (Grealy & Wallace, 2013). It is becoming increasingly acknowledged in policy and practice, however, that efforts to end violence against women must also address men (Council of Australian Governments, 2010). Despite this, there is a lack of strong evidence to support the effectiveness of interventions for men who use violence in their intimate relationships (Eckhardt et al., 2013). There is also a lack of evidence for interventions addressing male victims (Eckhardt et al., 2013; Hines & Douglas, 2009; Kimberg, 2008; National Institute of Clinical Excellence (NICE), 2014). Male IPV perpetration and victimhood are complex and often interrelated (Hester et al., 2015; Williamson et al., 2015), making it difficult to obtain relevant prevalence data. However, surveys currently report that approximately 5% of men in Australia, 10% in the UK (Australian Bureau of Statistics, 2013; Office for National Statistics, 2016), and 9% in the USA (Black et al., 2010) have ever experienced violence from an intimate partner.

Existing reviews of IPV interventions for male perpetrators have primarily focused on men's behaviour change programs (also known in the USA as 'batterer interventions') conducted in the community (VicHealth, 2007). These have shown mixed results (Grealy & Wallace, 2013), particularly in relation to recidivism and long-term outcomes (Westmarland & Kelly, 2013). This may be partly due to the fact that men's behaviour change programs primarily cater to a limited subset of men who use violence. Whilst men can self-refer to these programs, the majority of participants are mandated to attend by the court system. Furthermore, many men are not eligible to attend men's behaviour change programs due to co-existing alcohol or substance misuse (Rothman, Butchart, & Cerda, 2003). Consequently, it is important to consider alternative approaches to intervention that may engage a broader range of men earlier in the process of change.

Due to the range of physical and mental health symptoms that men can experience when they are the victims of IPV (Black et al., 2010; Coker et al., 2002), or IPV perpetrators (Oram, Trevillion, Khalifeh, Feder, & Howard, 2013; Singh, Tolman, Walton, Chermack, & Cunningham, 2014), there is a strong argument that health settings might be an appropriate place to identify and intervene early (Garcia-Moreno et al., 2015; Spangaro, 2016; World Health Organization, 2013b). Studies estimating the prevalence rates of men who experience or use violence in their relationships attending health settings are scarce, and vary widely in their estimates (from 2%-32% for current victimisation (including psychological) and 2%-28% for current perpetration (physical or sexual) (Hester et al., 2015; Jaeger, Spielman, Cronholm, Applebaum, & Holmes, 2008; Kimberg, 2008; Oriol & Fleming, 1998; Raj et al., 2006; Rhodes et al., 2009). Research suggests that men see health professionals as a source of support (Morgan, Williamson, Hester, Jones, & Feder, 2014), and believe it would be helpful to be asked about IPV victimhood or perpetration in health settings (Westmarland, Hester, & Reid, 2004). Studies with women indicate that health professionals can be trained to respond sensitively to this issue (Hegarty et al., 2013; Williamson et al., 2015). Consequently, it seems that there are clear opportunities for identification, early intervention and referral of both male victims and perpetrators of IPV. To date, however, there is little robust evidence to support addressing men's use or experiences of violence in health settings. (Kimberg, 2008; Morgan et al., 2014; Williamson et al., 2015). It is unclear which health settings might be most appropriate to identify and respond to male victims or perpetrators, or what methods might be effective in improving outcomes.

To address this gap, this review will explore what interventions in health settings are effective at improving outcomes for male perpetrators and/or victims of IPV aged over 16 years. We sought to explore primarily whether interventions could reduce levels of violence or improve mental health of victims or perpetrators and secondarily whether they could increase identification and referral, improve self-efficacy, or reduce alcohol and/or substance abuse.

## Methods

We conducted a systematic review and best-evidence synthesis to determine the effectiveness of interventions for male perpetrators or victims of IPV in health settings. A protocol was registered with the International Prospective Register of Systematic Reviews (PROSPERO CRD42015019572), following the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols (PRISMA-P) guidelines (Moher et al., 2015).

## Eligibility criteria

The aim of our review was to be as inclusive as possible (due to expecting a limited number of studies). Studies reporting on any type of intervention intended to identify or respond to male perpetrators or victims of IPV were included. We considered most study types providing there was some form of pre/post evaluative component, or a synthesis of such studies (e.g. systematic reviews, meta-analyses, randomized controlled trials (RCTs), case-control studies, cohort studies, cross-sectional studies, and qualitative studies). We excluded narrative reviews, letters, editorials, commentaries, case reports, conference abstracts, meeting abstracts, lectures and addresses, and consensus development statements (including guideline statements), as these generally do not include any form of evaluation. While we gave greater weight to publications in peer-reviewed journals, unpublished manuscripts (e.g. theses), books and book chapters, and grey literature such as program reports were also considered.

Although we considered studies that evaluated interventions for both male and female participants, the majority of the study population needed to be composed of men aged over 16 years of age who were victims and/or perpetrators of IPV. Reporting of results needed to differentiate between male and female participants in order to be included. The majority of participants needed to be either a) recruited from a health setting or b) recruited from the general community if the intervention was conducted in a health setting. We applied a broad definition of 'health setting' including both acute and non-acute settings, community and university-based services or treatment centres/clinics. We included studies of interventions aimed at practitioners (doctors, nurses, allied health) as well as male patients, in order to include IPV identification and referral outcomes. Studies where participants were mandated to attend treatment for IPV (e.g. by court order) were excluded in order to be relevant to a real world health setting, although we did include one study

(Schumacher et al., 2011) where some participants had been mandated to attend the alcohol treatment facility from which they were recruited.

## Search Strategy

The electronic databases Medline, CinAHL, PsychInfo, EMBASE, Cochrane Library, and Google Scholar were searched prior to March 2017 for relevant studies. Further electronic resources were searched, including the World Health Organisation website (<http://whol.int/topics/violence/en/>). Google was searched for additional grey literature. No date or language restriction was applied. Reference lists of identified papers were examined in order to identify other relevant studies. Table 1 shows the search strategy used for Medline, which was adapted for other databases as necessary. Search results were imported into an electronic bibliography (Endnote) and duplicates removed.

**Table 1: Medline Search Strategy**

1	Men OR male OR man.ab,tw
2	Domestic violence.ab,tw
3	Spous\$3 abuse.ab,tw
4	Dating violence.ab,tw
5	Partner violence.ab,tw
6	Family violence.ab,tw
7	((abus* or batter* or violen* or beat*) adj3 (domestic or partner* or family or families or spouse or marital or woman or women or man or men or female or male or wife or wives or husband or boyfriend or girlfriend)).ab,tw.
8	(Intervention or treatment or counselling or program or screening).tw,ab not (jail or gaol or prison or school)
9	1 AND (2 or 3 or 4 or 5 or 6 or 7)
10	(hospital or clinic or general practi\$ or ED or emergency or doctor or nurse or surgeon or primary or dent\$ or antenatal or outpatient or “alcohol treatment” or “mental health” or “substance abuse treatment”).ab,tw.
11	8 AND 9 AND 10

## Data Collection and Extraction

Two reviewers (LT and KF) screened the titles and abstracts of citations retrieved, and rejected those that did not immediately meet the inclusion criteria. As our search terms were necessarily broad, studies were primarily excluded at this stage for failing to address the population of interest, describing an intervention or program without evaluating it, or for exploring men’s perpetration or victimisation in general rather than a response to it. The same two reviewers read the full text of the remaining articles and confirmed eligibility. Where any uncertainty arose, relevant study authors were contacted directly for clarification. A third and fourth reviewer (KH and GF) were consulted to resolve any disagreement between the first two reviewers. Data from eligible studies was extracted independently by KF and inputted into a custom table. Items extracted were year, study type, sample size and characteristics, type of intervention, and outcomes. Where any uncertainty arose, relevant study authors were further contacted directly via email for clarification.

## Critical appraisal

For randomised controlled trials, risk of bias was assessed using Cochrane Collaboration criteria (Higgins et al., 2011). Studies were assessed as being at overall high risk of bias when there were: 1) three or more criteria conferring high risk of bias, 2) one or two criteria associated with high risk of bias and the number of criteria with an unclear risk exceeded the number of criteria with a low risk. For non-randomised studies, a level of evidence was assigned according to the Australian National Health and Medical Research Council (NHMRC) Level of Evidence and Grades for Recommendation Guidelines (National Health and Medical Research Council, 2009). This system outlines a hierarchy of evidence from I (RCT) to IV (cohort or cross-sectional study). The

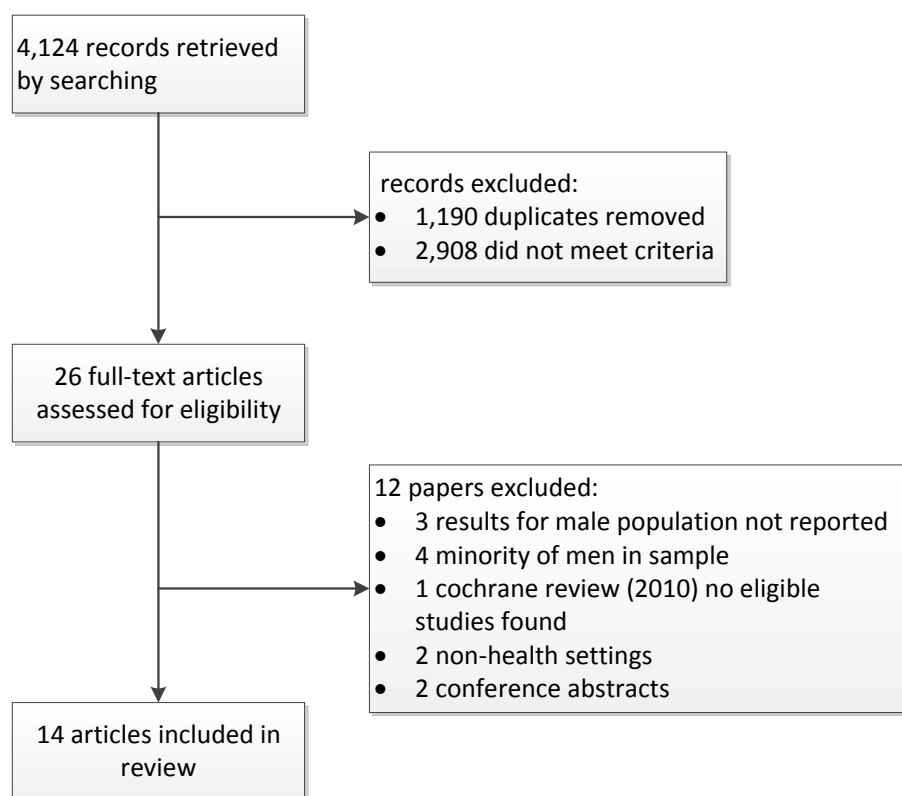
quality of the available evidence base as a whole was further appraised according to the Grades of Recommendation, Assessment, Development and Evaluation (GRADE) approach (Guyatt, Oxman, Schunemann, Tugwell, & Knottnerus, 2011).

## Data Synthesis

As this review includes a range of study designs and outcomes, statistical pooling of outcomes was not appropriate. Although many of the studies used the Conflict Tactics Scale (CTS) (Straus, 1979) to measure men's perpetration of violence, there was inconsistency amongst the studies as to which version or subscales of the CTS were used, how it was delivered, and whether modifications were made to the tool. Consequently, we have used a narrative synthesis method (Ryan & Cochrane Consumers and Communication Review Group, 2013), highlighting the characteristics of interventions that promote or impede effectiveness for male perpetrators or victims.

## Results

We identified 2,934 studies (following removal of duplicates). After applying the inclusion criteria, a total of fourteen studies were reviewed. Figure 1 below shows the selection process in more detail.



**Fig.1 Flow Diagram of Study Selection**

## Characteristics of Included Studies

Included studies comprised of nine RCTs (Easton et al., 2007; Fals-Stewart & Clinton-Sherrod, 2009; Lee, Kavoussi, & Coccaroa, 2008; Palmstierna, Haugan, Jarwson, Rasmussen, & Nottestad, 2012; Raj et al., 2016; Satyanarayana et al., 2016; Schumacher et al., 2011; Taft, Creech, et al., 2016; Taft, Macdonald, Creech, Monson, & Murphy, 2016), four cohort studies (Hayes et al., 2015; Stuart et al., 2003; Taft et al., 2013; Williamson et al., 2015), and one case control study (O'Farrell, Murphy, Stephan, Fals-Stewart, & Murphy,

2004). Four studies described versions of the same intervention (a cognitive behavioural group program for military veterans) (Hayes et al., 2015; Taft, Creech, et al., 2016; Taft, Macdonald, et al., 2016; Taft et al., 2013). Four of the studies were described as pilot/feasibility studies (Easton et al., 2007; Schumacher et al., 2011; Taft et al., 2013; Williamson et al., 2015). Ten of the studies were conducted in the USA (Easton et al., 2007; Fals-Stewart & Clinton-Sherrod, 2009; Hayes et al., 2015; Lee et al., 2008; O'Farrell et al., 2004; Schumacher et al., 2011; Stuart et al., 2003; Taft, Creech, et al., 2016; Taft, Macdonald, et al., 2016; Taft et al., 2013), one in the UK (Williamson et al., 2015), one in Norway (Palmstierna et al., 2012), and two in India (Raj et al., 2016; Satyanarayana et al., 2016). Studies predominantly addressed men's perpetration of violence rather than victimhood, with the exception of one study (Williamson et al., 2015) that examined responses to both male perpetrators and victims.

Five of the interventions were delivered in alcohol/substance abuse treatment settings (Easton et al., 2007; Fals-Stewart & Clinton-Sherrod, 2009; O'Farrell et al., 2004; Schumacher et al., 2011; Stuart et al., 2003), four in a veterans' affairs treatment centre (Hayes et al., 2015; Taft, Creech, et al., 2016; Taft, Macdonald, et al., 2016; Taft et al., 2013) one in a hospital psychiatric outpatient clinic (Satyanarayana et al., 2016), and one in an academic neuroscience and psychopharmacology centre (Lee et al., 2008). One intervention was delivered in a general practice setting (Williamson et al., 2015), and one in a community setting with participants recruited through general practices in the area (Palmstierna et al., 2012).

Interventions for perpetrators comprised: psychological therapies such as cognitive behavioural therapy (CBT) (Easton et al., 2007; Palmstierna et al., 2012; Satyanarayana et al., 2016; Stuart et al., 2003; Taft et al., 2013) and motivational interviewing (Schumacher et al., 2011), either individually or in groups; couples therapy (Fals-Stewart & Clinton-Sherrod, 2009; O'Farrell et al., 2004); group psychoeducation (Hayes et al., 2015) and a pharmacological intervention (Lee et al., 2008). One study (Williamson et al., 2015) described an intervention for health professionals that encompassed training and information sessions about response and referral options for male victims and perpetrators.

Men's use of violence was measured using variants of the Conflict Tactics Scale (CTS) (Straus, 1979; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) in 10 (Easton et al., 2007; Fals-Stewart & Clinton-Sherrod, 2009; Hayes et al., 2015; O'Farrell et al., 2004; Palmstierna et al., 2012; Schumacher et al., 2011; Stuart et al., 2003; Taft, Creech, et al., 2016; Taft, Macdonald, et al., 2016; Taft et al., 2013) of the 13 studies in which violence was an outcome. Four of these studies (Schumacher et al., 2011; Taft, Creech, et al., 2016; Taft, Macdonald, et al., 2016; Taft et al., 2013) also used additional measures including the Multidimensional Measure of Emotional Abuse (MMEA) (Murphy & Hoover, 1999) and self-report timeline follow-back methods. Alternatives to the CTS included the modified Overt Aggression Scale (OAS-M) (Coccaro, Harvey, Kupsaw-Lawrence, Herbert, & Bernstein, 1991) completed by male participants in one study (Lee et al., 2008), as well as the Index of Wife Abuse (Coker, Pope, Smith, Sanderson, & Hussey, 2001; Hudson & McIntosh, 1981) and physical and sexual violence items from the India Demographic Health Survey (*National Family Health Survey (NFHS-3), 2005-06: India Volume 1, 2007*) which were completed by the participants' female partners in two studies (Raj et al., 2016; Satyanarayana et al., 2016).

Detailed characteristics of the included studies are summarised in Tables 2 and 3.

## Outcomes and Quality

Study outcomes and critical appraisal are shown in Tables 2-3 and discussed below:

**Reduction in male perpetration of intimate partner violence.** The majority of the interventions targeting men's perpetration of IPV did so in the context of co-occurring alcohol abuse (Easton et al., 2007; Fals-Stewart & Clinton-Sherrod, 2009; O'Farrell et al., 2004; Satyanarayana et al., 2016; Schumacher et al., 2011; Stuart et al., 2003). There was weak evidence from two trials (Fals-Stewart & Clinton-Sherrod, 2009; Satyanarayana et al., 2016) that psychological therapies targeting IPV concurrently with alcohol abuse might reduce men's perpetration of IPV. Satyanarayana and colleagues (2016), found a significant reduction in male perpetration of physical and non-physical violence (as reported by the female partners of participants) after attending eight sessions of integrated alcohol and IPV related cognitive behavioural therapy (CBT), when compared to treatment as usual (single session of psychoeducation and pharmacotherapy). However, the effect sizes were small (0.17 and 0.24 at one and three months post-treatment respectively), and it is unclear whether the outcome was due to the difference in the number of sessions (8 versus 1) rather than the content of the intervention. Another trial, by Fals-Stewart and Clinton-Sherrod (2009), found that behavioural couples

therapy (BCT) with substance-abusing men was more effective than individual treatment at reducing the mean percentage of days without violence, and the mean percentage of days without severe violence over a 12 month period. Procedures for randomisation and group allocation were not reported, however, leading to a high risk of bias. Furthermore, the analysis did not take into account other risk-reduction strategies potentially undertaken by female partners during the study. Similarly, a case-control study by O'Farrell and colleagues (2004) also found that BCT significantly reduced male aggression towards their female partners when they abstained from alcohol for 1-2 years after treatment, however, the prevalence and frequency of violence was still higher than the non-alcoholic control sample. The findings from this study should be interpreted with caution as it is unclear how well-matched the control sample was to the intervention group. One cohort study (Stuart et al., 2003) found a small reduction in husband-to-wife physical violence over time that was associated with the male partner's abstinence from alcohol, however, the sample size was extremely small (n=24) and no control group was utilised. Two low-quality trials reported no effect for therapeutic interventions addressing IPV and alcohol on men's perpetration of violence (Easton et al., 2007; Schumacher et al., 2011).

In non-alcohol treatment settings, there was some weak evidence for therapeutic interventions, although methodological weaknesses leading to high risk of bias were common amongst the identified studies. Palmstierna and colleagues (2012) found that a motivational interviewing intervention reduced physical violence and violence overall at 15 weeks post-treatment when compared to a wait-list control group. However, the extremely small sample size (n=35) makes statistical analysis inappropriate and the study was assessed as being at high risk of bias. Another trial, by Raj et al, (2016) explored the effectiveness of a three-session gender equity and family planning intervention for married men in rural India and their partners (CHARM). Women in the intervention reported significantly lower rates of sexual violence at 18 month follow-up, however, there were a number of methodological concerns with this study that led to a high risk of bias, including that neither participants nor study personnel were blinded to treatment allocation.

Only one study investigated the effectiveness of a pharmacological intervention, in the form of fluoxetine (Prozac), on men's perpetration of violence (Lee et al., 2008). The study was methodologically flawed due to a very small sample size (n=26) and high attrition. No statistically significant effect was found.

Four studies explored variations of the "Strength At Home" group CBT program for military veterans (Hayes et al., 2015; Taft, Creech, et al., 2016; Taft, Macdonald, et al., 2016; Taft et al., 2013). Two of these were pilot cohort studies (Hayes et al., 2015; Taft et al., 2013); one testing the original intervention (Taft et al., 2013) and the other a modified version for military veterans and their family or friends (SAH-F) (Hayes et al., 2015). Both studies suffered from very high attrition rates. The small sample size in the first study (n=14) (Taft et al., 2013) precluded significance on any outcome measures. The second study (Hayes et al., 2015) reported no significant decreases in physical violence from pre-treatment to program completion or follow-up in the veteran participants. The authors later conducted an RCT investigating the efficacy of the 10-week Strength At Home Couples Program (SAH-C)(Taft, Creech, et al., 2016) compared to "supportive prevention" couples therapy. Completion rates for both treatment arms were low (64% in the SAH-C group and 37% in the control group), and study was assessed as being at a high risk of bias. No statistically significant between-group differences were reported on measures of IPV.

In the second study, the original Strength At Home Men's Program (SAH-M)(Taft, Macdonald, et al., 2016) was compared to "enhanced treatment as usual" (clinical referrals and resources for mental health and IPV). The intervention group evidenced lower physical IPV on the revised CTS immediately post-treatment, although this effect was not sustained at 3 month follow-up. They also demonstrated better outcomes than the control group on certain dimensions of emotional abuse as assessed by the Multidimensional Measure of Emotional Abuse (MMEA); some only at three months and others only immediately post-treatment (see Table 2). Again, however, the attrition rates in this study were high (only 55% completed the intervention), and it was unclear whether participants and study personnel were blinded to treatment condition, leading to a high risk of bias.

**Reduction in alcohol/substance abuse.** The evidence for effectiveness of interventions at reducing levels of men's alcohol/substance abuse was also weak. Although the study by Satyanarayana and colleagues investigating the effectiveness of integrated CBT for alcohol and IPV in India (Satyanarayana et al., 2016) reported a reduction in male violence, they found no significant difference between intervention and control groups in levels of problem drinking. On the other hand, Fals-Stewart and Clinton-Sherrod (2009) reported a greater increase in the mean percentage of days abstinent from alcohol at 12 month follow up in their

intervention group when compared to the control group, although as mentioned earlier, there were methodological flaws with this study. A further two trials (Easton et al., 2007; Schumacher et al., 2011) also investigated alcohol abuse. Schumacher and colleagues (2011) compared a brief motivational interviewing intervention to a control group receiving community resources only. No significant between-group differences were found on alcohol abuse measures, but the trial was under-powered. The study also suffered from a high risk of bias. Easton and colleagues (2007) reported that participants receiving an integrated substance abuse and IPV cognitive behavioural therapy intervention had a higher percentage of days abstinent from alcohol over the 12 week treatment period than those who received a 12-step facilitated substance abuse program only. However, their study had a high risk of bias due to incomplete outcome data, participant attrition, and a lack of clarity around blinding of participants and study personnel. A cohort study by Stuart and colleagues (2003) found that an individualised partial hospitalisation treatment for alcohol dependence significantly reduced the mean number of drinks consumed by participants on a 'drinking day' from baseline to 6 and 12 month follow-up, however, with no control group the evidence is of low quality.

**Mental Health.** Only one study examined mental health as an outcome measure for men who use violence (Hayes et al., 2015). Hayes and colleagues reported that the Strength At Home Friends and Families (SAH-F) intervention led to a significant decrease in depressive symptoms from pre-treatment to program completion in veteran participants when compared to "supportive prevention". This effect was not sustained at follow-up. Post-traumatic stress disorder (PTSD) minimally decreased at all time points. However, as mentioned above this study was assessed as being at high risk of bias.

**Increased identification and/or referral of perpetrators or victims.** Only one pilot cohort study (Williamson et al., 2015) explored the effect of a training intervention in general practice, finding that the intervention significantly increased clinicians' (n=25) self-reported readiness to identify and refer male patients who were perpetrators or victims of IPV. However, it is unclear to what extent this resulted in an increase in the number of male patients actually identified and referred. Furthermore, the lack of comparison group, small sample size, and high attrition in the completion of outcome measures reduce the quality of the evidence base.

**Overall assessment of quality.** According to the GRADE approach, RCTs are the strongest form of evidence and are by default rated as 'High'. However, they can be downgraded if there is a high risk of bias or serious inconsistencies (Guyatt et al., 2011). Non-randomised studies are automatically graded as 'Low' unless they are of excellent methodological rigor. In this instance, the evidence base was comprised of non-randomised studies of generally poor quality, pilot studies, and trials with high risk of bias (except for Satyanarayana et al.(2016)). Consequently, the evidence base was given an overall rating of "Very Low", and we would not recommend that the findings be used to inform clinical practice.

## Discussion

This review highlights the paucity of evidence for effectiveness of any interventions for male perpetrators IPV in health care settings and the absence of evidence about health care based interventions for male victims of IPV. Identified studies were mostly confined to a small number of clinical populations or settings (e.g. alcohol-dependent men, veterans) that are not necessarily generalizable to a broader context. Furthermore, the evidence from studies without a control group must be interpreted with extreme caution, as we cannot determine whether the interventions in question are more effective than time alone.

The most promising evidence for interventions with male perpetrators found in this review was for psychological therapies delivered in conjunction with alcohol treatment (Fals-Stewart & Clinton-Sherrod, 2009; O'Farrell et al., 2004; Satyanarayana et al., 2016). The connection between problem drinking and IPV is well-supported within the existing literature (Easton, Swan, & Sinha, 2000; Foran & O'Leary, 2008; World Health Organization, 2011), and it makes sense to treat these co-occurring problems together (Easton et al., 2007). However, studies evaluating these treatments need to be conducted with greater methodological rigor in order to provide better evidence for effectiveness. Specifically, larger sample sizes, lower attrition rates, and meaningful control conditions would be required. Furthermore, it is unclear from the evidence whether any long-term benefits were achieved by the interventions, since none of the included studies examined outcomes beyond 12 months. Real-world implications of the findings are also unclear.



A major concern with all the studies that measured violence is the use of the Conflict Tactics Scale (Straus, 1979) as a measure of IPV perpetration. The Conflict Tactics Scale does not capture some common abusive behaviours such as control of a partner, and does not make any distinction between single acts of violence and ongoing patterns of abuse (Hegarty, Bush, & Sheehan, 2005). Although some studies utilised the revised version of this tool (CTS2)(Straus et al., 1996), incorporating a greater number and range of items, the tool still positions violence as something that occurs in the context of relationship conflict. It does not differentiate between aggressive violence and self-defence (Hegarty et al., 2005). Findings based on the CTS as a measure of IPV perpetration should therefore be interpreted with caution. Additionally, we did not include any reported findings of reductions in “psychological IPV” or “verbal aggression” using the CTS, as the scale does not capture psychological abuse as it is commonly understood by the service sector – as systematic emotional abuse of one partner by another (World Health Organization, 2013a).

From the health practitioner perspective, only one (non-RCT) study was included that focused on increased identification and referral of male perpetrators or victims of IPV (Williamson et al., 2015). Although the intervention did increase clinicians’ confidence to identify and respond to male perpetrators or victims, this did not lead to actual referrals or follow-up with patients. A pre-post comparison of documented male IPV perpetrators and victims did reveal an increase, however, the overall numbers were too small to be meaningful. More research is needed to support effective methods of identification in health settings.

There were some limitations to this review. We were only able to carry out a narrative synthesis as there were a range of study types (Ryan & Cochrane Consumers and Communication Review Group, 2013) and inconsistency across studies in how IPV was measured as an outcome. Furthermore, several studies that would have been otherwise eligible (George et al., 2011; Kraanen, Vedel, Scholing, & Emmelkamp, 2013) had to be excluded due to a failure to separate outcome data for male and female participants.

## Conclusion

This review identified an important gap in the knowledge base around effective interventions for male perpetrators or victims of IPV in health settings. Despite strong recommendations for an effective health systems response to IPV (Garcia-Moreno et al., 2015; Spangaro, 2016), this review highlights that more research needs to be done in this area to develop an evidence base around how to enact this in practice for men who are using or experiencing violence in their intimate relationships. In particular, interventions outside of alcohol-dependent populations (e.g. in primary care) need to be developed and evaluated to reach a broader population of men. Interventions for male victims are also largely absent, representing a clear gap to address in the future.

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**Table 2: Characteristics, outcomes and quality of included RCT studies**

Author, year, country, setting	Study Design	Population	Intervention/Control	Outcomes of Interest	Time Points	Completion rate	Results	Risk of Bias	Comments
Easton et al. 2007,  United States,  Outpatient substance abuse treatment facility	RCT (pilot)	78 men ≥18, alcohol dependent and arrested for IPV in past year	<b>Intervention (n=40):</b> Integrated substance Abuse + IPV CBT therapy (12 weeks, 90 minutes/week)  <b>Control (n=38):</b> Twelve-Step Facilitation substance abuse treatment (12 weeks, 90 minutes/week)	<ul style="list-style-type: none"> <li>•Addiction Severity Index (ASI)</li> <li>•Timeline Follow-Back method (TFLB), breathalyser/urine screen</li> <li>•Revised Conflict Tactic Scale (CTS2) for Couples</li> </ul>	Baseline;  12 weeks post;  6 months post	<b>Sessions/treatment:</b> I: M 8.6/12 sessions C: M 9.5/12 sessions  <b>Outcomes:</b> As per sessions	<b>Perpetration of violence:</b> No statistically significant difference between intervention & control groups in incidence of violence in past 30 days or frequency of violence, either on completion of 12 week treatment or at 6 month follow-up.  <b>Alcohol abuse:</b> Intervention group greater number of % days abstinent from alcohol during 12 week treatment (90.2 days (SD 13.7) vs 79.8 days (SD 23.1) , p <0.02)	High	Groups not balanced at baseline on physical violence; Incomplete outcome data and unclear response rates at follow-up; non-completion of treatment.
Lee et al. 2008,  United States,  Outpatient clinic	RCT	26 men cohabiting with same woman for 6 months and a history of IPV	<b>Intervention (n=13):</b> SSRI Fluoxetine 20-60mg/day for 12 weeks  <b>Control (n=13):</b> Placebo 12 weeks	<ul style="list-style-type: none"> <li>•Overt Aggression Scale Modified (OAS-M) Aggression score</li> </ul>	Baseline  Weekly for 12 weeks	<b>Sessions/treatment:</b> I: 6.5/12 weeks (SD 3.5) C: 7.9/12 weeks (SD 4.0)  <b>Outcomes:</b> As per sessions	<b>Perpetration of violence:</b> No statistically significant difference between intervention & control groups	High	Very small sample size, incomplete outcome data, and low completion rates for treatment.
Schumacher et al. 2011  United States,  Community mental health centre	RCT (pilot)	23 men, alcohol dependent, married/cohabiting and reported IPV in previous year	<b>Intervention (n=11):</b> Motivational interviewing 90mins, Self-help handouts & List of resources  <b>Control (n=12):</b> Community resource-	<ul style="list-style-type: none"> <li>•CTS2 for Couples</li> <li>•Personal Assessment of Intimacy Relationship (PAIR)</li> <li>•Change Questionnaire Version 2.1</li> <li>•Uni of Rhode Island</li> </ul>	Baseline & 2 week  3 month  6 month	<b>Sessions/treatment:</b> 100%  <b>Outcomes:</b> Baseline & 2 week  I: 100% (n=11)	<b>Perpetration of violence:</b> No significant between-group effects for self or partner reported violence.  <b>Alcohol abuse:</b> No significant between-group effects	High	Small numbers; high attrition rates; no pre-specified outcomes.

Author, year, country, setting	Study Design	Population	Intervention/Control	Outcomes of Interest	Time Points	Completion rate	Results	Risk of Bias	Comments
		16 female partners	list-only	<ul style="list-style-type: none"> <li>Change Assessment</li> <li>•Quality of Marriage Index</li> <li>•TFLB (substance use)</li> <li>•TFLB Interview-Spousal Violence</li> <li>•Pros and Cons of Partner Abuse Scale</li> <li>•State Trait Anger Expression Inventory</li> <li>•Female partner report</li> </ul>		C: 100% (n=12)  3 and 6 month (both/either)  All: 52% (n=12)	<b>Help-seeking:</b>  Intervention group sought more types of help at 2 week follow up (M=4.0(SD 1.9) vs M=2.6 (SD 1.1), t (21)-2.2, p=0.04 )		
Palmstierna et al. 2012  Norway,  Unknown	RCT	36 male perpetrators of IPV	<b>Intervention (n=20):</b> 3-4 individual contact sessions with therapist, then 15 weeks of 2-hour group CBT  <b>Control (n=15):</b> 3-4 individual contact sessions with therapist, then 4 month wait list	<ul style="list-style-type: none"> <li>•CTS (modified)</li> </ul>	Baseline  15 weeks post	<b>Sessions/treatments:</b> 72% of men recruited to the study completed the treatment.  <b>Outcomes:</b> I: 72% C: 72%	<b>Perpetration of violence:</b> Differences reported between intervention & wait list in incidence of violence overall (10/11 in control group vs 7/15 in intervention group) and physical violence (8/11 in control group vs 2/15 in intervention group), however, these numbers would normally preclude statistical significance.	High	Very small sample size
Satyanarayana et al. 2016,  India,  Hospital inpatient psychiatry service.	RCT	177 married alcoholic male patients and their wives	<b>Intervention:</b> 8 sessions of integrated CBT for IPV and alcohol abuse (n=88)  <b>Control:</b> Treatment as usual (n=89) comprising pharmacotherapy & 1 session	<ul style="list-style-type: none"> <li>•Severity of alcohol dependence questionnaire (SADQ) (perpetrator)</li> <li>•Index of Spouse Abuse (wife)</li> </ul>	Baseline  1 month  3 months	<b>Sessions/treatments:</b> 100%  <b>Outcomes:</b> I: 100% at 1 month C: 84% at 1 month  I: 99% at 3 months C: 78% at 3 months	<b>Perpetration of violence:</b> Significant between-group difference in reduction of male perpetrated IPV as reported by spouses, although effect sizes were small (M=23.5 (SD 21.3) at baseline to M=18.1 (SD 16.2) at 1 month and M=14.5 (SD 10.1) at 3 month for intervention group Vs M=22.0 (SD 10.4) at baseline to 21.0 (SD 17.7/ at 1 month and 17.4 (SD 13.5) at 3 months for TAU group)  <b>Alcohol abuse:</b> No statistically significant between-group differences in alcohol consumption.	Low	Small effect sizes; differential dropout

Author, year, country, setting	Study Design	Population	Intervention/Control	Outcomes of Interest	Time Points	Completion rate	Results	Risk of Bias	Comments
			psychoeducation						
Fals-Stewart et al. 2009  USA  Outpatient substance abuse clinic	RCT	207 men consecutively admitted to treatment program & their female partners (married/cohabiting)	<b>Intervention:</b> 12 x 1 hour sessions of partner involved behavioural couples' therapy, plus 20 sessions of individual 12-step facilitation. (n=103)  <b>Control:</b> 32 x sessions of individual 12-step facilitation (n=104)	<ul style="list-style-type: none"> <li>• TLFB (substance use)</li> <li>• Structured Clinical Interview for DSM-IV</li> <li>• TLFB (IPV) using questions from CTS</li> </ul>	Baseline  Post-treatment  Every 3 months for 1 year	<b>Outcomes:</b>  81%  <b>Sessions/Treatment:</b>  Not reported	<b>Perpetration of violence:</b> Significant between-group differences in mean % days with any violence at 12 month follow up only (1.3 (SD 1.7) vs 2.0 (SD 2.0) $p < 0.05$ ). Significant between-group differences in mean % days with severe violence at 12 month follow up only (0.3 (SD 0.4) vs 0.6 (SD 0.03) $p < 0.05$ ).  <b>Alcohol abuse:</b> Significant between-group differences in mean % days abstinent at 12 month follow up only (82.5 (SD 23.1) vs 68.4 (SD 22.4) $p < 0.05$ ).	High	Confidence intervals not reported; IPV findings not clinically meaningful; did not control for other risk-reduction strategies from female partners
Taft et al. 2016a  USA  Veterans Affairs hospital	RCT	135 male veteran/service member perpetrators & 111 female partners	<b>Intervention:</b> 12 week Strength At Home (SAH-M) CBT group program (2hrs/week). (n=67)  <b>Control:</b> "Enhanced treatment as usual" = clinical referrals & resources for mental health and IPV services (n=68)	<ul style="list-style-type: none"> <li>• CTS-2 (physical assault &amp; psychological aggression subscales), self-report and partner reported</li> <li>• Multidimensional Measure of Emotional Abuse (MMEA)</li> </ul>	Baseline  3 months  6 months	<b>Outcomes:</b>  I: 73% at 3 months (immediately post-treatment)  C: 82% at 3 months  I: 67% at 6 months (3 months post-treatment)  C: 85% at 6 months  <b>Sessions/Treatment:</b>  55% (n=37) completed SAH-M intervention and a further 30% (n=20) completed some of the program	<b>Perpetration of violence:</b> Intervention group evidenced lower physical IPV (Hedges $g = 0.44$ , 95% CI = 0.08-0.81) on the CTS2 compared to the ETAU group immediately post-treatment. Intervention group scored lower than ETAU on MMEA dimensions of: restrictive engulfment post-treatment (Hedges $g = 0.52$ , 95% CI = 0.16-0.88) and at 3 month follow up (Hedges $g = 0.61$ , 95% CI = 0.24-0.98); denigration post-treatment only (Hedges $g = 0.43$ , 95% CI = 0.07-0.79); hostile withdrawal (Hedges $g = 0.42$ , 95% CI = 0.05-0.78) at 3 month follow up only; dominance/intimidation (Hedges $g = 0.18$ , 95% CI = 0.16-0.88) post-treatment only.	High	Blinding not reported; Low completion rates;
Taft et al. 2016b  USA	RCT	69 male veterans / service members & their female partners	<b>Intervention:</b> Strength At Home Couples (SAH-C), a 10 week trauma-informed CBT program (2hr/week)	<ul style="list-style-type: none"> <li>• CTS2 (physical assault &amp; psychological aggression subscales)</li> <li>• MMEA</li> </ul>	Baseline  Post-treatment	<b>Outcomes:</b>  I: 32 veterans (86%) & 28 partners (76%) completed post-treatment assessment	<b>Perpetration of violence:</b> No statistically significant between-group findings on measures of IPV	High	Low completion rates in control group (differential dropout); small sample size; some baseline imbalances.

Author, year, country, setting	Study Design	Population	Intervention/Control	Outcomes of Interest	Time Points	Completion rate	Results	Risk of Bias	Comments
Veterans Affairs hospital		experiencing relationship distress or psychological IPV	(n=37 couples)  <b>Control:</b> Supportive prevention therapeutic group program (n=32 couples)		6 months  12 months	25 veterans (67%) & 24 partners (65%) completed 6 month  26 veterans (70%) & 25 partners (67%) completed 12 month  C: 26 veterans (81%) & 20 partners (62%) completed post-treatment assessment;  16 veterans (50%) & 18 partners (56%) completed 6 month;  15 veterans (47%) & 13 partners (40%) completed 12 month  <b>Sessions/Treatment:</b> 24 couples (65%) completed SAH-C; further 4 couples received some SAH-C  12 couples (37.5%) completed SP; 12 couples received some SP			
Raj et al. 2016  India  Family planning	RCT	1081 married couples from 50 clusters with husband aged 18-30	<b>Intervention:</b> 3 x session gender equity & family planning counselling intervention (CHARM) delivered by male HPs; 2 x sessions for male partner only and 1 x	<ul style="list-style-type: none"> <li>Physical IPV (India Demographic &amp; Health Survey, 6 items (women only))</li> <li>Sexual IPV (India Demographic &amp; Health Survey, 2 items (women</li> </ul>	Baseline  9 months  18 months	<b>Outcomes:</b> I: 83.6% at 9 months C: 82.7% at 9 months I: 84.6% at 18 months C: 80.7% at 18 months	<b>Perpetration of violence:</b> Women in the intervention group were significantly less likely to report sexual IPV than control group at 18 month follow up only (AOR 0.48, 95% CI = 0.27--0.86)	High	Some baseline imbalances; reliance on self-report data; low reporting on some outcomes; low completion rates.



Author, year, country, setting	Study Design	Population	Intervention/Control	Outcomes of Interest	Time Points	Completion rate	Results	Risk of Bias	Comments
clinic			<p>session delivered to couple (n=467)</p> <p><b>Control:</b> Government health system family planning service referral for female partner only (n=614)</p>	<p>only))</p> <ul style="list-style-type: none"> <li>• Attitudes to physical IPV (India Demographic &amp; Health Survey, 7 items (men only))</li> <li>• Attitudes to sexual IPV (India Demographic &amp; Health Survey, 1 item (men only))</li> </ul>		<p><b>Sessions/Treatment:</b></p> <p>8.7% attended no sessions, 38.8% attended male only sessions, 52.5% attended all 3 sessions</p>			

**Table 3: Characteristics, outcomes and level of evidence of included observational studies**

Author, year, country, setting	Study Design	Population	Intervention/Control	Outcomes of Interest	Time Points	Completion rate	Results	Level of Evidence	Comments
<p>O'Farrell et al. 2004</p> <p>United States,</p> <p>Veterans Affairs centre / Non-Veterans Affairs treatment program</p>	Case control study	303 couples where male partner was aged 21-65 and alcohol dependent	<p><b>Intervention:</b> 20-22 week behavioural couples therapy program. (n=303 couples)</p> <p><b>Control:</b> Demographically case matched non-alcoholic individuals drawn from 1985 National Family Violence Re-Survey (Gelles &amp; Straus)</p>	<ul style="list-style-type: none"> <li>• CTS</li> </ul>	<p>1 year</p> <p>2 year</p>	<p><b>Outcomes:</b></p> <p>1 year 88% (n=268)</p> <p>2 year 84% (n=255)</p> <p><b>Sessions/Treatment:</b></p> <p>74% of couples received 12 or fewer sessions, 17% received 13–16 sessions, 5% received 17–20 sessions, and 4% received more than 20 sessions.</p>	<p><b>Perpetration of violence:</b></p> <p>Male to female aggression reduced after BCT however prevalence and frequency of violence still higher than non-alcoholic comparison group.</p>	III-3	Unclear how well-matched comparison group was; Unclear what proportion of participants recruited from each source; Very few participants received full intervention; Effect sizes small
<p>Stuart et al. 2003,</p> <p>United States,</p>	Cohort study	26 alcohol dependent men aged 18-65 & their female partners (n=25)	<p><b>Intervention:</b> 5-6 day abstinence-oriented alcohol treatment program</p> <p><b>Control:</b> N/A</p>	<ul style="list-style-type: none"> <li>• Structured Clinical Interview (alcohol /substance use)</li> <li>• (TLFB (substance use)</li> <li>• Adapted Conflict Tactics Scale (ACTS)</li> <li>• Short Marital</li> </ul>	<p>Baseline</p> <p>6 months</p> <p>12 months</p>	<p><b>Outcomes:</b> 92%</p> <p><b>Sessions:</b> 92%</p>	<p><b>Perpetration of violence:</b></p> <p>Statistically significant reduction over time in frequency of husband-to-wife violence (incidents over 6 month period declined from 9.8 (SD 16.9) to 1.0 at 6 months (SD 2.4) and 1.3 at 12 months (SD 3.9), <math>F(2, 22) = 4.36, p &lt; .05</math>).</p>	IV	No control group; very small sample size; Large standard deviations; Did not control for any other factors in analysis

Author, year, country, setting	Study Design	Population	Intervention/Control	Outcomes of Interest	Time Points	Completion rate	Results	Level of Evidence	Comments
Not-for-profit psychiatric & substance abuse facility				Adjustment Test (SMAT) (participant and partner)			<b>Alcohol abuse:</b> Number of drinks per drinking day reduced from 12.6 (SD 12.4) at baseline to 4.2 (SD 1.9) at 6 months and 5.0 (SD 1.9) at 12 months, $F(2, 22) = 15.73, p < .001$		
Taft et al. 2013  United States,  Veterans hospital	Pilot cohort study	14 military men >18 with PTSD, in relationship within last 6 months	<b>Intervention:</b> Strength at Home: 12-session CBT group program (2 hours/week)  <b>Control:</b> N/A	<ul style="list-style-type: none"> <li>• CTS2</li> <li>• Multidimensional Measure of Emotional Abuse (MMEA)</li> </ul>	Baseline  6 months	<b>Outcomes:</b> 43%  <b>Sessions/Treatment:</b> 43%	Extremely small sample size precludes statistical significance on all outcomes.	IV	No control group; high attrition; very small sample size; no other variables controlled for.
Hayes et al. 2015  USA  Veterans Affairs Hospital	Cohort study	70 military veterans and a significant other (n=63 were men and 49% were couples)	<b>Intervention:</b> Strength At Home Friends & Family version (SAH-F), a weekly 10 session dyadic group intervention targeting relational aggression  <b>Control:</b> N/A	<ul style="list-style-type: none"> <li>• CTS2 (modified)</li> </ul>	Baseline  On completion intervention  3 months post intervention	<b>Outcomes:</b> Post-intervention: 63%  3 months: 57%  <b>Sessions/treatment:</b> 61% completed program (at least 7 sessions)	<b>Perpetration of violence:</b> No significant changes in physical aggression reported.  <b>Mental health:</b> Significant decrease in depressive symptoms from pretreatment to program completion (ESsg = -0.30, $p < 0.05$ ), but this was not sustained at follow-up. PTSD minimally decreased at all timepoints (ESsg = -0.12, $p < 0.05$ from pretreatment to posttreatment; ESsg = -0.52, $p < 0.05$ from pretreatment to follow-up; and ESsg = -0.40, $p < 0.05$ from program completion to follow-up.)	IV	No control group; high attrition; treatment fidelity not assessed
Williamson et al. 2015  United Kingdom,	Pilot cohort study	34 health practitioners	<b>Intervention:</b> 2-h practice-based training in general practice  <b>Control:</b> N/A	<ul style="list-style-type: none"> <li>• PROVIDE Intervention Measure (PIM) (clinical practice &amp; behaviours);</li> <li>• Medical record data extraction;</li> </ul>	Baseline  6 months post training	<b>Outcomes:</b> Baseline: 74%  6 months: 41%  <b>Sessions/Treatment:</b>	<b>Identification &amp; response to perpetrators or victims:</b> Pre-training: 6 patients had been identified (4 IPV perpetrators; 1 possible IPV perpetrator; 1 victim of family abuse); Post-training 17 patients were identified (2 IPV victims, 2 family abuse victims; 7 perpetrators; 4 possible perpetrators).	IV	No control group; small sample size; high attrition in completion of outcome measures; non-validated outcome measures

Author, year, country, setting	Study Design	Population	Intervention/Control	Outcomes of Interest	Time Points	Completion rate	Results	Level of Evidence	Comments
General practice				<ul style="list-style-type: none"> <li>• Referral data from RESPECT helplines;</li> <li>• Semi-structured interviews</li> </ul>		N/A	Clinicians' comfort in ability to identify and respond to male victims/perpetrators increased from baseline to post-training on all PIM items relating to men (all p values < 0.05)		

**Table 4: Risk of Bias Assessment for RCT Studies**

Author, year	Sequence generation	Allocation concealment	Blinding of participants / providers	Blinding of outcome assessment	Incomplete outcome data	Selective reporting	Other bias
Easton, 2007	L	U	U	U	H	U	L
Lee, 2008	U	L	U	U	H	U	U
Palmstierna, 2012	U	U	U	U	L	U	U
Schumacher, 2011	L	U	U	U	H	U	U
Satyanarayana, 2016	L	L	U	L	L	U	U
Fals-Stewart, 2009	U	U	U	U	L	U	U
Taft et al. 2016a	L	U	U	U	L	U	U
Taft et al. 2016b	L	U	U	L	H	U	U
Raj et al. 2016	L	U	H	H	L	U	L