CAMPBELL REVIEW:

COGNITIVE BEHAVIOURAL THERAPY FOR MEN WHO PHYSICALLY ABUSE THEIR FEMALE PARTNER

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Cover sheet

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Cognitive behavioural therapy for men who physically abuse their female partner

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Contribution of reviewers
Dalsbo and Smedslund wrote the protocol.
All reviewers independently screened literature, reviewed potential trials, and extracted data.
Smedslund analysed the data. Smedslund wrote the text of the completed systematic review. Steiro, Winsvold and Clench-Aas contributed by giving comments, assessing studies and acting as mediators if necessary. Responsibility for updating the review is jointly shared between Dalsbo and Smedslund.

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This review is co-registered within the Cochrane Developmental, Psychosocial and Learning Problems Group (Cochrane Collaboration).

**Potential conflict of interest**

None known.
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Synopsis

Cognitive behavioural therapy for men who physically abuse their female partner

Domestic violence is common and serious. Many convicted men are court-ordered to receive cognitive behavioural therapy (CBT) in order to end their violence. Most men do not voluntarily seek such therapy but participate either after being pressured by their partners or after being legally required to do so. The review sought all randomised controlled evaluations about the effects of CBT on physical violence worldwide, but found only six small trials with 2343 participants met the inclusion criteria. The evidence from the included studies is insufficient to draw any conclusions.
Abstract

Background
In national surveys between 10% and 34% of women have reported being physically assaulted by an intimate male partner. Cognitive behavioural therapy (CBT) or programmes with elements of CBT are frequently used treatments for physically abusive men. Participants either enrol voluntarily or are obliged to participate in CBT by means of a court order. CBT not only seeks to change behaviour using established behavioural strategies, but also targets the thinking patterns and beliefs that are thought to contribute to violence.

Objectives
To measure the effects of CBT and similar interventions on men's physical abuse of their female partners.

Search strategy
We searched the Cochrane Controlled Trials Register (CENTRAL), C2-SPECTR, MEDLINE, EMBASE, CINAHL, PsycINFO, ERIC, Care Data/Social Care Online, Sociological Abstracts, Criminal Justice Abstracts, Bibliography of Nordic Criminology (all to late 2006), and SIGLE to 2003. Santé mentale au Québec was handsearched from 1976 to 2003 and reference lists of articles. We also contacted field experts and the authors of included studies.

Selection criteria
Randomised controlled trials (including cluster-randomised and quasi-randomised trials) of cognitive behavioural therapy with men who physically abuse their partners and reporting effects on continued violence.

Data collection & analysis
Two review authors independently assessed trial quality and extracted data. We contacted study authors for additional information.

Main results
Six trials, all from the USA, involving 2343 people, were included. A meta-analysis of four trials comparing CBT with a no-intervention control with 1771 participants, reported that the relative risk of violence was 0.86 (favouring the intervention group) with a 95% confidence interval (95% CI) of 0.54 to 1.38. This is a small effect size, and the confidence interval is so wide that there is no clear evidence for an effect. One study (Wisconsin Study) compared CBT with process-psychodynamic group treatment and found a relative risk of new violence of 1.07 (95% CI 0.68 to 1.68). Even though the process-psychodynamic treatment did marginally better than CBT, this result is also equivocal. Finally, one small study (N = 64) compared a combined treatment for substance abuse and domestic violence (SADV) with a Twelve-Step Facilitation (TSF) group. An analysis involving 58 participants investigated the effect on reduction in frequency of physical violence episodes. The effect size was 0.30 (favouring TSF) with 95% confidence interval from -0.22 to 0.81.

Reviewers' conclusions
There are still too few randomised controlled effect evaluations to conclude about the effects of cognitive behaviour therapy on domestic violence.
Background

Violent behaviour constitutes a serious problem in societies worldwide. Intimate partner abuse is especially problematic because it takes place in the private family sphere, making it a difficult arena for intervention and help. The physical abuse of women by their male partner is a serious concern because "it affects a distressingly high percentage of the population and it results in physical, psychological, social, and economic consequences" (CDCP 2003). The World Health Organisation (WHO) reported that "the overwhelming health burden of partner violence is borne by women at the hands of men" (WHO 2002). The WHO also provided evidence about the extent of the problem: in national surveys between 10 % and 34 % of the women reported being physically assaulted by an intimate male partner (WHO 2002).

Domestic violence occurs in the family and takes many different forms, including sexual, psychological, emotional and physical abuse. In this review the focus is solely on physical abuse. Domestic violence can occur between spouses/partners and between adults and children in the family. This review focuses only on partnership abuse, and specifically on men who physically abuse their female partner or ex-partner. The term domestic violence is therefore too broad to give meaning for this review, and more useful terms are physical abuse, battering, and intimate partner abuse. Another important limitation is that this review does not focus on the causes of violent behaviour. Several biological, psychological and sociological studies have attempted to find the one answer to what causes men to commit violent actions. In general there is now more focus on the correlation of different behavioural variables leading to violence. Therefore this review sets out to include more outcome variables than strictly physical violence, for example self-esteem, substance use and emotional problems.

US batterer intervention programmes were initially introduced as an alternative to incarceration for men arrested for domestic violence. This was a controversial strategy because many policy makers/advocates felt that this diversion sent the message that abuse was a mental health problem rather than a crime, and because funding these programmes may have diverted funds from programmes for abused women. The stated goals for the batterer intervention programmes differ widely, from statistically measurable reductions in violence, to holding men accountable to preparing men to take action against the woman battering culture.

One of the most frequently used treatment programmes for physically abusive men is a psychological intervention called cognitive behavioural therapy (CBT). CBT not only seeks to change behaviour using established behavioural strategies, but also targets the thinking patterns and beliefs that are thought to contribute to violence. CBT is "designed to help the patient test certain maladaptive cognitions and assumptions" (Beck 1979). CBT techniques aim to identify thoughts and beliefs that precede violent behaviour, challenging the patterns that violent men use to justify their violence after the event. The goal is to bring about changes in the way that physically abusive men think about violence and the circumstances which lead to violence, thereby interrupting the chain of events that lead to physical abuse. The CBT can be given in individual, couple or group format. A common intervention called the Duluth Model (Pence 1993) has many cognitive-behavioural components and is included in this review.

An American review of state and provincial programmes for intervening in spouse abuse cases reported simply "the jury remains out on the effectiveness of these programmes" (Arias 2002). When spouse abusers are sent on programmes, it is important to know the positive or negative effect. If a programme does not work or has adverse outcomes, we risk putting women in danger of future abuse.

The scope of this review is to determine the effectiveness of cognitive behavioural therapy.
delivered to men engaged in physical abuse, against their female partner. A previous review of cognitive therapy (Butler 2000) for violent offenders did not include physically violent spouse abusers, but concluded that the therapy had a beneficial effect for those with problems such as marital distress and anger. To date, we know of no systematic review of the effects of CBT for men who are physically violent toward their partners that has employed a search strategy aiming to locate every randomised controlled study worldwide regarding this question. Davis and Taylor (Davis 1999) reviewed the literature but did not report a search strategy. A later review (Babcock 2004) searched only PsychINFO and used only four search terms. The results from the present review are of importance for perpetrators and victims of this form of violence, and those who seek this form of treatment for the problem, and also for therapists, researchers, the judiciary, and the general public.

Objectives
To measure the effects of cognitive behavioural therapy (CBT) and similar interventions on men's physical abuse of their female partners.

Criteria for considering studies for this review

Types of studies
Randomised controlled trials, including quasi- and cluster randomised controlled trials, were included in this review. The control group consisted of persons who received no intervention, other interventions, or were on a waiting list.

Types of participants
Men who physically abuse their female partner/spouse/wife. Primary studies where the focus is on women who abuse their partner/spouse were excluded from this review. In the event of trials having a mixed population of men who have been violent against women and those who have been violent against men, we requested data separately from the trial investigators. We recorded whether the perpetrators were living with their partners or whether they were ex-partners. Trials in which the participants attended the treatment programme voluntarily or were court-ordered to participate were included, and results were separately reported.

Types of interventions
Interventions stated by the authors to be cognitive behavioural or recognisably so (for example, Duluth Model) from the description provided. Programmes may be individual, couple or group based and delivered in any setting.

Types of outcome measures
The primary outcome measure was physically violent behaviour. We also included other violent behaviour, like verbal aggression and hostile attitudes. Other, secondary outcome measures were: improved self-esteem, reduced substance abuse and anger management. Regarding self-esteem, substance abuse, and emotional distress, these were recorded for both perpetrators and victims wherever possible. Measures of outcome data were grouped in to short follow-up time (0 to 6 months), intermediate 7 to 18 months, and long-term (19 months and beyond). Any formats for measuring the outcome were included but were separately reported (e.g. self reports, victim reports, judicial and police reports). Both standardised and unstandardised measures were included.

Search strategy for identification of studies
We searched the Cochrane Controlled Trials Register (CENTRAL) (The Cochrane Library Issue
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We handsearched Santé mentale au Québec, an online scientific journal, from 1976 to 2003. The review authors contacted field experts and the authors of retrieved studies in order to find additional studies. Conference papers were searched also, in order to minimise the threat of publication bias. Reference lists in included studies were searched for relevant literature. Studies were included regardless of language and country of origin.

Below is the search strategy used to search CENTRAL. The search strategies for the other electronic databases were modified to suit each database. They are included in Table 02, Table 03, Table 04, Table 05, Table 06, Table 07, Table 08 and Table 09.

Search strategy used in CENTRAL, The Cochrane Library Issue 4, 2006 (Sigrun Espelien Aasen)

#1MeSH descriptor Battered Women, this term only
#2MeSH descriptor Domestic Violence, this term only
#3MeSH descriptor Spouse Abuse, this term only
#4((famiily or domestic or conjugal or partner*) near/3 violence):ti,ab,kw
#5((abus* or batter*or beat* or assault*) near/3 (wom*n or partner* or spouse* or female* or wife or wives or domestic* or fiance or cohabitant* or live-in)):ti,ab,kw
#6((male* or men or man or partner* or spouse* or husband or fiance or cohabitant* or live-in) near/3 (batter* or perpetrator* or abus* or violen* or beat* or assault)):ti,ab,kw
#7(#1 OR #2 OR #3 OR #4 OR #5 OR #6)
#8MeSH descriptor Behavior Therapy, this term only
#9MeSH descriptor Cognitive Therapy, this term only
#10MeSH descriptor Psychotherapy, Rational-Emotive, this term only
#11(cognitive* near/3 (therap* or train* or techni* or question* or approach* or assessment*)):ti,ab,kw
#12((behavior* or behaviour*) near/3 (therap* or train* or modif* or experiment*)):ti,ab,kw
#13(rational* near/3 emotive*):ti,ab,kw
#14(cbt):ti,ab,kw
#15(schemas or schematas):ti,ab,kw
#16MeSH descriptor Imagery (Psychotherapy), this term only
#17(imager*):ti,ab,kw
#18((cognitive* or mental*) near/3 (map* or model*)):ti,ab,kw
#19(Socratic* near/3 (question* or method* or dialogue* or strateg* or sequence*)):ti,ab,kw
#20(dysfunctional near/2 (thought* or assumption* or rule* or appraisal* or belief* or attitude* or scheme*)):ti,ab,kw
#21(automatic near/3 (thought* or process*)):ti,ab,kw
#22(nat or nats):ti,ab,kw
#23(reattribution*):ti,ab,kw
#24((key or core) near/2 belief*):ti,ab,kw
#25(#8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24)
#26(#7 AND #25)
Methods of the review

Selection of studies
Selection of primary studies was based on the inclusion criteria described above. The Reference Manager database was transferred to SRS (software for electronic screening and data abstraction) (SRS 2005). At the first screening level, approval from a single review author took a citation to the second level, then two review authors working independently had to approve of a citation for it to be forwarded to Level 3 (and ordered in full text). Data from all relevant trials at Level 3 were extracted and presented in the 'Characteristics of included studies' table. All review authors contributed in this process. If two authors disagreed, a third author mediated, and the decision whether to include or exclude was reached through consensus.

Data extraction and management
Two review authors independently extracted data from the included studies using an online data extraction form. Any disagreement between review authors generated a conflict in SRS which had to be solved through a discussion. If disagreement persisted, a third review author was consulted. If outcome or other vital information was missing from the original reports, we contacted the author(s) by e-mail in an attempt to retrieve the necessary data for the analysis. The following data from the included studies were extracted:

- **Study characteristics**: Country where the study was conducted, year of publication, publication type (e.g. journal article, report, book chapter). Participants: age, socio-economic status, ethnicity, previous history of violent behaviour and treatment for it, current substance abuse, additional problems/disorders, and marital status.

- **Intervention**: content, duration/time, profession of person delivering the programme (or intervention), gender and number of therapist(s)/group leader(s), support for women, the degree of mandatory delivery, attrition, adherence, type of comparison group (no intervention, other intervention).

- **Type of outcome measure**: physical violence, aggression, self-esteem, substance abuse and managing anger.

- **Source of outcome data**: official statistics; self-reports, partner report, or other forms for gathering outcome data.

- **Length of follow-up time**: months and years.

- **Effect measures**: standardised or unstandardised measures or raw data or both.

Quality assessments of included studies
Since "variation in validity can explain variation in the results of the studies included in a systematic review" (Higgins 2005) we assessed the internal validity of included studies. Two review authors independently assessed each selected study against quality categories described below. Uncertainty or disagreement was solved by discussion with a third reviewer. The review authors were not blinded to the authors or other information about the publication when assessing study validity. Whenever information about study quality, or other information about the study, was missing, we contacted the author(s) of the study, to minimise the danger of measuring the quality of the reporting, rather than of the study. Our aim was to get an overall assessment of internal validity based on a summary of the following six methodological criteria.

Generation of allocation sequence
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MET = Resulting sequences are unpredictable (explicitly stated use of either computer-generated random numbers, table of random numbers, drawing lots or envelopes, coin tossing, shuffling cards, or throwing dice).
UNCLEAR = Statement that the study was randomised but not describing the generation of the allocation sequence.
NOT MET = Explicit description of inadequate generation of sequence, e.g. (e.g., using case record numbers, alternation, date of admission, date of birth).

Concealment of allocation sequence
MET = Neither participants nor investigators can foresee assignment (e.g. central randomisation performed at a site remote from trial location; or, use of sequentially numbered, sealed, opaque envelopes).
UNCLEAR = Statement that the study was randomised but not describing the concealment of allocation.
NOT MET = Explicit statement that allocation was not concealed OR statement indicating that participants and investigators can foresee upcoming assignment (e.g., open allocation schedule, unsealed or non-opaque envelopes).

Prevention of performance bias
MET = Interventions other than cognitive behavioural programmes avoided or controlled for across comparison groups.
UNCLEAR = Use of interventions other than cognitive behavioural programmes not reported and cannot be verified by contacting the investigators.
NOT MET = Dissimilar use of interventions other than cognitive behavioural programmes across comparison groups, i.e. differences in the care provided to the participants in the comparison groups other than the intervention under investigation.

Prevention of detection bias
MET = Assessor unaware of the assigned treatment when collecting outcome measures
UNCLEAR = "Blinding" of assessor not reported and cannot be verified by contacting investigators.
NOT MET = Assessor aware of the assigned treatment when collecting outcome measures.

Prevention of attrition bias
MET = Losses to follow up less than 20% and equally distributed (as judged by two reviewers) between comparison groups (e.g. 18% and 16%).
UNCLEAR = Losses to follow up not reported.
NOT MET = Losses to follow up 20% or greater, or not equally distributed (as judged by two reviewers) between comparison groups.

Intention-to-treat
MET = Intention to treat analysis performed or possible with data provided.
UNCLEAR = Intention to treat not reported, and cannot be verified by contacting the investigators.
NOT MET = Intention to treat analyses not done and not possible for reviewers to calculate independently.

Data analysis and presentation
We expressed binary outcome measures (for example, violent/not violent) as risk ratios (relative risks). Continuous measures were calculated as mean differences or (when different scales were used) standardised mean differences. We reported the 95% confidence intervals for all of the above.
If the primary studies were sufficiently homogenous, we performed a fixed-effect meta-analysis. Homogeneity was tested with the Q-test (Chi-square, P-value) and we measured degree of heterogeneity with I^2 (I-squared, Higgins 2002). But a decision did not rest solely on the outcome of these procedures. In addition to the formal procedures, we also took into account common sense, the nature of the measures, etc. If there was statistically significant heterogeneity among studies' effect sizes, a random-effects model was used. Effect sizes were pooled across studies using the DerSimonian and Laird method for random-effect models. For fixed-effect models we used the Mantel-Haenszel method for dichotomous data (except for data analysed using Peto's method) or the inverse variance method for continuous or generic inverse variance data. We also checked forest plots for detecting heterogeneity.

**Cluster-randomised trials**

No such trials were identified in this version of the review. See Table 10 for plans for future updates.

**Dealing with dependent outcomes**

In some primary studies, several different outcomes are measured on the same participants. Sometimes the same outcome is measured at multiple points in time. As these data are from the same sample of participants, and, therefore, are not independent estimates of treatment effect, we aimed to analyse the data in such a way that any analysis contained a single, most recent, outcome (one measure from a single point in time) from each sample. The rationale for using the most recent outcome was that we opted for the longest possible follow-up time. In cases with several treatment arms, we compared only one of the treatment arms with the control group. The decisions and rationale for this are reported separately for each study in the Results section.

**Heterogeneity**

When there was statistically significant heterogeneity among primary outcome studies, the following factors were considered as possible explanations: voluntary or mandatory participation, intensity or length/period of the intervention, and differences in participant characteristics. If the primary studies were too heterogeneous to be grouped according to these characteristics, a meta-analysis was not performed. If there were many primary studies, we classified them according to these variables in order to identify possible sources of heterogeneity. We considered performing moderator analyses (stratification on subgroups, meta-analysis analogue to ANOVA, meta-regression) to explore how observed variables were related to heterogeneity.

**Assessment of publication bias**

We used a funnel plot (Fig 01 - Funnel plot) to explore the likelihood of publication bias. Asymmetry of the funnel plot may indicate possible publication bias in this review, but may also indicate other methodological or sample size issues within the trials. If asymmetry of the funnel plot was found, the clinical diversity of the studies was examined (Egger 1997).

**Sensitivity analyses**

Sensitivity analysis was inappropriate for this version of the review. See Table 10 for plans for future updates.

**Description of studies**

**Results of the search.** From the initial search, 1969 records were identified, of which 1724 records were excluded as clearly irrelevant. Of the remaining 245 possibly relevant records, 75 were identified for further examination.
Included studies. After reading the full text reports, 12 records were included. They reported results from six randomised trials conducted in the USA. None of the studies were cluster-randomised. There were two types of comparisons; four studies compared CBT with a non-intervention control, while two studies compared CBT with another active treatment (See Fig 02 - Flowchart).

CBT versus Control.
In the Bronx Exp. 2005 (Bronx Exp. 2005), 420 convicted male domestic violence offenders were randomised into four experimental conditions: (1) batterer programme plus monthly judicial monitoring, (2) batterer programme plus graduated monitoring, (3) monthly monitoring only, and (4) graduated monitoring only. The model assumes that battering is rooted in societal norms that support male abuse of women. In order to measure the effect of the batterer programme we chose to combine the two groups receiving the batterer programme with the two other groups not receiving the batterer programme. The men were tracked for 12 months after court-ordering, and for up to eighteen months for most of them. The programme was in a group format and lasted for 26 weeks.

In the Brooklyn Exp. 2000 (Brooklyn Exp. 2000), 376 court-mandated offenders were randomly assigned to batterer treatment or to a treatment irrelevant to the violence problem (40 hours of community service). The length of the batterer treatment was 39 hours, but some men were assigned to complete the treatment in 26 weeks and others in 8 weeks. Interviews with victims and offenders were attempted at six and twelve months after the court-order date. Records of criminal justice agencies were also checked to determine if new crime reports or arrests had occurred involving the same defendant and victim.

A total of 404 men convicted of misdemeanour in Broward County, Florida (Broward Exp. 2000) were randomly assigned to a batterer programme using the Duluth Model or to a control group involving one year probation. The Duluth Model includes a feminist, cognitive psychoeducational curriculum provided in a group session. Its intent is to help domestic violence offenders develop an understanding of how battering is part of a range of male behaviours that seek to control women. The researchers hypothesised that men with a high stake in conformity would have a lower likelihood of recidivating than those with a low stake in conformity. The offenders were interviewed at time of adjudication and six and twelve months post-adjudication. Probation records and computer checks with the local police for all new arrests were used to track the defendants for one-year post-adjudication.

The largest study in this review was conducted in the military (San Diego Navy 2000). Participants were servicemen in the navy who had been substantiated as having physically assaulted their wives. The 861 couples in the study were randomly assigned to four groups: a men's group (N = 218), a conjoint group (the men participating with their wives) (N = 216), a rigorously monitored group (N = 213), and a control group (N = 214). The men's group met weekly for six months and then monthly for another six months and included both didactic and process activities. In the didactic part of the sessions, group leaders addressed perpetrator attitudes and values regarding women and violence toward women and taught the men a variety of skills thought to be important to the successful elimination of the continued abuse of women (e.g. cognitive restructuring, empathy enhancement, communication skills, anger modification, and jealousy). The process part of the sessions involved dealing with issue raised in the didactic segments of the session as well as with other issues that emerged. The conjoint group was similar to the men's group except for the presence of wives. The rigorously monitored group was formed based on a "stake in conformity" strategy to determine if male perpetrators held accountable for their abusiveness toward their wives, using systematized and official monitoring procedures, would stop the continued abuse. The interventions were cognitive-behavioural and outcome data
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were collected both from the male servicemen and their female partners at roughly six-month intervals over the approximate 18-month experimental period. The interventions lasted for 12 months. We chose to compare the men's group with the control group because we thought that this comparison would be the most similar to the other included studies.

CBT versus Other therapy
In one study (Wisconsin Study 1996), 218 men were randomly assigned to receive either feminist-cognitive-behavioural group treatment (FCBT) or process-psychodynamic group treatment (PPT). FCBT focused on progressive relaxation, using coping thoughts, and becoming aware of feelings. PPT focused on childhood losses and rejections, childhood experience with violence and emotional safety in the group. FCBT also used leader role-play, lectures and giving advice, while PPT emphasised self-disclosure. Treatment integrity was verified through audi-taped recordings of each session. The partners of 79% of the 136 treatment completers gave reports of the men's behaviour an average of two years post-treatment. There were also arrest records and self-reports by the men.

One study (Yale Study 2007), which was conducted in the state of Connecticut, randomly assigned substance dependent offenders with reported intimate partner violence to one of the following interventions: A 12-week substance abuse & domestic violence group (grounded in CBT) (N = 32) or a 12-week twelve-step facilitation group (N = 32). Data were collected using the SCID (Structured Clinical Interview for DSM-IV-TR), Addiction Severity Index, Substance Abuse Calendar, Conflict Tactics Scale Revised, breath samples, urine toxicology screens, and collateral reports from female partners at baseline, monthly, and post-treatment periods.

Methodological quality of included studies
All included trials were reported as randomised and the method of randomisation was adequate in four out of the six studies. Concealment of allocation was judged as adequate in three studies (Bronx Exp. 2005; San Diego Navy 2000, Yale Study 2007). In four studies it was clear that there were no systematic differences in treatment between groups aside from the experimental intervention (low risk of performance bias). Detection bias was unclear in all studies except for Yale Study 2007, that is, it was not clear whether the persons collecting the results were blind to treatment group allocation. It should be noted, however, that this may not be important whenever the outcomes are written criminal justice records. There were high or unclear attrition in five out of six studies. Only the Navy (San Diego Navy 2000) managed to keep most of the participants in the intervention. Intention-to-treat was met in all studies. The randomisation was frequently compromised by judges overriding the allocation because they did not want certain of the defendants to be in the control group. In sum, all studies had a high risk of bias except for the San Diego Navy 2000 Experiment (San Diego Navy 2000) which we judged to have a moderate risk of bias.

Results
CBT versus Control
Proportion new violence
The relative risk of 1.96 in the Bronx Exp. 2005 (Bronx Exp. 2005) indicated that CBT had a harmful effect on new violence, but the 95% confidence interval from 0.96 to 3.99 was wide and not statistically significant. The CBT in the Brooklyn Exp. 2000 (Brooklyn Exp. 2000) had a clearly positive effect on new violence (relative risk: 0.39, 95% CI 0.23 to 0.67). This means that the intervention on average reduced violence by 61% relative to the control group. The relative risk in the Broward Exp. 2000 (Broward Exp. 2000) was 1.01 (no effect) with 95% confidence interval from 0.71 to 1.42. The results of the San Diego Navy 2000 Study (San Diego Navy 2000) showed a positive effect of the intervention compared to the control group (relative risk 0.82), but
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In summary, four of the six included studies compared CBT with a control group looking at new violence. The effects were heterogeneous, with large effects in both directions. Only one study (Brooklyn Exp. 2000) showed a statistically significant effect, and it was positive. A meta-analysis involving 1771 men showed a risk ratio of 0.86, but the 95% confidence interval included zero difference (from 0.54 to 1.38).

CBT versus Other therapy

Wisconsin Study 1996 (FCBT versus PPT)

Proportion new violence
The risk ratio (1.07) of the Wisconsin Study 1996 (Wisconsin Study 1996) was not statistically significant (95 percent confidence interval from 0.68 to 1.68).

Yale Study 2007 (SADV versus twelve step facilitation)

Frequency of new violence
In the Yale study (Yale Study 2007), the mean number of reported violent episodes per month was higher at post-treatment in the SADV group (0.95) than in the TSF group (0.73). This corresponds to a standardised mean difference of 0.30 (95% CI: -0.22 to 0.81).

Presence of new violence
There were reports of violence for three of the men in the SADV group and for two men in the TSF group. This corresponds to a risk ratio of 1.50 (95% CI: 0.27 to 8.32).

Discussion
There have been few randomised evaluations of cognitive behavioural therapy for men who physically abuse their female partner. All such studies have so far been conducted in the USA. The studies also have relatively small sample sizes, the largest study having 861 participants. This review has employed an extensive search strategy with no restrictions on publication language or geographical region. Because there were so few studies, we could not model sources of heterogeneity using e. g. meta-regression or stratified analyses. Only one meta-analysis was performed. The results were inconsistent and heterogeneous, but there was no clear evidence for publication bias (Figure 01). The number of studies in this funnel plot (N = 4) is, however, so small that great caution should be taken in its interpretation. The methodological quality of the included studies was generally low (Table 01). The concealment of the random allocation sequence was mostly unclear or not met. Furthermore, it was mostly unclear whether the assessors of the results were aware of group allocation. Finally, the attrition was either unclear or high. Unclear concealment of allocation and high attrition both contribute to high risk of selection bias, but blinding of the assessors is probably not of serious concern because criminal justice records are in written form.

Two anonymous peer-reviewers pointed to a number of issues pertaining to contemporary US debates which should be mentioned here. The partners of the male perpetrators were offered some support. This support might have made the partners more able to report new violence, independently of the effect of the interventions on the men. This review focuses exclusively on effects on physical violence. But even where interventions may have an impact on physical violence, perpetrators may continue or possibly increase the use of emotionally controlling behaviours (Dobash 2000). Reliance on criminal justice records is also problematic because much violence is never recorded by the police. Some authors have been worried about whether assignment to a batterer intervention programme actually sends an implicit message that
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contradicts its official aim, namely that battering will not be taken seriously. This raises another debate: although some form of monitoring for compliance was present in all of the studies reviewed, sanctions for noncompliance are very rare. Moreover, the issue of attendance versus drop-out raises the important issue of selection bias, namely whether men who complete programmes are more motivated to stop their violence than those who never attend or drop out. While randomised controls should eliminate selection bias, the poor ways in which compliance is monitored suggest this may not be so. This review focuses on behaviour change, but many programmes actually view behavioural change as unlikely. They focus more on message sending and re-education or education.

CBT is a broad category that encompasses many different approaches. The most widely used model in the US, the Duluth Model, is included in this review because it has components of CBT. Not to include this model would eliminate most batterer intervention programmes in the US. But the fact that it has such components does not mean that everyone recognises it as a form of CBT. The Duluth Model includes strong elements of anti-sexist messaging, for instance, whereas traditional CBT approaches do not.

Care should be taken when generalising the results of this review to other parts of the world. First, there may be different baseline risk of violence across populations. Second, the motivation to comply with the treatment might vary greatly across populations of violent men. Men have different reasons for being in therapy. Their wives might have threatened to leave them if they do not enter therapy, or the men might have been court-ordered to take part. The men differ in their degree of stake in conformity, and such variables (employment and age) have predicted both attendance at treatment and re-offending (Broward Exp. 2000).
Reviewers' conclusions

Implications for practice
The research evidence is insufficient to draw conclusions about the effectiveness of cognitive behavioural interventions for spouse abusers in reducing or eliminating male violence against female partners. Note that this does not mean that there is evidence for no effect. We simply do not know whether the interventions help, whether they have no effect, or whether they are harmful.

Implications for research
In the USA, and in other countries, there is a need for more, and larger-scale, randomised interventions. This has been possible in other fields, such as welfare-to-work (Smedslund 2006), where the weight of evidence involves randomised evaluations with more than 400,000 participants. Each primary study has randomised several thousands of participants. In the rest of the world there has been a complete lack of randomised interventions. Such interventions are highly needed in order to estimate the effects of CBT on domestic violence, even though this might not be as easy to accomplish with domestic violence as it was with welfare-to-work.
## Characteristics of included studies

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Methods</th>
<th>Participants</th>
<th>Interventions</th>
<th>Outcomes</th>
<th>Notes</th>
<th>Allocation concealment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronx Exp. 2005</td>
<td>Randomised controlled trial. 2x2 factorial design. Register data. Interviews.</td>
<td>420 offenders arraigned on a domestic violence misdemeanour, convicted of a violation, and sentenced to conditional discharge with a one-year protection order in favor of the victim. The mean age was 30.8 years, and there were 40% Blacks, 42% Hispanics, and 18% White or other ethnic group.</td>
<td>Four different interventions; (1) batterer program + monthly monitoring, (2) batterer program + graduated monitoring, (3) only monthly monitoring, (4) only graduated monitoring. The batterer program lasted for 26 weeks with classes meeting weekly for 75 minutes.</td>
<td>Official re-arrests, victim reports of re-abuse, victim satisfaction</td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Brooklyn Exp. 2000</td>
<td>Randomised controlled trial. Interviews with batterers and victims at 6 and 12 months after the sentence date. In addition, records of criminal justice agencies were checked for new crime reports or arrests.</td>
<td>376 court-mandated batterers.</td>
<td>39 hours of class time. Some were assigned to complete the treatment in 26 weeks and others in eight weeks. Men assigned to the control condition were sentenced to 40 hours of community service. The intervention included defining domestic violence, understanding historical and cultural aspects of domestic abuse and reviewing criminal/legal issues. Batterers were encouraged to take responsibility for their anger, actions, and reactions.</td>
<td>Proportion violent</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>Broward Exp. 2000</td>
<td>Randomised controlled trial. Outcomes were collected by means of interviews with Men (N=404) convicted of misdemeanor domestic violence in Broward County</td>
<td>Duluth Model, which is a feminist, cognitive psychoeducational</td>
<td>Differences between the groups at time of adjudication (Time 1), at least 6-months</td>
<td>Predicted that having a stake in conformity would predict when an intervention will be</td>
<td></td>
<td>C</td>
</tr>
</tbody>
</table>
Cognitive behavioural therapy for men who physically abuse their female partner

<table>
<thead>
<tr>
<th>San Diego Navy 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Randomised controlled trial. Sample selection took 46 months. A computer did the randomisation to one of four groups: a men's group, a conjoint group, a rigorous assessment group, or a control group.</td>
</tr>
<tr>
<td>861 married U.S. Navy couples in which active-duty husbands were substantiated as having physically assaulted their wives. Mean age was 27 years. Mean length of marriage was 47 months. 83% had a mean of 1.7 children. Mean number of school years was 12.6.</td>
</tr>
<tr>
<td>The men's group, which used a cognitive-behavioural model of change, met weekly for 6 months and then monthly for another 6 months, for a total of 1-year treatment period. The conjoint group also had 26 weekly sessions that included both didactic and process activities followed by six monthly sessions. The main difference from the men's group was the presence of wives. The rigorous monitoring group attempted to hold perpetrators accountable for their abusiveness. Every six weeks a record search was completed to determine if perpetrators had been arrested or referred to court anywhere in San Diego County. Wives</td>
</tr>
<tr>
<td>Four types of outcome measures were used. A self-reported episodic measure assessed the number of incidents or episodes in which a victim or perpetrator reported being abused across three different levels of abuse. The second outcome measure, the Modified Conflict Tactics Scale focused on types of abusive behaviours as reported by respondents. The third outcome measure consisted of official police and court records for all respondents (both victims and perpetrators) living within the boundaries of San Diego County. The fourth outcome measure focused on the date of the first instance in which a repeat case of spouse</td>
</tr>
</tbody>
</table>

Batterers and victims, and police records of repeat violence. during a 5-month period in 1997. curriculum provided in 26-week group sessions. Men in the control group were sentenced to 1 year's probation. postadjucation (Time 2), and changes between Time 1 and Time 2 were examined. Offender attitudes, beliefs, and self-reported behaviours were collected from the offenders. The men answered the revised Conflict Tactics Scale. effective in reducing the likelihood of subsequent violence. There was controversy in the community around randomizing men into a spouse abatement programme. This led to low victim response rates, high staff turnover, delays, and other problems.
Cognitive behavioural therapy for men who physically abuse their female partner

<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Participants</th>
<th>Treatment</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wisconsin Study 1996</td>
<td>Randomised controlled trial</td>
<td>218 men who had been referred by the criminal justice system and accepted for treatment at a family counselling agency that was certified as an outpatient mental health clinic.</td>
<td>Feminist-cognitive behavioural (FCBT) or process-psychodynamic (PPT) group treatments. The FCBT condition followed a highly structured format. Agendas and homework assignments were included in each session. Each session included a didactic session on communication and cognitive skills, relaxation/desensitization training, consciousness raising about sex roles and violence against women, and behavioural or cognitive rehearsal. The PPT did not use agendas but focused on building trust and a sense of safety, uncovering childhood traumas and reconnecting with traumatic childhood events.</td>
<td>The partners of 79% of the 136 treatment completers gave reports of the men's behaviour an average of 2 years post-treatment. These reports were supplemented with arrest records and self-reports.</td>
</tr>
<tr>
<td>Yale Study 2007</td>
<td>Randomised controlled trial</td>
<td>Substance dependent offenders (N = 64) with a history of substance abuse and domestic violence.</td>
<td>A 12 week Substance Abuse &amp; Domestic Violence group</td>
<td>Data were collected using the SCID, Addiction Severity Inventory.</td>
</tr>
</tbody>
</table>

Hypothesised that the feminist-cognitive-behavioural model is best suited to men with antisocial traits and that the process-psychodynamic model is most suited for men with moderate to high level of dependency needs because they are much more likely to engage in group process and methods for enhancing self-awareness.
history of intimate partner violence. Mean age was 38 and they had the following racial composition: 49% Caucasian, 33% African American, 10% Hispanics, and 8% other. (grounded in CBT (N = 32) or a 12 week Twelve Step Facilitation group (N=32).)

Index, Substance Use Calendar, Conflict Tactics Scale Revised, breath samples, urine toxicology screens, and collateral reports from female partners at baseline.
Characteristics of excluded studies

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Reason for exclusion</th>
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<tr>
<td>Bern 1984</td>
<td>Not an intervention study</td>
</tr>
<tr>
<td>Currie 1983</td>
<td>Not RCT. Not CBT.</td>
</tr>
<tr>
<td>Currie 1985</td>
<td>Not RCT. Not CBT.</td>
</tr>
<tr>
<td>Deschner 1986</td>
<td>Not RCT</td>
</tr>
<tr>
<td>Dowden 1999</td>
<td>Not RCT</td>
</tr>
<tr>
<td>Dutton 1986</td>
<td>Not RCT</td>
</tr>
<tr>
<td>DVFCT Program 2004</td>
<td>Subjects were randomised to individual couple therapy or to multi-couple group therapy. Random assignment was not applied in creating the comparison group.</td>
</tr>
<tr>
<td>Easton 2006</td>
<td>Not an intervention study</td>
</tr>
<tr>
<td>Echeburúa 1997</td>
<td>Not RCT</td>
</tr>
<tr>
<td>Eckhardt 2004</td>
<td>Not RCT</td>
</tr>
<tr>
<td>Edleson 1990</td>
<td>Not CBT</td>
</tr>
<tr>
<td>Edleson 1991</td>
<td>Review. Not CBT.</td>
</tr>
<tr>
<td>Elliott 2003</td>
<td>Not RCT</td>
</tr>
<tr>
<td>Fals-Stewart 2001</td>
<td>Wrong participants</td>
</tr>
<tr>
<td>Fals-Stewart 2002</td>
<td>Not RCT</td>
</tr>
<tr>
<td>Fals-Stewart 2005</td>
<td>Not an intervention study</td>
</tr>
<tr>
<td>Flournoy 1992</td>
<td>The study was not randomized.</td>
</tr>
<tr>
<td>Goldkamp 1996</td>
<td>Not CBT</td>
</tr>
<tr>
<td>Gondolf 1985</td>
<td>Review</td>
</tr>
<tr>
<td>Gondolf 2000</td>
<td>Not RCT</td>
</tr>
<tr>
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<tr>
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<tr>
<td>Gondolf 2005</td>
<td>Not RCT</td>
</tr>
<tr>
<td>Gray 2004</td>
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</tr>
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<td>Hamberger 1989</td>
<td>Not RCT</td>
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<table>
<thead>
<tr>
<th>Reference</th>
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<tr>
<td>Hanson 2003</td>
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<tr>
<td>Harrell 1991</td>
<td>Not RCT</td>
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<td>Harris 1981</td>
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<tr>
<td>Hendricks 2006</td>
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<tr>
<td>Howard County 2003</td>
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</tr>
<tr>
<td>Johnston 1985</td>
<td>Not RCT</td>
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<tr>
<td>Jones 2001</td>
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<td>Jones 2002</td>
<td>Not CBT</td>
</tr>
<tr>
<td>Kriner 1988</td>
<td>Not RCT</td>
</tr>
<tr>
<td>Lanza 2002</td>
<td>Wrong participants</td>
</tr>
<tr>
<td>Lawson 2006</td>
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<tr>
<td>Leonard 2005</td>
<td>Editorial</td>
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<td>Loza 1999</td>
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<td>McAllister 2003</td>
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<td>New Zealand 2005</td>
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<td>Not RCT</td>
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<td>O'Farrell 1995</td>
<td>Not RCT</td>
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<tr>
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<tr>
<td>Palmer 1992</td>
<td>Not CBT</td>
</tr>
<tr>
<td>Pressman 1983</td>
<td>Not RCT</td>
</tr>
<tr>
<td>Rosenbaum 1997</td>
<td>Not RCT. Probably not CBT</td>
</tr>
<tr>
<td>Satel 2001</td>
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</tr>
<tr>
<td>Schuerger 1988</td>
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### Cognitive behavioural therapy for men who physically abuse their female partner

<table>
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<th>Study</th>
<th>Findings</th>
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<td>Sullivan 1990</td>
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<td>Taft 2004</td>
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<td>Taylor 1984</td>
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<td>Wrong participants, Not RCT</td>
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<td>Upshaw 2005</td>
<td>The outcomes were symptomatic distress,</td>
</tr>
<tr>
<td></td>
<td>interpersonal relations, social role</td>
</tr>
<tr>
<td></td>
<td>adjustments, and well-being, not whether the</td>
</tr>
<tr>
<td></td>
<td>men ceased to beat their partners.</td>
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<td>Wade 1985</td>
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<tr>
<td>Weidman 1986</td>
<td>Not an intervention study</td>
</tr>
<tr>
<td>Williams 1995</td>
<td>Not RCT, Probably not CBT</td>
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</table>
References to studies

Included studies

**Bronx Exp. 2005**  
Labriola M, Rempel M, Davis RC. Testing the Effectiveness of Batterer Programs and Judicial Monitoring: Results from a Randomized Trial at the Bronx Misdemeanor Domestic Violence Court. New York, NY: Center for Court Innovation, 2005.

**Brooklyn Exp. 2000**  


**Broward Exp. 2000**  


**San Diego Navy 2000**  


**Wisconsin Study 1996**  

**Yale Study 2007**  
{unpublished data only}
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Excluded studies

Bern 1984

Currie 1983

Currie 1985

Deschner 1986

Dowden 1999

Dutton 1986

DVFC T Program 2004

Easton 2006
{published data only}
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**Echeburúa 1997**


**Eckhardt 2004**


**Edleson 1990**


**Edleson 1991**


**Elliott 2003**


**Fals-Stewart 2001**


**Fals-Stewart 2002**


**Fals-Stewart 2005**


**Flournoy 1992**

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Goldkamp 1996


Gondolf 1985


Gondolf 2000


Gondolf 2001


Gondolf 2004


Gondolf 2005


Gray 2004


Hamberger 1989


Hanson 2003


Harrell 1991

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**Harris 1981** {published data only}


**Hendricks 2006** {published data only}


**Howard County 2003** {published data only}


**Johnston 1985** {published data only}


**Jones 2001** {published data only}


**Jones 2002** {published data only}


**Kriner 1988** {published data only}


**Lanza 2002** {published data only}

Lanza ML, Anderson J, Boisvert CM, LeBlanc A, Fardy M, Steel B. Assaultive behavior intervention in the Veterans Administration: psychodynamic group psychotherapy compared to

Lawson 2006


Leonard 2005

Leonard KE. Alcohol and intimate partner violence: when can we say that heavy drinking is a contributing cause of violence? Addiction 2005;100:422-25.

Loza 1999


McAllister 2003


Moore 1994


Morrel 2000


Morrel 2003


New Zealand 2005


Nosko 1988


O'Farrell 1995

{published data only}
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O'Farrell 2004


Palmer 1992


Pressman 1983


Rosenbaum 1997


Satel 2001


Sherman 1991


Sherman 1984


Sherman 1983


Shupe 1987

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**South Florida 2002**


**Stacey 1984**


**Sullivan 1990**


**Taft 2004**


**Taylor 1984**


**Tennant 1998**


**Upshaw 2005**

Upshaw R. The efficacy of thought field therapy as an adjunct treatment modality for male domestic-violence perpetrators with domestic abuse in their family of origin. Minneapolis, MN: Walden University, 2005.

**Wade 1985**


**Watt 1999**


**Weidman 1986**

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**Williams 1995**


**Studies awaiting assessment**

**Rathus 2006**


*indicates the primary reference for the study*
Other references

Additional references

Arias 2002


Babcock 2004


Beck 1979


Butler 2000


CDCP 2003


Davis 1999


Dobash 2000


Egger 1997


Higgins 2002

Higgins 2005


Pence 1993


Smedslund 2006


SRS 2005

SRS. Version 3.0 [Computer program]. Ottawa, Ontario, Canada: Trialstat, 2005.

WHO 2002

World Health Organization. Intimate partner violence.
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Table of comparisons

01 CBT versus control
   01 Proportion new violence

02 CBT versus other therapy
   01 Proportion new violence
   02 Frequency of violence
   03 Any violence
## Additional tables

### 01 Quality assessment

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<tr>
<th>Study name</th>
<th>Allocation sequence</th>
<th>Allocation conceal</th>
<th>Performance bias</th>
<th>Detection bias</th>
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<th>Intention-to-treat</th>
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<tbody>
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</table>

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Additional tables

02 MEDLINE search strategy

MEDLINE

Database: MEDLINE 1966 to September Week 3 2006
Date: 05.10.2006
Search by Sigrun Espelien Aasen
Number of hits: 26
Search strategy in OVID : CBT_Medline 041006

1. Battered Women/
2. domestic violence/ or spouse abuse/
3. ((family or domestic or conjugal or partner) adj3 violence).tw.
4. ((abus$ or batter$ or beat$ or assault$) adj3 (wom?n or partner$ or spouse$ or female$ or wife or wives or domestic$ or fiancé or cohabitant$ or live?in)).tw.
5. ((male$ or men or man or partner$ or spouse$ or husband or fiancé or cohabitant$ or live?in) adj3 (batter$ or perpetrator$ or abus$ or violen$ or beat$ or assault$)).tw.
6. or/1-5
7. behavior therapy/ or cognitive therapy/
8. psychotherapy, rational-emotive/
9. (cognitiv$ adj3 (therap$ or train$ or techni$ or question$ or approach$ or assessment$)).tw.
10. (behavio?r$ adj3 (therap$ or train$ or modif$ or experiment$)).tw.
12. cbt.tw.
13. (schemas or schematas).tw.
14. "Imagery (Psychotherapy)"/
15. imager$.tw.
16. ((cognitive$ or mental$) adj3 (map$ or model$)).tw.
17. (socratic$ adj3 (question$ or method$ or dialogue$ or strateg$ or sequence$)).tw.
18. (dysfunctional adj2 (thought$ or assumption$ or rule$ or appraisal$ or belief$ or attitude$ or scheme$)).tw.
19. (automatic adj3 (thought$ or process$)).tw.
20. (nat or nats).tw.
21. reattribution$.tw.

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<td>22.</td>
<td>((key or core) adj2 belief$).tw.</td>
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<td>23.</td>
<td>or/7-22</td>
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<td>24.</td>
<td>6 and 23</td>
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## Additional tables

### 03 EMBASE search strategy

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<td>Number of hits: 112</td>
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Search strategy for OVID: CBT_Embase 041006

1. exp domestic violence/ or battered woman/ or family violence/ or partner violence/  
2. ((familiy or domestic or conjugal or partner) adj3 violence).tw.  
3. ((abus$ or batter$ or beat$ or assault$) adj3 (wom?n or partner$ or spouse$ or female$ or wife or wives or domestic$ or fiancé or cohabitant$ or live?in)).tw.  
4. ((male$ or men or man or partner$ or spouse$ or husband or fiancé or cohabitant$ or live?in) adj3 (batter$ or perpetrator$ or abus$ or violen$ or beat$ or assault$)).tw.  
5. or/1-4  
6. behavior therapy/ or cognitive therapy/  
7. behavior modification/  
8. (cognitiv$ adj3 (therap$ or train$ or techni$ or question$ or approach$ or assessment$)).tw.  
9. (behavio?$ adj3 (therap$ or train$ or modif$ or experiment$)).tw.  
11. cbt.tw.  
12. (schema$ or schemata$).tw.  
13. imagery/  
14. imager$.tw.  
15. ((cognitiv$ or mental$) adj3 (map$ or model$)).tw.  
16. (socratic$ adj3 (question$ or method$ or dialogue$ or strateg$ or sequence$)).tw.  
17. (dysfunctional adj2 (thought$ or assumption$ or rule$ or appraisal$ or belief$ or attitude$ or scheme$)).tw.  
18. (automatic adj2 (thought$ or process$)).tw.  
19. (nat or nats).tw.  
20. reattribution$.tw.  

---

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21.((key or core) adj2 belief$).tw.
22.or/6-21
23.5 and 22
24.limit 23 to yr="2005 - 2006"
# Additional tables

## 04 CINAHL search strategy

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<tbody>
<tr>
<td><strong>CINAHL</strong></td>
</tr>
<tr>
<td><strong>Database:</strong> CINAHL - Cumulative Index to Nursing &amp; Allied Health Literature</td>
</tr>
<tr>
<td><strong>1982 to September Week 5 2006</strong></td>
</tr>
<tr>
<td><strong>Date:</strong> 05.10.2006</td>
</tr>
<tr>
<td><strong>Search by Sigrun Espelien Aasen</strong></td>
</tr>
<tr>
<td><strong>Number of hits:</strong> 14</td>
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</tbody>
</table>

- **Search strategy in OVID:** CBT_Cinahl 041006

1. Battered Women/
2. Domestic Violence/
3. partner abuse/ or spouse abuse/
4. (family or domestic or conjugal or partner) adj3 violence).tw.
5. (abuse$ or batter$ or beat$ or assault$) adj3 (wom?n or partner$ or spouse$ or female$ or wife or wives or domestic$ or fianc? or cohabitant$ or live?in)).tw.
6. (male$ or men or man or partner$ or spouse$ or husband or fianc? or cohabitant$ or live?in) adj3 (batter$ or perpetrator$ or abus$ or violen$ or beat$ or assault$).tw.
7. or/1-6
8. behavior therapy/ or cognitive therapy/
9. Behavior Modification/
10. (cognitive$ adj3 (therap$ or train$ or techni$ or question$ or approach$ or assessment$)).tw.
11. (behavior$ adj3 (therap$ or train$ or modifi$ or experiment$)).tw.
13. cbt.tw.
14. (schema$ or schemata$).tw.
15. imagination/ or guided imagery/
16. imager$.tw.
17. Concept Mapping/
18. (cognitive$ or mental$) adj3 (map$ or model$).tw.
19. (socratic$ adj3 (question$ or method$ or dialogue$ or strateg$ or sequence$)).tw.
Cognitive behavioural therapy for men who physically abuse their female partner

20.(dysfunctional adj2 (thought$ or assumption$ or rule$ or appraisal$ or belief$ or attitude$ or scheme$)).tw.
21.(automatic adj2 (thought$ or process$)).tw.
22.(nat or nats).tw.
23.reattribution$.tw.
24.(key or core) adj2 belief$.tw.
25.or/8-24
26.7 and 25
27.limit 26 to yr="2005 - 2006"
Additional tables

05 PsycINFO search strategy

PsycINFO

Database: PsycINFO 1806 to October Week 1 2006
Date: 05.10.2006
Search by Sigrun Espelien Aasen
Number of hits: 55
Search strategy in OVID: "CBT_PsychInfo 041006"

1. partner abuse/
2. family violence/
3. ((family or domestic or conjugal or partner) adj3 violence).tw.
4. battered females/
5. ((abus$ or batter$ or beat$ or assault$) adj3 (wom?n or partner$ or spouse$ or female$ or wife or wives or domestic$ or fiance or cohabitant$ or live?in)).tw.
6. ((male$ or men or man or partner$ or spouse$ or husband or fiance or cohabitant$ or live?in) adj3 (batter$ or perpetrator$ or abus$ or violen$ or beat$ or assault$)).tw.
7. or/1-6
8. cognitive therapy/
9. cognitive behavior therapy/
10. rational emotive behavior therapy/
11. exp behavior therapy/
12. behavior modification/
13. cognitive assessment/
14. (cognitiv$ adj3 (therap$ or train$ or techni$ or question$ or approach$ or assessment$)).tw.
15. (behavio?r$ adj3 (therap$ or train$ or modif$ or experiment$)).tw.
17. cbt.tw.
18. schema/
19. (schema$ or schemata$).tw.
20. exp imagery/ or conceptual imagery/
21. imager$.tw.
22. cognitive maps/
23. mental models/
24. ((cognitive$ or mental$) adj3 (map$ or model)).tw.
25. (socratic$ adj3 (question$ or method$ or dialogue$ or strategy$ or sequence$)).tw.
26. (dysfunctional adj2 (thought$ or assumption$ or rule$ or appraisal$ or belief$ or attitude$ or scheme$)).tw.
27. (automatic adj2 (thought$ or process$)).tw.
28. (nat or nats).tw.
29. reattribution$ .tw.
30. ((key or core) adj2 belief).tw.
31. or/8-29
32. 7 and 31
33. limit 32 to yr="2005 - 2006"
Additional tables

06 ERIC search strategy

ERIC

Search by Sigrun Espelien Aasen
Date: 29.11.2006
Number of hits: 1

CBT_Eric via Ovid

1. family violence/
2. battered women/
3. (abuse$ adj3 (wom*n or partner$ or spouse$ or female$ or wife or wives or domestic$)).tw.
4. (batter$ adj3 (wom*n or partner$ or spouse$ or female$ or wife or wives)).tw.
5. (violen$ adj3 (partner$ or spous$ or family or families or domestic$ or conjugal$)).tw.
6. or/1-5
7. cognitive restructuring/
8. exp behavior modification/
9. (cognitiv$ adj3 (therap$ or train$)).tw.
10. (behavio?r$ adj3 (therap$ or train$)).tw.
12. or/7-11
13.6 and 12

Search in ERIC via CSA Illumina 29.11.06

((DE="family violence") or (DE="battered women") or ((TI=abuse* or AB=abuse*) within 3 (TI=(wom*n or partner* or spouse* or female* or wife or wives or domestic*)) or AB=(wom*n or partner* or spouse* or female* or wife or wives or domestic*)) or ((TI=batter* or AB=batter*) within 3 (TI=(wom*n or partner* or spouse* or female* or wife or wives) or AB=(wom*n or partner* or spouse* or female* or wife or wives)) or ((TI=violen* or AB=violen*) within 3 (TI=(partner or spous* or family or families or domestic* or conjugal*) or AB=(partner or spous* or family or families or domestic* or conjugal*)) or ((DE="cognitive restructuring") or (DE="behavior modification" or "contingency management" or "desensitization")) or...
Cognitive behavioural therapy for men who physically abuse their female partner

((TI=(cognitiv* or behavio*r) or AB=(cognitiv* or behavio*r)) within 3 (TI=(therap* or train*) or AB=(therap* or train*))) or (TI=(behavio*r* within 3 modif*) or AB=(behavio*r* within 3 modif*)) or (TI=cbt or AB=cbt))

1 result found in Multiple Databases +
346 results found in Community of Scholars: Social Science
2 results found in Web Resources Related to the Social Sciences/Humanities
Date Range: 2005 to 2007
Additional tables

07 Sociological Abstracts search strategy

Sociol. Abstracts

<table>
<thead>
<tr>
<th>Search Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. exp spouse abuse/</td>
</tr>
<tr>
<td>2. battered women/</td>
</tr>
<tr>
<td>3. family violence/</td>
</tr>
<tr>
<td>4. ((familj or domestic or conjugal or partner) adj3 violence).tw.</td>
</tr>
<tr>
<td>5. ((abus$ or batter$ or beat$ or assault) adj3 (wom?n or partner$ or spouse$ or female$ or wife or wives or domestic$ or fiance or cohabitant$ or live?in)).tw.</td>
</tr>
<tr>
<td>6. ((male$ or men or man or partner$ or spouse$ or husband or fiance or cohabitant$ or live?in) adj3 (batter$ or perpetrator$ or abus$ or violen$ or beat$ or assault)).tw.</td>
</tr>
<tr>
<td>7. or/1-6</td>
</tr>
<tr>
<td>8. behavior modification/</td>
</tr>
<tr>
<td>9. treatment programs/</td>
</tr>
<tr>
<td>10. treatment methods/</td>
</tr>
<tr>
<td>11. (cognitiv$ adj3 (therap$ or train$ or techni$ or question$ or approach$ or assessment$)).tw.</td>
</tr>
<tr>
<td>12. (beHAVio?r$ adj3 (therap$ or train$ or modif$ or experiment$)).tw.</td>
</tr>
<tr>
<td>14. cbt.tw.</td>
</tr>
<tr>
<td>15. (schema$ or schemata$).tw.</td>
</tr>
<tr>
<td>16. exp images/</td>
</tr>
<tr>
<td>17. imager.$tw.</td>
</tr>
<tr>
<td>18. cognitive mapping/</td>
</tr>
<tr>
<td>19. ((cognitiv$ or mental$) adj3 (map$ or model$)).tw.</td>
</tr>
<tr>
<td>20. (socratic$ adj3 (question$ or method$ or dialogue$ or strateg$ or sequence$)).tw.</td>
</tr>
<tr>
<td>21. (dysfunctional adj1 (thought$ or assumption$ or rule$ or appraisal$ or belief$ or attitude$ or scheme$)).tw.</td>
</tr>
<tr>
<td>22. (automatic adj1 (thought$ or process$)).tw.</td>
</tr>
<tr>
<td>23. (nat or nats).tw.</td>
</tr>
<tr>
<td>24. reattribution$.tw.</td>
</tr>
<tr>
<td>25. ((key or core) adj1 belief$).tw.</td>
</tr>
<tr>
<td>26. or/8-25</td>
</tr>
</tbody>
</table>
27.7 and 26
Additional tables

08 Bibliography of Nordic Criminology search strategy

Bib. Nordic Crim.

<table>
<thead>
<tr>
<th>Bibliography of Nordic criminology</th>
<th>Searched 1999 to December 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bibliography of Nordic criminology (<a href="http://www.nsfk.org/">http://www.nsfk.org/</a>) was searched on December 11 2006 by GS, using the textword 'violence' and limiting the search to 2003-2006. The database was searched from 1999 up to 2003 by Torill Johme. There were 152 hits, but none were judged to be relevant.</td>
<td></td>
</tr>
</tbody>
</table>
## Additional tables

### 09 C2-SPECTR search strategy

| C2-SPECTR |  
| --- | --- |
| **C2-SPECTR** |  
| C2-SPECTR was searched on December 12, 2006 by GS. All indexed fields or all non-indexed fields were searched for the term 'violence'. Of 49 hits, none were judged as relevant. |
### Additional tables

#### 10 Additional methods for future updates

<table>
<thead>
<tr>
<th>Issue</th>
<th>Method</th>
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</thead>
<tbody>
<tr>
<td>Cluster randomised controlled trials</td>
<td>In cluster-randomised trials, the elements are groups of individuals (e.g. courts, jurisdictions, prisons, geographical areas), rather than individuals themselves. In such studies, care should be taken to avoid unit-of-analysis errors. If there for instance are a total of 100 offenders with 25 offenders in each of four jurisdictions, and two jurisdictions are randomised to receive the intervention and the other two are randomised to receive the control, the correct N to use in the analysis is not 100 but smaller. The effective sample size of a single intervention group in a cluster-randomised trial is its original sample size divided by a quantity called the design effect. A common design effect is usually assumed across intervention groups. The design effect is 1+(m – 1)r, where m is the average cluster size and r is the intracluster correlation coefficient. If we include any cluster randomised controlled trials in this review, we try to measure the intra-cluster correlation. The total variance in the outcome can be partitioned into variance between groups (VBG) and variance within groups (VWG). The intracluster correlation (ICC) is calculated as VBG/(VBG+VWG). But the ICC is seldom reported in the primary studies. The number of participants can be used in the analyses if the ICC is used as a correcting factor. For dichotomous data both the number of participants and the number experiencing the event can be divided by the same design effect (Higgins 2005).</td>
</tr>
<tr>
<td>Number needed to treat</td>
<td>For statistically significant meta-analyses, we plan to compute the number needed to treat (NNT).</td>
</tr>
<tr>
<td>Sensitivity analyses</td>
<td>If the number of included studies is sufficient, we will assess the impact of differing methodological quality by sensitivity analyses.</td>
</tr>
</tbody>
</table>
Cognitive behavioural therapy for men who physically abuse their female partner

Additional figures

Fig 01 - Funnel plot

Review: Cognitive behavioural therapy for men who physically abuse their female partner
Comparison: 01 CBT versus control
Outcome: 01 Proportion new violence
Additional figures

Fig 02 - Flowchart

1763 citations screened in April 2005

243 full texts read

1520 citations excluded as irrelevant

232 excluded after reading the full texts

6 studies (10 citations) included in April 2005

206 citations screened in updated search November 2006

206 citations excluded

2 further citations identified March 2007 (1 ‘e-pub’ prior to print)

Total at May 2007: 6 included studies, 12 citations
Notes

Unpublished CRG notes
Exported from Review Manager 4.3

Published notes
This review is co-registered within the Cochrane Developmental, Psychosocial and Learning Problems Group (Cochrane Collaboration).

Amended sections
Cover sheet
Synopsis
Abstract
Background
Objectives
Criteria for considering studies for this review
Search strategy for identification of studies
Methods of the review
Description of studies
Methodological quality of included studies
Results
Discussion
Reviewers’ conclusions
Acknowledgements
Potential conflict of interest
References to studies
Other references
Characteristics of included studies
Characteristics of excluded studies
Comparisons, data or analyses
Additional tables and figures
Contact details for co-reviewers

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0855  
Telephone 1: +47 48271234  
E-mail: t.dalsbo-alumni@lse.ac.uk
Review: Cognitive behavioural therapy for men who physically abuse their female partner (Version 04)

Total number of included studies: 6

<table>
<thead>
<tr>
<th>Comparison or outcome</th>
<th>Studies</th>
<th>Participants</th>
<th>Statistical method</th>
<th>Effect size</th>
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<tbody>
<tr>
<td>01 CBT versus control</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>01 Proportion new violence</td>
<td>4</td>
<td>1771</td>
<td>RR (random), 95% CI</td>
<td>0.86 [0.54, 1.38]</td>
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<tr>
<td>02 CBT versus other therapy</td>
<td></td>
<td></td>
<td>RR (random), 95% CI</td>
<td>No total</td>
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<tr>
<td>01 Proportion new violence</td>
<td></td>
<td></td>
<td>RR (random), 95% CI</td>
<td>No total</td>
</tr>
<tr>
<td>02 Frequency of violence</td>
<td>1</td>
<td>58</td>
<td>SMD (random), 95% CI</td>
<td>0.30 [-0.22, 0.81]</td>
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<tr>
<td>03 Any violence</td>
<td>1</td>
<td>58</td>
<td>RR (random), 95% CI</td>
<td>1.50 [0.27, 8.32]</td>
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### Cognitive Behavioural Therapy for Men Who Physically Abuse Their Female Partner

**Comparison:** 01 CBT versus control

**Outcome:** 01 Proportion new violence

<table>
<thead>
<tr>
<th>Study or sub-category</th>
<th>Treatment</th>
<th>Control</th>
<th>RR (random)</th>
<th>Weight</th>
<th>RR (random)</th>
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<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>95% CI</td>
<td>%</td>
<td>95% CI</td>
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<tr>
<td>Brooklyn Exp. 2000</td>
<td>13/129</td>
<td>100/386</td>
<td>23.07</td>
<td>0.39 [0.23, 0.67]</td>
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<tr>
<td>Broward Exp. 2000</td>
<td>52/216</td>
<td>45/188</td>
<td>28.16</td>
<td>1.01 [0.71, 1.42]</td>
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<tr>
<td>San Diego Navy 2000</td>
<td>63/218</td>
<td>75/214</td>
<td>29.85</td>
<td>0.82 [0.63, 1.09]</td>
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<tr>
<td>Bronx Exp. 2005</td>
<td>20/202</td>
<td>11/218</td>
<td>18.91</td>
<td>1.36 [0.96, 1.93]</td>
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</tr>
<tr>
<td>Total (95% CI)</td>
<td>165</td>
<td>1006</td>
<td>100.00</td>
<td>0.86 [0.54, 1.38]</td>
<td></td>
</tr>
</tbody>
</table>

Test for heterogeneity: CH² = 14.39, df = 3 (P = 0.002), I² = 79.2%

Test for overall effect: Z = 0.61 (P = 0.54)

### Cognitive Behavioural Therapy for Men Who Physically Abuse Their Female Partner

**Comparison:** 02 CBT versus other therapy

**Outcome:** 01 Proportion new violence

<table>
<thead>
<tr>
<th>Study or sub-category</th>
<th>CBT</th>
<th>Other therapy</th>
<th>RR (random)</th>
<th>Weight</th>
<th>RR (random)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>95% CI</td>
<td>%</td>
<td>95% CI</td>
</tr>
<tr>
<td>Wisconsin Study 1996</td>
<td>28/91</td>
<td>25/87</td>
<td>100.00</td>
<td>1.07 [0.68, 1.68]</td>
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</tbody>
</table>

**Outcome:** 02 Frequency of violence

<table>
<thead>
<tr>
<th>Study or sub-category</th>
<th>CBT (SADV)</th>
<th>TSF</th>
<th>SMD (random)</th>
<th>Weight</th>
<th>SMD (random)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>95% CI</td>
<td>%</td>
<td>95% CI</td>
</tr>
<tr>
<td>Yale Study 2007</td>
<td>29</td>
<td>0.95(0.72)</td>
<td>29</td>
<td>0.73(0.75)</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Total (95% CI)

Test for heterogeneity: not applicable

Test for overall effect: Z = 1.12 (P = 0.26)

### Cognitive Behavioural Therapy for Men Who Physically Abuse Their Female Partner

**Comparison:** 02 CBT versus other therapy

**Outcome:** 03 Any violence

<table>
<thead>
<tr>
<th>Study or sub-category</th>
<th>CBT (SADV)</th>
<th>TSF</th>
<th>RR (random)</th>
<th>Weight</th>
<th>RR (random)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>n/N</td>
<td>n/N</td>
<td>95% CI</td>
<td>%</td>
<td>95% CI</td>
</tr>
<tr>
<td>Yale Study 2007</td>
<td>3/29</td>
<td>2/29</td>
<td>100.00</td>
<td>1.50 [0.27, 8.32]</td>
<td></td>
</tr>
</tbody>
</table>

Total (95% CI)

Test for heterogeneity: not applicable

Test for overall effect: Z = 0.46 (P = 0.64)