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Interventions to reduce violence and promote the physical and psychosocial well-being of women who experience partner violence: a systematic review of controlled evaluations

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Glossary

Abbreviations used in this document

AED	Accident and emergency department
DV	Domestic violence
DVU	Domestic violence unit
FU	Follow-up
GP	General practitioner
HMO	Health management organisation
IPV	Intimate partner violence
ITT	Intention-to-treat
NHS	National health service
PTSD	Post traumatic stress disorder
RCT	Randomised controlled trial
UK	United Kingdom

Terms used in this document

The primary studies included in the review come from a range of disciplines and countries. Inevitably this means that different terms are used sometimes to denote a similar organisation or service. Where this occurs we have amended these to reflect general usage in the United Kingdom.

TERM	DEFINITION
Accident and emergency department	Hospital department providing emergency care.
Advocacy	Advocacy generally refers to the provision of support and access to resources in the community. In the UK, advocates tend to be employed outside of the health system and are not qualified professionals. In the United States, advocates may be employed in health and community settings and are often qualified social workers.
Appraisal support	A form of social support; specifically, the perceived availability of someone to talk to about one's problems.
Belonging support	A form of social support; specifically the perceived availability of support from friends and family.
Counselling	A form of psychological treatment, using a range of models. In the UK, this term is more generally used to denote formal psychological treatment provided by a qualified professional. In the USA, counselling may refer to empathetic support in the context of education and referrals (what would be termed `advocacy' in the UK), or formal psychological treatment.
Emergency department, ED	Non-UK term, see Accident and emergency department.
Refuge	A safe house where women experiencing domestic abuse can live free from violence.
Shelter	Non-UK term, see Refuge.
System-centred interventions	Interventions that are designed to improve the response of the organisations and professionals that come into contact with abused women. The ultimate goal of these interventions is to improve outcomes for abused women, although such outcomes may not be measured directly. They include staff training interventions and the provision of more resources.
Tangible support	A form of social support; specifically the perceived availability of material aid.
Trauma Centre	Non-UK term, see Accident and emergency department.
Woman-centred interventions	Interventions that are targeted directly at abused women with the aim of reducing abuse or improving the health of the women. They include advocacy and psychological interventions, including all forms of therapy and counselling.

Executive Summary

Interventions to reduce violence and promote the physical and psychosocial well-being of women who experience partner violence: a systematic review of controlled evaluations

1. Background

We define partner violence of women as physical, sexual or emotional abuse with coercive control of a woman by a man or woman partner who is, or was, in an intimate relationship with the woman. The 2001 British Crime Survey (BCS) found that 20% of women from England and Wales reported being physically assaulted by a current or former partner at some time in their lives. When threats, financial abuse and emotional abuse are included, this increases to 25% of women. Partner violence can have short-term and long-term negative health consequences, which may persist even after the abuse has ended. The BCS found that 75% of cases of partner violence against women result in physical injury or mental health consequences. A United Nations report emphasises that partner violence is a significant cause of death and disability on a world-wide scale, and the World Health Organisation highlights violence against women as a priority health issue.

Current UK guidance suggests that clinicians identifying partner violence should undertake some form of intervention and refer the women to other professionals or services as appropriate. However, such recommendations are in general not based on empirical findings and there is still uncertainty about what interventions are most appropriate. Current reviews of domestic violence interventions are either too narrow or do not include more recent evidence. Therefore a new review to inform practice and policy decisions within the NHS is necessary.

2. Aim and objectives

Our aim was to evaluate the effectiveness of interventions relevant to health care for the reduction of violence or improvement of the physical and psychosocial well-being of women who have experienced or are experiencing partner violence.

The review was concerned with an examination of the evidence provided by (1) controlled intervention studies, and (2) interventions that targeted only the women who have been abused (and not the perpetrators), or the organisations and professionals that may have contact with abused women.

Our objectives were:

- To examine the evidence systematically.
- To determine which women are most likely to benefit, and in what ways.
- To consider how the interventions might work.
- To consult with key stakeholders on the scope and methods of the review, and to elicit their views on its findings.
- To compare the findings of the review with those of other reviews.
- To discuss the policy implications of the review for the NHS and to make recommendations incorporating the views of key stakeholders.

3. Method

We included all intervention studies that fulfilled our inclusion criteria:

- Aimed to reduce partner violence or improve the physical and psychological health of abused women, or to improve the response of organisations and professionals who come into contact with abused women.

- Quantitative comparison between intervention and control groups, or quantitative comparison of pre- and post-intervention data.
- Interventions targeted at women aged at least 16 years who have experienced partner violence or organisations and professionals who serve abused women.
- Reporting of health-related outcomes (abuse, physical/sexual/psychological health) or proxy measures (e.g. referrals and information-giving, employment).
- All reporting formats (with the exception of unpublished theses).

We combined searches of 14 electronic databases with citation tracking and personal communications. Independent data extraction and quality assessment were conducted by two reviewers. We assessed the strength of the evidence using pre-defined criteria. A narrative analysis was supplemented, where appropriate, with meta-analyses. We carried out pre- and post-review consultation exercises with key stakeholders.

4. Principal findings

Thirty-six studies fulfilled the inclusion criteria, comprising nine interventions for advocacy, one support group intervention, eleven interventions for counselling and therapy, and fifteen system-centred interventions. Most of the primary studies used weak research designs for answering questions about effectiveness of interventions and the quality of execution of many of the primary studies is poor. However, they provide a basis for policy within health care settings.

- Evidence from the advocacy studies suggests that this form of intervention, particularly for women who have actively sought help from professional services or are in a refuge setting, can reduce abuse, increase social support and quality of life, and lead to increased use of safety behaviours and accessing of community resources. We do not know how effective advocacy is for women identified in health care settings, because of the small number of studies and their relatively poor design.
- The one support group intervention resulted in a reduction of abuse and improved psychological outcomes, including self esteem and coping with stress.
- There is some evidence that psychological interventions are effective in reducing depression in women with a history of partner violence, although it is unclear to what extent this is in addition to spontaneous resolution as time from abuse elapses.
- System-centred interventions with at least some degree of staff training and supportive materials, including ten in health care settings, increase referral rates in the short-term. From studies with longer term follow-up, there is evidence that reinforcement and training of new staff is needed to sustain this effect.
- The system-centred non-health care intervention studies, largely police-based, are methodologically problematic and largely non-contributory to health service policy. However, one of these studies supports the usefulness of multi-agency case conferences, and the overall positive effect of these interventions demonstrates the value of a service making structural changes to improve the response to partner violence.

5. Recommendations

On the basis of the evidence reviewed, we recommend the following:

Advocacy (including safety planning)

Policy

I. Improve links between community-based domestic violence advocacy programmes and local health services. Although our review cannot specify the model for these links, we think that the consistent finding that advocacy is beneficial, particularly to women who have sought help, is a sufficient reason for implementing a more formal relationship such as secondment of domestic violence advocates to health care settings. This will facilitate referral by all professionals in all health care settings of women to advocacy services.

II. Formal training and supervision of advocates and monitoring of advocacy standards needs to be part of the mainstreaming of advocacy services vis à vis the NHS.

III. Availability of advocacy within health services to women disclosing abuse in response

to questioning in antenatal clinics and accident and emergency departments is a priority.

Research
We need:

IV. Studies testing different methods for women accessing advocacy services via health care settings. For example, direct referral from clinicians in addition to provision of advocacy contact details; information giving in the clinical consultation in addition to general publicity material in the waiting room or women's toilets.

V. Studies testing the potential added benefit of a domestic violence advocate based in or seconded to health care settings.

VI. Studies testing different durations of contact and follow-up with clients.

Support groups

Policy
There is insufficient evidence to inform policy on the role of support groups in helping women who have experienced abuse.

Research

VII. We need studies testing the role of support groups either combined or separate from other interventions in relation to different stages of the abuse trajectory.

Psychological interventions

Policy

VIII. Referral to counselling or other forms of psychological therapy should not take priority over advocacy for women who are still in an abusive relationship.

IX. Psychological interventions are recommended for women who have left the abusive relationship for improvement of depression and low self esteem.

X. We cannot recommend any specific method of psychological intervention.

Research
We need:

XI. Adequately powered studies comparing different methods of psychological intervention (e.g. cognitive behavioural therapy versus non-directive counselling).

XII. Studies targeting women at different stages in the trajectory of abuse.

XIII. Studies testing different durations of contact and follow-up with clients.

System-centred interventions

Policy

XIV. Health care services need to integrate appropriate responses to women experiencing abuse with clinical activity, possibly with a named person responsible for this issue.

XV. Training on the identification of women experiencing partner violence, their support and appropriate referral, needs to be integrated into undergraduate and postgraduate clinician education.

XVI. Team training on partner violence in health care settings needs to be implemented, with regular reinforcement.

XVII. Training should include close collaboration with community-based advocacy services.

Research
We need:

XVIII. Better quality studies testing different system changes for improving the response of health professionals to partner violence.

XIX. Studies that compare different methods and durations of training of health professionals in the management of partner violence.

XX. Studies that explore feasible roles of health professionals in multi-agency collaboration and coordination around partner violence.

XXI. Conceptual and methodological research on the use of proxy measures, such as referral, for system-centred studies.

General research recommendations

These are recommendations that transcend the specific areas discussed above. They address the general methodological weakness of the current evidence base. We need:

XXII. More randomised controlled trials with better reporting of interventions and studies, and using standardised or comparable outcome measures. This methodology is also applicable to system-centred interventions, even if woman-centred outcomes (e.g. quality of life or mental health measures) cannot be measured for methodological or ethical reasons.

XXIII. Studies with longer follow-up to assess the medium term benefits of interventions on individual women.

XXIV. Cost-effectiveness studies, particularly when assessing the value of interventions of variable intensity.

XXV. Systems for recording adverse effects of interventions that are not addressed in the outcome measures.

Contents

1. Background of the review

1.1 Terms of reference

This review evaluates the effectiveness of controlled interventions conducted with the aim of reducing violence or promoting the physical and psychosocial well-being of women who have experienced or are experiencing partner violence. We are defining partner violence as the abuse of a woman by a male or female partner who is, or was, in an intimate relationship with the woman.

1.1.1 Use of the term partner violence

A variety of terms are in current use to denote partner violence, such as domestic violence, intimate partner violence (IPV), spouse abuse, and battering. There is still no international, or even national, consensus about the most appropriate term to use. For example, many experts in the field believe that "domestic violence" is a misleading term because "domestic" implies that the violence always happens within the home. Similarly, many see IPV as inappropriate, as there is nothing "intimate" about an abusive relationship. For this reason, we have opted to use the term "partner violence" as this better reflects the seriousness and severity of the problem. However, while our preferred term is partner violence, in our narrative descriptions of the different studies we have primarily reflected the terminology used in the articles reviewed.

1.1.2 Forms of partner violence

Partner violence constitutes "…… power over a partner to try to harm that person, or to exert control that will harm that person either immediately or eventually if repeated over time".[1] The abuse may manifest itself in a variety of forms, including physical violence (ranging from slaps, punches and kicks to assaults with a weapon and murder), sexual violence (such as forced sex, or forced participation in degrading sexual acts), emotionally abusive behaviours (such as prohibiting a woman from seeing her family and friends, ongoing belittlement or humiliation, or intimidation), economic restrictions (such as preventing a woman from working, or confiscating her earnings), and other controlling behaviours.[2] Often these different forms of abuse coexist, but they may also present individually.[3] This review considers all forms of partner violence.

1.1.3 Abuse perpetrated against women

This review is concerned only with interventions that aim to help abused women. Partner violence perpetrated by women or men against male partners or ex-partners also occurs. However, the majority of abuse with serious health and other consequences is that committed by men or women against their female partners.[4] Interventions to help men who experience partner violence are not included in the review.

1.1.4 Abuse by ex-partners

Interventions aimed at women who are no longer in an intimate relationship with their abusive male partners are included for two reasons. Firstly, it is known that abused women are often at greatest risk when they are preparing to leave or have just left their partners. It is estimated that between 65% and 75% of women murdered by abusive partners are killed while leaving or after already leaving the relationship.[5] Secondly, the health sequelae of partner violence may persist for many years after the abusive relationship has ended.[6] It is therefore essential to establish what can be done to reduce the risk of harm for all abused women, regardless of whether or not they are in a current relationship with the abuser.

1.1.5 Types of interventions

Many different types of interventions have been initiated to help women who are experiencing or have experienced partner violence. It is not the intention of this review to cover the totality of these.

Firstly, our review is concerned only with an examination of the evidence provided by controlled intervention studies; i.e. studies that allow for comparison between intervention and control group participants, or for comparison of participants' pre-intervention and post-

intervention data. Secondly, our review is restricted to intervention studies that target only the women who have been abused (and not the perpetrators), or the organisations and professionals that may have contact with abused women. Other types of controlled interventions also need to be reviewed (such as couples therapy and perpetrator-based interventions), but such interventions are beyond the scope of the present review.

Readers interested in learning more about the wider range of interventions conducted in this field are referred to two recent publications; the first is a Home Office report "Domestic violence: a literature review" by Barnish (2004),[7] and the second is a book edited by Skinner and colleagues (2005)[8] entitled Researching Gender Violence: Feminist Methodology in Action.

1.2 Prevalence in the United Kingdom

It is not easy to establish the precise prevalence of partner violence in the United Kingdom (UK). Every minute in the UK, the Police receive a call from the public for assistance for domestic violence. This leads to police receiving an estimated 1,300 calls each day or over 570,000 each year.[9] However, according to the Crime in England and Wales 2001/2002 report, just less than 35% of actual domestic violence crime is reported to the Police.[10] Thus crime statistics only reflect the small fraction of incidents reported and recorded by the police. Other measures, such as confidential interviews and surveys, can provide more reliable data. However, it is likely that these too are an under-estimation of the true extent of the problem because many women will be reluctant to disclose in full.

The 2001 British Crime Survey[11] found that 20% of women from England and Wales reported being physically assaulted by a current or former partner at some time in their lives, and 11% said that this violence had been severe. Inclusion of threats, financial abuse (defined as being prevented from having a fair share of household money), and emotional abuse (defined narrowly as being stopped from seeing friends and relatives) increased the lifetime prevalence of abuse to 25% of women. One in three women who had experienced lifetime domestic violence (threats or non-sexual assaults) had been abused four or more times by the perpetrator of the worst incident.

The largest questionnaire-based study in the UK, among women general practice patients, found that 41% of the respondents had ever experienced physical or sexual violence from a partner or former partner and 17% had experienced such abuse within the previous year.[12] Less than one-fifth of the abused women had a record of partner violence in their medical records.

1.3 Health impact of partner violence

Partner violence can have short-term and long-term negative health consequences, which may persist even after the abuse has ended.[6] Results from the 2001 British Crime Survey indicate that 75% of cases of partner violence against women result in physical injury or mental health consequences.[11] A World Development Report from the United Nations emphasises that partner violence is a significant cause of death and disability on a world-wide scale,[13] and the World Health Organisation highlights violence against women as a priority health issue.[14]

1.3.1 Physical health of abused women

Partner violence is one of the most common causes of acute injury in women. In a UK cross-sectional study of general practice attendees, 16% of women respondents reported being punched in the face, 20% were punched on the body, arms or legs, and 13% were kicked. Of these women, 50% required medical attention for their injuries.[12] Similar figures emerge from research conducted in hospital emergency rooms.[15] In 1997, two women in England and Wales were killed each week by their current or former partners,[16] a figure that represents 47% of all female murders for that year.[17] In Scotland, considering all murders recorded over a 10-year period (1991-2000), 54% of the female victims aged 16-59 were killed by their partner.[18]

Battered women experience many chronic health problems. The most consistent and largest physical health difference between abused and non-abused women is in the experience of gynaecological problems (e.g. sexually-transmitted diseases, vaginal bleeding and infection, genital irritation, chronic pelvic pain, urinary-tract infections.[6] Other conditions often associated with abused women include chronic pain (e.g. headaches, back pain) and central nervous system symptoms (e.g. fainting and seizures),[6] self-reported gastrointestinal symptoms (e.g. loss of appetite, eating disorders) and diagnosed functional gastrointestinal disorders (e.g. irritable bowel syndrome),[19-21] and self-reported cardiac symptoms (e.g. hypertension, chest pain). [22]

1.3.2 Health of abused women during pregnancy

Research evidence shows that partner violence continues when a woman becomes pregnant - indeed, it may start or even escalate at this time.[22;23] The one-year prevalence rate of abuse during pregnancy is 6-8% in the UK.[6] The most serious outcome is the death of the mother[24] or the foetus.[25] Partner violence during pregnancy is also associated with low birth weight,[26] premature birth and foetal injury.[22]

1.3.3 Psychosocial health of abused women

The impact of partner violence has psychological parallels with the trauma of being taken hostage and subjected to torture.[27] the most prevalent health sequelae are depression and post-traumatic stress disorder.[28-30] Women living in abusive relationships often have feelings of low self-esteem and hopelessness.[31] Abused women are five times more likely to attempt to commit suicide compared with non-abused women.[32] Other signs of emotional distress associated with partner violence are anxiety, insomnia and social dysfunction.[29]

In industrialised countries, women who have experienced physical or psychological abuse are fifteen times more likely to abuse alcohol and nine times more likely to abuse drugs than are non-abused women.[32] There is evidence that for some women this is directly attributable to partner violence.[32]

1.3.4 The impact of partner violence on health service use

Women experiencing partner violence present frequently to health services and require wide-ranging medical services.[6;33]They are admitted to hospital more often than are non-abused women and are issued more prescriptions.[34;35] There is evidence of a linear relationship between severity of abuse and the use of health services.[34]

1.4 Societal costs of partner violence

The UK Department of Trade and Industry in 2004 estimated the total direct costs of partner violence in England and Wales for health and non-health service usage alone were £3.1 billion a year.[36] These costs may be broken down as follows: criminal justice system, around £1 billion; health care, £1.2 billion (with £176 million in mental health care costs); social services, nearly £0.25 billion; housing, £1.6 billion; civil legal services (injunctions, divorce-related services), over £0.3 billion. Even these figures may be conservative, since the British Crime Survey data on which they are based are thought to underestimate the true prevalence of partner violence in England and Wales.[11]

Pain and suffering are intangible costs but a value of over £17 billion a year has been ascribed to these in the context of partner violence in England and Wales,[36] while the indirect costs of lost economic output (e.g. due to time off work because of injuries) account for around £2.76 billion a year.[36] Thus, in addition to the serious individual health consequences associated with abuse, there are also wider economic implications for society and health services.

1.5 Responding appropriately in United Kingdom health care settings

Since the early 1970s there has been a concerted effort by UK women's organisations and the voluntary sector to respond to the needs of women experiencing violence. These groups have been responsible for initiating a variety of interventions, including the setting up of refuges

for abused women and their children, telephone hotlines and advocacy services. Further, over the last twenty years the police have also implemented changes in policy and have introduced several initiatives including dedicated domestic violence units. More recently, the Home Office have begun to address the problem and in 2000 they launched their Violence Against Women Initiative. This included providing funding for 27 multi-agency projects to be set-up and evaluated across seven broad areas: criminal and civil justice, protection and prevention, Black and other ethnic minorities, health, multi-service, education, and rural work (see the Home Office report by Hester and Westmarland[37] for a summary of the findings from these projects).

While the voluntary and justice sectors are proactive in attempting to stop partner violence, the situation within health care is less encouraging. Despite many health professionals believing that partner violence is a health care issue,[12] there has been a reluctance by clinicians to confront the problem. This ambivalence on the part of practitioners results from a number of barriers. These include a perceived lack of time and resources to support women, fear of offending patients by asking about abuse, a lack of knowledge and training about how to respond if women do disclose and a belief that the woman should but will not leave the abusive relationship.[38;39] Nonetheless, within the last fifteen years, recognising the need for better responses to partner violence within health care, many health professional associations around the world have published guidelines for clinicians. In the UK, four national guidelines have been published. These indicate that clinicians identifying partner violence should undertake some form of intervention and should also refer the women to other professionals or services as appropriate. However, they do not go far enough in addressing the interventions to be used and the position with regard to interagency collaboration.

1.5.1 The Royal College of General Practitioners guidelines, 1998[40]

These guidelines emphasize the need to: be alert to partner violence; ask about it; document its presence; assess the situation; provide information about abuse, the woman's legal options and the help available from various agencies; offer help in contacting these agencies; and devise a safety plan with the woman.

1.5.2 Department of Health Resource Manual, 2000[41]

This document gives specific guidance on key issues for health professionals in caring for families experiencing domestic violence. It specifies the approach to use in asking about abuse, the need to make safety assessments of the victims and also health care staff, to be non-judgmental, to empower people to make informed choices about their own lives, to respect confidentiality, especially in minority ethnic communities, to provide support and follow up, and to document abuse. The manual emphasises the need to provide local information and support and encourages inter-agency working, particularly between Area Child Protection Committees and domestic violence fora.

1.5.3 Royal College of Midwives guidelines, 1999[42]

These guidelines stress that midwives have a responsibility to provide all women in their care with appropriate support, information and referral. Midwives need to be aware of the issue of domestic violence and to ask patients about this directly. Where abuse is disclosed, midwives should document the abuse with the woman's permission, agree a plan of action with the woman (if appropriate), inform the woman of her options and the specialist local services available, provide written information on these agencies, and refer the women to support services where requested.

1.5.4 The Royal College of Psychiatrists: policy statement on domestic violence, 2002[43]

This recommends that psychiatrists need to have a working knowledge of the aetiology and effects of partner violence, and the range of interventions available for victims. They also should enquire about partner violence in the past and present as part of the clinical assessment of all patients (men and women) and families, as well as making a risk assessment for all disclosed cases. From a standpoint within psychiatry, the policy statement cites the key interventions as: establishing the victim's safety, treating mental illness,

providing information about local resources, and assessing current and future risk. Psychiatrists should also be familiar with treatment approaches, resources and risk assessment for perpetrators. The policy statement recommends that specific training on partner violence should be introduced into the curriculum and into continuing professional development.

1.6 Need for this review

Implicit in the published recommendations and guidelines is the assumption that asking about abuse and providing interventions and support will ultimately decrease exposure to violence and reduce its detrimental health consequences, both physical and psychological. A review[44] shows that screening can lead to modest increases in the number of abused women being identified by health professionals, but there is still uncertainty about what interventions are most appropriate.[45] Recommendations for interventions in the guidelines are in general not based on empirical findings, but rather on expert opinion, anecdotal evidence, personal experience, and logic. For health professionals and policy makers to know how best to respond to women who disclose abuse, a review of the evidence around partner violence interventions is needed. Moreover, such a review should include studies conducted both within and outside of health care settings.[44;46] It is important not to ignore the evidence from outside of health care settings, such as refuges or police domestic violence units, if these affect health-related outcomes and can be applied to the health care system. This is particularly true since such settings may be the most accessible points of contact with abused women in terms of intervention. From a health services and health policy perspective it is also important to include interventions that involve the training of professionals, if there are demonstrable health outcomes for abused women.

We have found nine systematic reviews of quantitative evaluations of interventions for women who have experienced partner violence that have already been published: Chalk and King, 1998;[47] Abel, 2000;[48] Davidson et al, 2001;[33] Hender, 2001;[49] Ramsay et al, 2002;[44] Cohn et al, 2002;[50] Wathen et al, 2003;[51;52] Nelson et al, 2004;[53] Klevens et al, 2004.[54] A summary of these reviews is given in Appendix I. These reviews go some way toward evaluating the evidence around interventions to help women who disclose abuse. However, they also have a number of limitations. These include:

- Relatively out-of-date (Chalk and King, 1998;[47] Abel, 2000;[48] Davidson et al, 2001[33]).
- A relatively narrow range of databases searched (Ramsay et al, 2002;[44] Wathen et al, 2003[51;52]).
- Exclusion of studies conducted outside of health settings (Ramsay et al, 2002[44]) or those having no links with primary care and no involvement from health professionals (Nelson et al, 2004[53]).
- Only considered staff training interventions (Cohn et al, 2002[50]).
- Highly selective quality inclusion criteria (Hender, 2001;[49] Wathen et al, 2003;[51;52] Klevens et al, 2004[54]).
- Exclusion of studies with before-and-after designs (Chalk and King, 1998;[47] Nelson et al, 2004[53]).
- Less robust controlled studies only included if evidence from randomised controlled trials or similar was not available (Hender, 2001;[49] Klevens et al, 2004[54]).
- No attempt at statistical pooling of data from different studies (all of the reviews).
- No appraisal of the quality of primary studies (Davidson et al, 2001[33]).

There is still a need, therefore, for an up-to-date and comprehensive appraisal of the evidence. Our systematic review is designed to identify and evaluate all experimental studies that compare an intervention for partner violence with a control, and that measure health outcomes in abused women. We do not restrict the review to randomised controlled trials, but do take robustness of study design into account in our analysis. We include non-health care settings and the training of professionals where there are relevant outcomes. Our aim is to inform the development of health care policy in the UK to improve the response of the National Health Service (NHS) to women experiencing abuse.

2. Aims and objectives

2.1 Aims

The aim of the review is to examine systematically the effectiveness of interventions initiated to reduce violence or to promote the physical and psychosocial well-being of women who have experienced or are experiencing partner violence.

2.2 Objectives

- To examine systematically the evidence concerning the effectiveness of interventions to reduce violence or to improve the physical and psychosocial health of women who have experienced or are experiencing partner violence.
- To determine which women are most likely to benefit, and in what ways, from the different interventions examined (taking into account socio-demographic variables such as age, ethnicity, and socio-economic status).
- To consider how the reviewed interventions might work.
- To compare the findings of this review with the findings of existing reviews of interventions to reduce violence or promote the physical and psychosocial well-being of women who experience partner violence.
- To consult with members of the national Domestic Violence and Health Research forum for views on the scope and methods of the review.
- To understand the views of women's groups and of service providers on the implications of this review.
- To discuss the policy implications of the review for the NHS and to make recommendations which incorporate the views of women's groups and service providers.

3. Methods

3.1 Inclusion criteria

The inclusion criteria for primary studies are summarised in Table 1.

Table 1: Inclusion criteria

Interventions	To reduce partner violence or improve the physical and psychological health of abused women	To improve the response of organisations and professionals who come into contact with abused women
Settings	Any setting, but must report health or abuse outcomes from the perspective of abused women	
Designs	Provide quantitative data Enable quantitative comparison between intervention and control groups, or comparison of pre- and post-intervention data (randomised controlled trials, parallel group studies, before-and-after studies)	
Participants	Women aged 16 years or over who have been or are subject to partner violence by a partner or ex-partner	Organisations and professionals who come into contact with abused women
Outcomes (any of those stated)	Abuse Physical/sexual health measures (including death) Psychological health measures `Proxy' measures (such as women's socio-economic status or their use of safety behaviours, referrals and information-giving by professionals)	
Reporting formats	Peer reviewed and non-peer reviewed publications Any language	

3.1.1 Included interventions

Studies of two types of interventions were included in the review. The first type consisted of interventions targeted directly at abused women with the aim of reducing abuse or improving the health of the women. These include advocacy and psychological interventions, including forms of therapy and counselling. We have termed studies of this type of intervention "woman-centred". The second type of intervention included in the review was designed to improve the response of organizations and professionals that come into contact with abused women. This includes interventions to train staff or the provision of more resources, essentially targeting the organisation or system. The ultimate goal of this type of intervention, like the woman-centred type, is improved outcomes for abused women, although most studies do not measure these directly. We have termed studies of this type of intervention "system-centred".

3.1.2 Included settings

The primary focus of the review was to evaluate the evidence from intervention studies initiated in health care settings. However, evidence from interventions conducted outside of health care systems was included if the studies reported data on health outcomes or levels of abuse from the perspective of abused women. There were no restrictions on geographical or national setting.

3.1.3 Included designs

When testing the effectiveness of interventions, the method least prone to bias is the randomised controlled trial (RCT), but there are methodological reasons why evaluations of

interventions for partner violence should include a range of study designs.[55] Therefore we have cast our net wider to include other types of experimental study. Studies were eligible for the review if the study design allowed for comparison between intervention and control group participants, or if the study design allowed for comparison of pre-intervention and post-intervention participant data. Specifically, the following study designs were included:

- Fully randomised controlled studies in which participants were randomly allocated to groups, including cluster randomized controlled trials.
- "Before-and-after" matched parallel groups design, where assignment to groups was not random.
- Studies employing an "after-only" matched parallel groups design, where the process of assignment to groups was not random.
- Before-and-after studies with no parallel control and with different participants before and after the intervention, where women in the "before" group act as the comparison group (historical controls).
- Before-and-after studies with no parallel control and using the same participants before and after the intervention, where the women receiving the intervention acted as their own controls.

3.1.4 Included participants

In the woman-centred intervention studies, participants had to be female, aged at least 16 years old, and identified as experiencing or having experienced partner violence. In the system-centred intervention studies, there were no inclusion criteria relating to the organisations or their staff.

3.1.5 Included outcomes

Studies that measured abuse or any health-related outcomes were included. The main outcomes were:

- Incidence of abuse of women (physical, sexual, psychological, emotional or financial abuse).
- Physical health of women (deaths, physical injuries - including self-harm, any chronic health disorders - including alcohol or drug abuse, sexual health, any general measures of physical health).
- Psychosocial health of women (depression, anxiety, post-traumatic stress, self-efficacy, self esteem, quality of life, perceived social support).
- Proxy measures relating to:
    - the women - including socio-economic measures (income, housing, employment), the use of safety behaviours, the use of refuges, the use of counselling, calls to police, police reports filed, protection orders sought
    - the professionals who may come into contact with abused women - including referral or information-giving by professionals.

We did not exclude studies that collected outcome data using un-validated measures. However, this is taken into account in the assessment of quality of execution of all included studies.

3.1.6 Included reporting formats

Published peer and non-peer reviewed studies were included. There was no restriction based on the language in which the study was reported.

3.2 Exclusions

Table 2 summarises the exclusion criteria.

Table 2: Exclusion criteria

Interventions	Partner violence interventions: Involving couples (conjoint) or family therapy That sought to change behaviour of abuser That sought to help children of abused mothers That sought to increase societal awareness	Non-partner violence interventions addressing: Child abuse (including adult survivors) Elder abuse Other familial abuse
Settings	Studies outside of health care settings not measuring health or abuse outcomes from perspective of abused women	
Designs	Observational studies, case studies, qualitative studies	
Participants	Female survivors of partner violence aged under 16 years of age, female survivors of other (non-intimate partner) abuse, male survivors of partner violence of any age, children of abused women, abused children, perpetrators of abuse	
Outcomes	Non-health outcomes	Identification of partner violence Attitudes of professionals coming into contact with abused women
Reporting formats	Unpublished dissertations	

3.2.1 Excluded interventions

We excluded studies reporting interventions that targeted the perpetrators of partner violence. We also excluded joint treatments, such as couple and family therapy (even if the therapy was administered separately to women).

Evaluation of interventions aimed at helping the survivors of child or elder abuse were beyond the scope of the present review, as were intervention studies initiated to help the survivors of abuse committed by other family members (such as in-laws). For similar reasons, we also excluded any interventions targeted directly at helping children of women being abused by intimate partners. We excluded interventions aimed at abused men.

We did not include community and societal interventions conducted with the aim of increasing public awareness of the problem of partner violence.

3.2.2 Excluded settings

No study was excluded on the basis of intervention setting alone. Nevertheless, studies conducted in non-health care settings were excluded if they did not report at least one health or abuse outcome from the perspective of abused women.

3.2.3 Excluded designs

Intervention studies with non-experimental designs were excluded from the review. Specifically, studies were not included if they were observational or case studies, or if they employed a qualitative research design.

3.2.4 Excluded participants

This review is concerned with women aged 16 years and older who are or have been abused by an intimate partner. Groups who were excluded were: female survivors of partner violence

aged under 16 years of age, female survivors of other (non-intimate partner) abuse (e.g. stranger rape, adult survivors of child abuse, elder abuse), male survivors of partner violence of any age, children of abused women, abused children, and the perpetrators of abuse.

We set no upper age limit for participants in primary studies. Nor was a study automatically excluded if some but not all of its participants did not meet our inclusion criteria. To illustrate, if a study included women who had been abused by their intimate partners and women who had been abused by strangers, then the study would still be included in the review if the data for the two sub-groups of women were reported separately.

3.2.5 Excluded outcomes

Woman-centred intervention studies were only excluded if they did not report outcomes relating to at least one of the following: abuse, physical health, psychosocial health, socio-economic indicators and other proxy measures.

For system-centred intervention studies we excluded primary studies that only measured change in knowledge or attitudes of professionals about partner violence. We also excluded system-centred intervention studies that only measured identification of abused women or documentation or safety assessments.

3.2.6 Excluded reporting formats

We decided not to include unpublished dissertations since their exclusion rarely has an influence on the conclusions of systematic reviews.[56]

3.3 Search strategy

3.3.1 Sources

Primary studies were identified by a number of methods: searching of electronic databases, hand-searching of selected journals, searching of women's health and domestic violence websites, citation tracking, and personal communication with authors and groups working in the field of partner violence.

In the first instance we identified primary studies by searching a wide selection of biomedical, psychosocial and legal electronic databases: Medline, Embase, Cinahl, Database of Abstracts of Reviews for Effectiveness, National Research Register, Cochrane Collaboration Central Register, Campbell Collaboration Library, PsycInfo, BIDS International Bibliography of the Social Sciences, Institute for Scientific Information Proceedings (Social Science and Humanities edition), Social Science Citation Index, Social Trends, Violence and Abuse Abstracts, Westlaw, and Lexis/Nexis. Databases were searched from their respective inception dates to September 30, 2004.

For Westlaw, we chose a multiple database search. "Legal Journals Index" contains details of articles in approximately 430 journals published in the UK and Europe, but not the USA. American law journals were accessed separately, using the "Index to Legal Periodicals". We also searched through "UK Journals". For Lexis, we likewise searched several databases, with "All Legal Journals" for the UK, and "All Law Reviews" and "Jurisprudences and Law Reviews" for the USA.

To complement our electronic searches we hand searched a number of journals for primary studies, we planned to do this for the years 1985 (or from the start date of the journal if first published later than 1985) to end of September 2004. The journals searched were: *American Journal of Public Health, Australian and New Zealand Journal of Public Health, Journal of Family Violence, Medical Journal of Australia, Violence and Victims, and Women's Health.*

Women's health and domestic violence websites were accessed through links from full text articles obtained from the primary search. These websites were explored for relevant material or citations, in a non-systematic manner. We also examined the reference lists of acquired papers, and tracked citations forwards and backwards. Further, we contacted authors of primary studies, and key experts and organisations in the UK, asking if they knew of any additional relevant published or unpublished studies.

3.3.2 Key database search terms and overall strategy

For the smaller databases (Database of Abstracts of Reviews for Effectiveness, National Research Register, Cochrane Collaboration Central Register, Campbell Collaboration Library, and Social Trends), it was appropriate to search using only the term "domestic violence". For all other databases the main search terms used comprised "intimate partner violence" and alternative synonymous terms and phrases. These were combinations of violence, abuse, or battery with domestic, partner, spouse or wife, using also plurals and words based on the roots of these key words.

The search strategy was designed to reduce the risk of missing any studies, but also had to be sufficiently defined in order to be specific to the research question. As a result, when working with the larger databases, it was necessary to limit the search by further terms in addition to those describing partner violence. In general, this meant that we refined the searches to include only papers that considered partner violence interventions and outcomes (including adverse effects), in study designs that fitted our inclusion criteria. Nonetheless, there was some degree of variation as a function of the database being accessed. For the biomedical and social science databases, the additional search terms were reasonably similar. For example, to limit the study designs, we used published routines in standard use that are described as maximally sensitive for study type[57] and adapted these by adding a few extra lines to capture time series and parallel group studies, and by deleting search terms relating to "placebo". However, the process was less straightforward for the two legal database searches and involved a degree of trial and error. This was because many health-related search terms are not transferable to a legal search. An obvious example is the phrase "trial", but terms such as "intervention" and "control" also resulted in a large number of irrelevant articles being identified.

See Appendix II for the Medline search strategy; other searches are available from the authors.

When searching women's health and domestic violence websites, we followed up any citation of studies where interventions around partner violence had been conducted.

3.4 Study selection and screening

We uploaded all citations found as a result of searching the electronic databases into Reference Manager Version 9. Following this, the abstracts and titles of all the citations were screened. The first 400 of these were independently screened by two reviewers. As there was good agreement between the reviewers (kappa coefficient 0.82) and the initial approach was very inclusive, thereafter only one of the reviewers continued with the process. However, the reviewer maintained a low threshold for potential inclusion and referred all queries to the second reviewer for independent screening. In addition, as a quality control check, the second reviewer independently screened the abstracts and titles of a further random sample of 400 articles from the Medline and PsycInfo database searches. Again, there was good agreement between the two reviewers (kappa coefficient 0.97).

All citations reporting studies potentially meeting the inclusion criteria went forward to the second round of the selection process, as did any citations where it was not possible to reach a decision about inclusion due to insufficient details in the abstracts or titles. Full-text copies of these papers were then obtained.

Both reviewers independently considered the full texts of articles identified in the first stage. Disagreements between the two reviewers generally were resolved by discussion between themselves, but when agreement was not reached, a third reviewer adjudicated. All studies meeting the inclusion criteria went forward for full data extraction. For studies which seemed relevant to the review but where insufficient details were reported (for example, where data were reported for abused and non-abused women combined, but there was a possibility that separate sub-group data were available), the first authors were contacted for clarification. If this information was made available, we also extracted data about these studies.

3.5 Data extraction

We entered data from the primary studies onto forms with sections on: (1) the intervention, (2) its context (e.g. population, setting); (3) study design; (4) study quality (5) results.

The two reviewers independently extracted data. They also independently assessed the quality of execution of these studies. As before, disagreements between the two reviewers generally were resolved by discussion between themselves, but when agreement was not reached, a third reviewer adjudicated. The first authors of all included articles were also asked for clarification of data or missing data if this was necessary. Following data extraction, first authors also were invited to check the completed data extraction forms and asked for feedback on the accuracy of the extraction.

3.6 Synthesis of primary studies

The data extraction forms were used to compile summary tables of the data and were the basis for our narrative synthesis of the primary studies. They were also used in the construction of tables relating to quality of execution and when working through the strength of evidence criteria.

3.6.1 Attrition and other incomplete data

Attrition was calculated for each stage of a study as a percentage of the participants enrolled who completed that stage, where the numbers for this calculation were available. We state when this calculation could not be made.

Record was made of the studies that used an intention-to-treat analysis. If reported by authors, reasons given for missing data were summarised. We planned to carry out sensitivity analyses of the possible effect of missing data on outcomes. Best case and worst case scenarios were planned to estimate the effect of the missing data on the results of the study.

3.6.2 Narrative analysis

We grouped the findings of the primary studies and analysed differences between studies in relation to design, quality, setting, samples, content of the intervention and other features.

3.6.3 Investigation of heterogeneity

We qualitatively evaluated heterogeneity of participants and interventions in the primary studies and tested for statistical heterogeneity between studies with McNemar's Q test using Stata statistical software (version 6).

3.6.4 Meta-analyses

For binary outcomes (for example, `referrals' or `no referrals') we undertook a standard estimation of the relative risk with a 95% confidence interval. Where possible we calculated effect sizes for continuous data where means and standard deviations were available or were obtainable from the authors of studies. Where scales measured the same clinical outcomes in different ways, mean differences were standardised in order to combine results across scales.

Meta-analysis was planned, using a random effects model in the presence of statistical heterogeneity, and a fixed effects model when no significant statistical heterogeneity was detected. Studies were grouped by type of intervention, with subgroup meta-analyses if appropriate.

3.6.5 Publication bias

We planned funnel plots to investigate the possibility of publication bias.

3.7 Assessment of the strength of evidence

3.7.1 Criteria and analysis

We used criteria to judge the strength of evidence that were originally developed by the U.S. Preventive Services Task Force (USPSTF)[58] (see Appendix III) for the evaluation of public health programmes and policies. These criteria relate to the internal validity of a study. The scoring system results in three grades: good, fair or poor. We also considered external

validity (generalisability). The criteria for determining the overall strength of evidence for each type of intervention were:

- The suitability of study design: this is split into greatest, moderate and least suitable on the basis of criteria given in Appendix III.
- The quality of execution of the study: this is split into good, fair and poor quality based on an appraisal of the internal validity of the primary studies (see Appendix III); this categorisation was carried out independently by two reviewers and any differences resolved by discussion.
- The number of studies that fulfilled minimum suitability and quality criteria.
- The size and consistency of reported effects.

The combination of these factors determined the final score for evidence of effectiveness for each category of interventions: strong, sufficient, or insufficient, in accordance with Table 3, adapted from the U.S. Task Force on Community Preventive Services.[59]

Table 3: Strength of the evidence[59]

Design suitability (D) (greatest, moderate only shown in this table)	Execution (E) (good, fair, poor)	Number of studies satisfying both D and E	Consistent direction of effect of these studies?	Effect size*	Evidence of effectiveness
Greatest	Good	At least 2	Yes	Sufficient	Strong
Greatest/moderate	Good	At least 5	Yes	Sufficient	
Greatest	Good/fair	At least 5	Yes	Sufficient	
Greatest	Good	1	Not applicable	Sufficient	Sufficient
Greatest	Good/fair	At least 3	Yes	Sufficient	
Greatest/moderate	Good/fair	At least 5	Yes	Sufficient	
Studies not meeting criteria for "strong"/"sufficient" evidence					Insufficient

* <0.2 = small, <0.5 = sufficient, >0.5 = large

3.7.2 Methodological quality of individual studies

In addition to the global criteria-driven appraisal of the evidence described above, we also appraised the quality of statistical design of the primary studies. We had two reasons for doing this: (1) detailed appraisal of statistical design and analysis could help to explain variation in the results of primary studies; (2) assessment of study design can inform future research on interventions for partner violence in health care settings.

3.8 Consultation with stakeholders

3.8.1 Pre-review consultation

We consulted with members of the national Domestic Violence and Health Research Forum during the initial stages of the review process. We circulated our draft protocol to the forum's mailing list, and we also discussed the scope and design of the review and relevant outcome measures at one of their bi-annual meetings. The forum includes service providers (including Women's Aid and Victim Support), lay members of community and women's groups, researchers, and clinicians from primary and secondary care.

3.8.2 Post-review consultation

A preliminary report of our findings was sent to members of the national Domestic Violence and Health Research Forum, the national Domestic Violence and Health Practitioners Forum, and other key stakeholders. This allowed us to obtain feedback from people who work with abused women on a daily basis and from other researchers within the field. It also enabled us to check if members and key stakeholders knew of any additional relevant studies that should have been included in the review.

4. Results

4.1 Identification of studies and selection

The process of study identification is represented in Figure 1. We were not able to obtain full copies of four papers.[60-64] Further, we were only able to hand search *The Journal of Family Violence* from 1997 to the end of September 2004, as we were unable to access copies of the journal from 1986 (its start date) to 1996.

In total we identified 48 papers or reports detailing 36 studies that we included in the review. The summary tables of the data from included studies are given in Appendix IV. Details of potentially eligible studies that we later excluded are given in Appendix V (excluded after contacting first authors of the primary studies) and Appendix VI (excluded as studies were found not to fulfil our inclusion criteria).

Figure 1: Stages in the review process

Potentially relevant articles identified from sources and screened for retrieval (n= 16295) 16292 from search 3 from recommendations by experts	
	Articles excluded, with reasons (n= 15287) 3758 duplicates 1464 intervention 4272 participants 1353 study type 1706 design 576 outcomes 4 not paper printed media the 2154 identified through the Westlaw and Lexis legal searches, all of which were either duplicates or were not considered relevant
Articles retrieved in full for more detailed evaluation (n=1008)	
	Articles excluded, with reasons (n=946) 4 not available 46 intervention 82 participants 594 study type 165 design 55 outcomes 0 not printed media
Potential primary study articles (n=62)	
	Articles withdrawn after correspondence with authors, with reasons (n=14) 1 no data, after no author reply 3 outcomes, after no author reply 10 outcomes, after author reply

Included articles, by intervention (n=48) 17 advocacy (including safety planning) 2 support groups 14 psychological 10 health care setting with structured training 1 health care setting without structured training 4 non-health care	
	Number of included authors who provided more information concerning missing data N=6
Primary studies, by intervention, represented by the 48 included articles (n=36) 9 advocacy (including safety planning) 1 support groups 11 psychological 9 health care setting with structured training 1 health care setting without structured training 5 non-health care	
	Studies excluded from the meta-analyses, with reasons (n=29) *missing data* 3 advocacy, 3 psychological, 6 health care setting with structured training *no appropriate controls* 2 advocacy, 1 psychological *outcomes not comparable* 2 advocacy, 1 support groups, 3 psychological, 1 health care setting without structured training, 5 not health care setting 2 advocacy studies were suitable for abuse outcomes but *not worth pooling* two studies.
Studies included in meta-analysis (n=7) 4 psychological 3 health care with structured training	

In Table 4, the 36 included primary studies are summarised in terms of their intervention type and study design.

Table 4: Summary of 36 primary studies by type of intervention and study design

STUDY DESIGN	*TYPE OF INTERVENTION*					
	Woman-centred			*System-centred*		
	Advocacy	***Support groups***	***Psycho-logical***	***Structured training (health care)***	***Without structured training (health care)***	**Non-health care**
Randomised controlled trial	4	0	5	0	0	0
Parallel groups	2	0	5	3	0	1
Before-and-after	2	1	1	2	0	1
Before-and-after historical controls	1	0	0	4	1	3

4.2 Woman-centred intervention studies

Thirty-three[65-97 67-71;73-75;77-80;86;88-90;93;94;96-98]of the articles (reporting 21 studies), all published since 1991, evaluated woman-centred interventions. We categorised these by type of intervention:

- Advocacy and advice (16 papers and one report describing 9 studies).
- Support groups (2 papers describing 1 study).
- Psychological intervention (14 papers describing 11 studies).

In choosing the categories for the interventions we are aware that there are national and professional differences in how the terms advocacy, support, counselling and therapy are used. Our judgement is informed by United Kingdom health service norms. Therefore our grouping of interventions may differ from other reviews where the reviewers have classified studies on the basis of terms used in the original papers (see Appendix VII for mapping of terminology).

All of the 21 woman-centred intervention studies report positive effects on at least one outcome. In the following sections we describe these studies.

4.2.1 Findings for advocacy interventions (including safety planning)

Nine studies (16 papers and one report) evaluated the use of advocacy. All of these were conducted in north America (eight from the United States, one from Canada).

Two separate randomised controlled studies (a pilot and a main study) by Sullivan and colleagues[61-67] trained undergraduate psychology students to provide 10 weeks of community-based advocacy to severely abused women exiting from refuges. Advocacy was tailored to the individual women's needs to help them to access community resources (such as housing, employment, legal assistance, transportation, and childcare). There was a focus on making the community more responsive to the woman's needs, brokering structural changes, as well as empowering the women themselves. A number of beneficial outcomes were observed over time. At the end of the advocacy period, there was a significant improvement in the women's perceived effectiveness in obtaining resources, [66-71] quality of

life[68;70;71] and perceived social support[68;70;71] as compared with baseline and control group scores. At 10 weeks, the women who received advocacy reported improvement in their quality of life and this was maintained at 6 months after the cessation of advocacy. Initial improvements in perceived effectiveness in obtaining resources and perceived social support were no longer statistically significant at 6 months. However, when followed up two years after the cessation of advocacy, women in the advocacy group reported significantly less physical abuse and still had a significantly higher quality of life than they did at baseline and in comparison with women from the control arm of the study.[70] Only women who had completed at least three weeks of advocacy were included in the analyses. In a multivariate analysis[99] and a cluster analysis[100] Sullivan and her colleagues sought to explain how their intervention had its beneficial effect. They suggest that short-term success in accessing resources due to increased resource-associated activity promoted by advocacy, and greater social support, result in an improved quality of life. This persists over time and ultimately serves as a protective factor from subsequent abuse.

Tutty[72] likewise considered the effects of advocacy for women leaving refuges, on this occasion using a before-and-after study design. The intervention programme of support and advocacy was of longer duration than the model used by Sullivan (from 3 to 6 months post-refuge), was targeted at abused women who chose to live independently of their abusive partners, was provided by a graduate social worker, and provided simultaneous counselling and other help for the woman. The main goals of the advocacy were to respond to the individual woman's needs and to coordinate support services so that the woman could remain independent and safe. It therefore included helping the woman to move and settle into a new community, help with responding to the ex-partner, and the provision of support on issues such as initiating divorce and child custody proceedings. Not all women had completed the intervention, which could last for up to 6 months, by the time of the assessment at 3 months. Tutty found that this programme of advocacy resulted in significant improvements over baseline scores for physical abuse and for "appraisal support" (the availability of someone to talk to about one's problems). However, there was no significant improvement for "belonging support" (obtaining support from friends and family) or perceived stress levels.

Advocacy and associated services also benefited pregnant abused women who were still in a relationship with the abuser, according to a parallel groups intervention study conducted by McFarlane and colleagues.[73-75;75] The women, attending an antenatal clinic, were offered an intervention of three brief sessions of individual advocacy (not described in any detail), education, referral and safety planning, spread over their pregnancies. Additionally, half of the intervention group were offered three further support group sessions at a local refuge[75] but outcomes for these were not considered separately. The investigators found that women receiving the intervention significantly increased their use of safety behaviours, with most behaviours showing an increase after only one session.[74] Safety behaviours included hiding keys, hiding clothes, asking neighbours to call the police, establishing a danger code with others, and hiding money. Results did not vary by ethnic group or by parity, but there was some evidence that older women were quicker to adopt safety behaviours. When compared with a control group of women who had not received the intervention, it was found at 12-months follow-up that women in the intervention group reported significantly improved resource use[73] but not use of the police, and there were also significant reductions in violence, threats of violence, and non-physical abuse against the women.[75]

The fifth advocacy study likewise was conducted in an antenatal setting by McFarlane and colleagues.[76] In this cluster randomised controlled trial, abused Hispanic women were allocated to one of three intervention groups: (1) "brief" where women were offered a wallet-sized card with information on community resources and a brochure; (2) "counselling" where for the duration of the pregnancy, women were offered unlimited access during clinic opening times to an onsite bilingual DV advocate who was able to provide support, education, referral, and assistance in accessing resources; (3) "outreach" which included all aspects of the "counselling" intervention, plus the additional services of a bilingual trained non-professional mentor mother who offered support, education, referral, and assistance in accessing resources. There was no inclusion of a no-treatment control group. The investigators found that violence and threats of violence decreased significantly across time for all three intervention groups. At 2 months post-delivery, violence scores for the "outreach" group were

significantly lower as compared with the "counselling" only group; but there was no significant difference when compared with the "brief" intervention group women who had only received a resource card and brochure. Subsequent follow-up evaluations at 6, 12 and 18 months found that there no significant differences between the three intervention groups. Use of resources was low for each of the groups and did not differ significantly by type of intervention at any of the follow-up evaluations.

The sixth advocacy study also was a randomised controlled trial conducted by McFarlane and colleagues;[77;78] however, on this occasion, the setting was a family violence unit of a large urban district attorney's office. All women received the usual services of the unit, which included processing of civil protection orders and optional advocacy referral, and the phone number of a caseworker for further assistance. They also received a 15-item Safety-Promoting Behaviour checklist (as used in the previous McFarlane study cited above). In addition the intervention group received six follow-on phone calls over eight weeks to reinforce the advice on adopting safety behaviours. The number of safety-promoting behaviours increased significantly in the intervention group, both compared with the control group and up to 18 months later.

The seventh advocacy study, by Muelleman and Feighny,[79] was different to the others reviewed here in that only one session of advocacy was provided and this took place in a hospital's emergency department (AED). The advocacy was termed "BRIDGE" because it aimed to act as a bridge between AED and community resources for abused women. Women were recruited who attended AED because of injury caused by an intimate partner. The advocate saw the woman within 30 minutes, discussed the incident with her, addressed safety issues, provided education about the cycle of violence, and informed her of community resources. A before-and-after design with historical controls was employed to evaluate outcomes, with data obtained from police/judicial, refuge and medical records rather than being self-reported by the women themselves. Women receiving advocacy significantly increased their use of refuges and refuge-based counselling services in comparison with pre-intervention controls. However, there was no effect on subsequent experience of abuse as measured by the number of repeat visits to the AED over a mean follow-up period of 65 weeks, nor was there any significant difference in the number of police calls made by women after their initial visit to the AED, or in the number of women who went on to obtain full protection orders.

The eighth advocacy paper reports a parallel group study conducted in a legal setting by Bell and Goodman.[80] Women in both the intervention and control groups received help with obtaining a temporary restraining order because of abuse, as part of usual care. Women in the intervention group were then offered advocacy for two to six weeks, until they received a full judicial protection order, by two law students trained in advocacy. Advocacy was provided by telephone and in person, at the women's homes or the law school. The primary emphasis was on legal representation and support through the court process, although advocates also helped women with safety planning, information-giving on partner violence and referrals to community agencies, as well as providing emotional support. Additionally, in a few cases, advocates helped women with transport, or talked to the women's friends and family (where women agreed to this). Women were assessed six weeks after entry to the study. There was no significant difference between intervention and control women in perceived social support, tangible social support, emotional support and depression; all improved in both groups. Psychological and physical abuse at six weeks were significantly reduced in the advocacy group as compared with controls, even though a majority of women in both the intervention and control groups maintained contact with their assailants.

The ninth advocacy study, with a before-and-after design, by McKean,[81] evaluated an on-site domestic violence programme for abused women attending employment services agencies. The aim of the programme was to assist abused clients to remain safe and to find suitable employment. The programme ran from October 2000 to the end of 2002, in Chicago, Houston and Seattle, USA, as a national demonstration project. The programme included on-site legal and court advocacy, crisis intervention, safety planning, support, group educational sessions, and referrals to other services, including mental health services. Where interest was strong, support groups for participants were established. The women were followed up over nine months. No statistical analyses were conducted, but most of the women reported an

improvement over time in their domestic violence situation, although nine months post-intervention rates of abuse were similar to baseline levels. At follow-up there was a five-fold increase in employment or enrolment in job training or educational programmes, although we cannot say whether advocacy had an independent effect on this outcome, given the intervention setting.

4.2.2 Findings for support group interventions

One of the primary studies evaluated support groups for abused women. This was a before-and-after Canadian study reported in two papers by Tutty and colleagues.[82;83] In total, 12 feminist-informed support groups for battered women, part of a community family violence programme, were evaluated. The goals of the groups were to stop violence by educating participants about male/female socialization, building self-esteem and helping group members to develop concrete plans. These goals were uniform and did not differ as a function of whether or not the woman resided with her abuser. The groups were facilitated by professionals over a 10 to 12 week period. There were some important differences between the various groups, but the authors considered that they were similar enough for the data to be aggregated. A number of statistically significant benefits were observed immediately after the end of the intervention including improvements in all physical and non-physical abuse measures, perceived belonging support, locus of control, self-esteem, and perceived stress and coping. Appraisal and tangible support and total perceived social support did not improve. At six months follow-up, many of the benefits were still in evidence. Specifically, there were continued reductions in physical abuse and one measure of non-physical abuse, and increases in self-esteem and perceived stress and coping. Improvements in social support and locus of control were sustained. Clinical judgments by the therapists generally corroborated the results obtained from the women themselves, although therapists were less likely than the women to report an improvement in levels of abuse. The authors showed, using multi-variate analysis, that groups with two facilitators, rather than one alone, may be more effective in reducing emotional abuse.

4.2.3 Findings for psychological interventions

Eleven studies (14 papers) evaluated the use of psychological interventions. Two studies were conducted outside of North America, one in Columbia[84] and one in Korea.[90] Four of the eleven studies reported on the effects of group interventions.[84;90-93] One compared a group intervention with a slightly modified version[85]), one included overall findings from 54 different domestic violence programmes (which incorporated individual, group, or both individual and group counselling sessions),[94;95] one compared group and individual therapy,[87] and the remaining four considered the benefits of individual therapy,[86;88;89;96;97;101] (with two of these[86;88;89] also each comparing two different interventions).

In the studies[86-89] where two types of psychological intervention were compared, both groups tended to have improved outcomes, but there were no differences *between* the interventions. It is unclear whether this means that (i) neither intervention is effective, as there is spontaneous improvement in these outcomes once a woman has left an abusive situation, or that (ii) one intervention is more effective than the other, but with insufficient power to detect the difference or that (iii) both interventions are equally effective (i.e. superior to no intervention). Positive outcomes from studies comparing a psychological intervention to no intervention suggest that (i) is unlikely. These and the other psychological interventions are described in more detail below.

Group psychological interventions

In a randomised controlled trial in Columbia by de Laverde, [84] abused women in the intervention arm were given cognitive behavioural therapy, with lectures and structured exercises. The women were shown models of appropriate and inappropriate behaviour in different situations and this was then followed by role play. Twenty 3-hour group sessions were held over a period of 10.5 weeks. Abused women allocated to the control condition attended a support group; these sessions were unstructured and aimed to discuss issues around partner violence and to provide information about the women's legal rights and the services of the Columbian Family Welfare Institute. It was found that the frequency and intensity of abuse decreased markedly in both groups at 15, 30 and 45 days post-

intervention, but the numbers were too small for any conclusions to be drawn. Other benefits over time for intervention group participants also were observed. In comparison to their baseline scores, women in this group significantly improved on several measures: communication skills, handling of aggression, assertiveness, and their feelings towards their partners and the relationship, such as their feeling less sentimental. These improvements did not extend to the control group and significant between-group differences were observed.

Cognitive behavioural therapy was also the method used in a parallel group study by Cox and Stoltenberg.[85] New refuge residents were recruited to a personal and vocational group psychological intervention programme that included cognitive therapy, skills building and problem-solving. The Personality Factors instrument (16PF) was administered to half of the intervention group, which was then given full feedback, creating two intervention sub-groups. The control group received normal refuge care, which included weekly non-structured counselling sessions. When assessed immediately after the cessation of the intervention, both intervention groups showed significant improvements over baseline levels of self-esteem. However, all other benefits over time, including anxiety, depression, hostility and assertiveness, were limited to those women who received the intervention *without* any feedback from the 16PF. Neither of the two intervention groups improved in terms of locus of control. None of the outcome measures improved over time for women in the control group.

The third of the group interventions was reported in a parallel group evaluation in Korea by Kim and Kim[90] and was conducted with battered women residing in a refuge long-term. The intervention group women were given eight weekly sessions of counselling based on an empowerment crisis-intervention model that was problem-focused and goal directed. Follow-up was restricted to an immediate post-intervention assessment. Women who received counselling had significantly reduced levels of trait anxiety compared to women in the control group. There were no differences between groups for state anxiety and depression scores which decreased in both. Self-esteem did not change between or within groups, but the instrument used has not been validated in Korean populations.

A psycho-educational group programme was evaluated in a parallel group study by Limandri and May.[91;92] The content of this programme included information about domestic violence, safety planning, stress management, building self-esteem, coming to terms with loss and grief, and developing a number of life skills. Women were recruited primarily through the victim witness programmes of two district attorney offices. Follow-up did not extend beyond the 12-week intervention. At the end of the intervention, self-efficacy scores improved for the women receiving group counselling but declined slightly for women in the control arm of the study. There was an improvement in women's perception of abuse across time in both groups. There were no between group comparisons, no scores for the outcome measures and no reporting of any statistical analysis.

Variable results were obtained in a randomised controlled trial of group counselling by Melendez and colleagues,[93] where abused and non-abused women recruited from a family planning clinic were offered four or eight group sessions of cognitive-behavioural therapy to prevent HIV/STD infection. This study was somewhat different to the other psychological intervention studies we have included in the review since it focused on improving sexual health rather than mental health outcomes. Two measures were used to test safe sex practices: condom use in general and episodes of unprotected sex. Abused women receiving eight sessions of counselling were significantly more likely to say they used condoms at least sometimes, when compared with controls and women receiving four sessions of counselling, at one and 12-months follow-up. On the other hand there was no difference between groups in number of unprotected sex occasions. Short-term benefits were reported in the use of alternative safer sex strategies in both intervention groups, and negotiation over safer sex after eight sessions of therapy, but these were not maintained to 12-months follow-up. There was no difference in abuse outcomes between the intervention and control groups at any post-intervention assessment.

A before-and-after evaluation conducted by Howard and colleagues[94;95] considered counselling delivered by 54 domestic violence providers in Illinois county, USA. These varied in terms of theoretical framework and delivery. Generic counselling significantly improved the well-being and coping of physically abused women who approached support services for help

and was of particular benefit to women who had been both physically and sexually assaulted as compared with women who had suffered physical assault on its own.

A parallel group study by Rinfret-Raynor and Cantin[87] in Canada evaluated one intervention delivered either in individual or group sessions. The intervention, feminist-informed therapy for battered women referred to social services, was compared with the normal non-structured therapy provided to clients by the agencies. The therapies were administered in a number of settings, including social service centres, community health centres, and one non-institutional setting. When followed up after 12 months, women in all three arms of the study showed improvement over time in terms of abuse, self-esteem, assertiveness. Improvements in marital assertiveness and marital adjustment also followed a similar pattern but the numbers of women still living with their abusers were too small to allow any statistical analysis of these outcomes. An analysis of covariance on all of the outcome measures showed that neither intervention model was superior over the other and neither was superior to therapy in the control group.

Individual psychological interventions

In a randomised controlled study by Mancoske, Standifer and Cauley,[86] women who contacted a battered women's agency were provided with rapid response crisis intervention. They were then randomly assigned either to feminist-oriented counselling or grief resolution-oriented counselling, both of which were provided over eight weekly sessions by trained social workers, and both of which combined basic problem solving and psycho-education. At the end of counselling, both groups showed improvements over baseline in self-esteem and self-efficacy, and reported more positive attitudes towards feminism. Only the results for the women who received grief resolution-oriented counselling attained statistical significance.

In a parallel group study of women resident in a refuge or getting refuge-associated services, conducted by McNamara and others[88;89] two types of intervention were compared: individual counselling versus case management. When assessed after three sessions, women in both groups showed significantly improved life satisfaction and coping ability, as compared with baseline values. Additionally, women who had received individual counselling showed a significantly greater increase in global improvement scores than women in the case management group.

The most recent individual psychological intervention studies were both conducted by Kubany and colleagues[96;97] and were of similar design. The intervention was based on cognitive behavioural therapy and was targeted at battered women with post-traumatic stress disorder (PTSD). Specifically, the intervention included elements from existing treatments for PTSD, feminist modules that focused on self-advocacy and empowerment strategies, assertive communication skill building, the managing of unwanted contacts with former partners, and identifying potential perpetrators to avoid re-victimisation. The two evaluation studies, both randomised controlled trials, found a sustained improvement at three and six months respectively in a range of mental health measures including PTSD, depression, and self esteem.

4.3 System-centred interventions

Twelve papers and three reports[98;101-114] evaluated system-centred interventions. (One study is described in two papers and two studies are considered in one report, so that altogether 15 studies are described.) All have been published since 1998 and half originate from the United States; however, one study is from New Zealand,[103;104] one is from Australia,[109] one is from Spain,[98] and five are from the United Kingdom.[101;107;113;114] Robinson and colleagues first paper[113] reports two studies. All of the interventions reported relevant benefits on at least one outcome, but there was variation in the outcomes measured.

4.3.1 Findings for health care interventions with structured training

Nine system-centred studies in health care settings tested interventions that had structured staff training as the central element. In all cases, didactic training was supplemented with support materials, such as a laminated prompt card or protocol as the minimum. Eight of the nine studies measured referrals to other health services or support agencies as outcomes, while one by Watson and Egan[101] considered direct health outcomes for abused women.

Seven of the eight studies that measured referrals showed an increase in these. The study that did not find increased referrals,[105] did show an increase in information-giving. These benefits were found over a wide range of health care settings, but half[101 108;109 110] the studies did not analyse their results statistically.

One of the studies was conducted in community health centres. This was a before-and-after study with historical controls by Harwell and colleagues,[102] for the US Philadelphia Family Violence Working Group. Their intervention was based on the Massachusetts Medical Society RADAR protocol (Routine screening, Ask direct questions, Document your findings, Assess patient safety, Review patient options and referrals) and trauma theory. Three to six hours of training was provided to a range of health professionals (physicians, nurses, social workers, psychologists). Additional tailored training was also provided for some staff and all staff were given support aids (such as step-by-step guides). Six months after training was initiated, it was found that referrals of abused women increased over pre-intervention rates.

Three of the studies were conducted in hospital accident and emergency departments (AEDs). The first of these was a parallel group study in New Zealand carried out by Fanslow and others.[103;104] In this study, the medical staff working in the AED received a single session of didactic training of between one to four hours, a protocol based on principles of care outlined by the American Medical Association, and support aids (posters, cards, health questionnaires). Topics covered in the training were recognition of partner abuse, screening, assessment of risk, information-giving to women at risk, safety planning, and referral to support agencies such as refuges. Some staff also were given additional training sessions, one facilitated by the local police and one by the local refuge, and a further session that addressed cultural issues for Maoris/Pacific Islanders. Follow-up at three months showed an increase in referral rate of abused women from 2% to 25%. However, this initial improvement was reversed at one year follow-up, despite publicity about the programme and the appointment after three months of a staff nurse coordinator who trained new staff, ensured the protocol was part of routine AED procedure and established links with local police and refuge staff.

The second AED study was by Ramsden and Bonner[109] in Australia. In this before-and-after study with historical controls, AED staff were given didactic training on domestic violence screening and issues, and support aids (such as easily accessed information about essential resources). The duration of the training varied, but core training sessions lasted for between 20 to 45 minutes, and key nursing staff received additional training of at least six hours duration. Follow-up took place three months later. It was found that the number of referrals to a social worker or to the police had nearly doubled as compared with pre-intervention numbers. However, the authors did not report enough information for referral rates to be calculated; neither did they report the findings of any statistical analyses.

The third AED study took place in the United States and was conducted by Short, Hadley and Bates.[111] The authors employed an after-only parallel group design to test the effectiveness of WomanKind, a programme that involved establishing an integrated hospital response to domestic violence. WomanKind's services included: hospital-wide training by in-house domestic violence advocates, 24-hour a day case management services, crisis intervention, advocacy, domestic violence support groups, and ongoing assistance for women after they left the AED. As part of the training, staff were actively encouraged to refer all abused women to WomanKind services. It is not clear what support materials were provided. AED records were audited to examine performance at three hospitals that implemented the programme and two control hospitals where usual care was provided. Two years after the start of the initiative, the authors reported that AED staff at the intervention sites referred abused women to domestic violence advocacy services (including, but not exclusively, WomanKind) more often than staff at the comparison sites.

Two of the studies measuring referrals were sited in women's health services: an antenatal health clinic and rural family planning clinics. The antenatal study used a parallel group design and was conducted by Wiist and McFarlane.[106] Clinic staff were provided with a single session of 90 minutes of didactic training on screening for partner abuse (the screening questionnaire being available for use in Spanish or English), and associated procedures including making referrals to an onsite bilingual counsellor. This was supplemented with a

protocol and with weekly visits by the trainer for the purpose of providing support and for training any new staff. Follow-up showed an increase in referrals from 0% to 67% of women disclosing abuse at three months and 53% at 12 months.

The rural family planning clinics study was conducted by Ulbrich and Stockdale[110] and used a before-and-after design with historical controls. All staff were given didactic core training (including how to identify a personal support system for the women, safety planning, and making referrals), pocket cue cards and a protocol to follow; key staff also receiving intensive follow-on training over two years. As part of the intervention, community-based domestic violence agencies provided advocates. At three of the clinics, the advocates worked mostly off-site but attended the clinics in emergency situations; at the fourth clinic, an on-site service was available for one day per week. The investigators reported increased referrals by nurse-practitioners and registered nurses six months from the start of the intervention.

Two of the studies tested an intervention across different health disciplines. One was a before-and-after study with historical controls conducted by McCaw and colleagues[108] within various departments of a health management organisation (HMO). The intervention was designed to take advantage of existing infrastructures and to avoid taking clinicians away from their clinical practice. Several brief training and information sessions were delivered to clinical staff and receptionists. Additionally, using a systems model approach, the HMO actively sought to improve its links with community services, inform patients about domestic violence and appropriate services, provide clinicians with information and prompts and employ an on-site domestic violence specialist. Nine months after training started, there was an increase in the number of abused women referred, but there was insufficient information to determine referral rates and no statistical analysis.

The other study, a before-and-after study, is described in a report by Watson and Egan[101] on an intervention in east London. Staff across a wide range of health care disciplines and non-health care organisations were provided with training on domestic violence, including instruction on referring abused women to the programme's intervention services. Training materials were accessible on a website and staff received a laminated resource card. Outcomes for women were measured immediately after they had received counselling services. Two thirds of these women reported reduced depression, fear, and confusion, and increased coping ability. Nearly 75% of these women also reported increased confidence and feeling clearer about what they wanted to do. Outcome measures were not validated and there was no statistical analysis of the results.

The before-and-after study with historical controls conducted by Shepard and colleagues[105] was somewhat different to the others in that the health professionals targeted were nurses who routinely visited vulnerable women (with health problems, low income, psychosocial problems) in their own homes, as part of a maternal and child health programme. For this project funded by Centers for Disease Control and Prevention, the nurses received training in domestic violence, and a domestic violence response protocol was developed to increase referrals and information-giving. Two years after the protocol was introduced, the authors reported that referral rates did increase from 3% at pre-intervention to 17%, but this positive trend was not statistically significant. Information-giving by nurses improved significantly following the intervention. The data on referral before and after the intervention were not fully comparable.

4.3.2 Findings for health care interventions without structured training

Muňoz Cobos and others[98] conducted a before-and-after study with historical controls in Spain, using a case management model. The intervention sought to improve the health of abused women and their children by eliminating bureaucratic obstacles, coordinating multidisciplinary care, and providing prioritised health care. When compared with pre-intervention measures at 11 months, prioritised care increased health service use and diagnosis and management of health problems. The content of the intervention is difficult to replicate because there is no explicit protocol.

4.3.3 Findings for non-health care interventions

Five of the 15 system-centred intervention studies included in the review were conducted in non-health care settings. Of these, three were police-related, one was multidisciplinary involving various organisations, and one was based in an employment agency.

A parallel group study by Farrell and Buckley,[107] based in Merseyside, and funded by the Home Office, measured outcomes following the establishment of a police domestic violence unit (DVU). The unit offered help and advice to women and men experiencing abuse (including legal help, housing and welfare), as well as engaging in active collaboration with other support agencies. The unit was evaluated 12 months after its inception. At this time, it was found that the number of repeat calls received as a proportion of all domestic violence calls had been reduced by 1.5%. This compared with an increase of such calls of between 5% and 11% in six adjacent police divisions without DVUs, but no statistical analysis was reported. The study outcome, repeat calls to police, is a weak proxy measure of repeat abuse.

Two other Home Office-funded police-related interventions (both before-and-after studies with historical controls) were detailed in a report by Robinson.[113] These interventions were conducted in the same police area in Cardiff and at around the same time, thus the author acknowledges that their individual effects can not be established. One of the initiatives was the setting up of a women's safety unit (WSU), and the other was enhanced policing. The WSU was a community organisation but worked closely with the police and had a seconded police officer attached to it. The unit provided a central point of access to services for abused women and helped with issues of safety, advocacy, counselling and support, referral, children-related services. The enhanced policing intervention (Police Watch) provided extra police services-related support for women complaining of domestic violence, and included Cocoon Watch, an initiative that with the victim's consent involves neighbours, family members and relevant agencies. Follow-up data were available for 12 months following the establishment of the WSU, and for 8 months following the implementation of Police Watch. Both of the interventions were associated with a number of improvements, including reductions over time in numbers of calls for repeat abuse, and the proportion of women who did not make a complaint against their abusers.

The multidisciplinary intervention was conducted in the same geographical area as the WSU and Police Watch studies described above, and was also evaluated by Robinson.[114] Representatives of various organisations attended a monthly case conference to discuss high risk domestic violence cases for the purpose of sharing information and to take action to help the women and their children. The intervention was termed MARAC (multi-agency risk assessment conferences) and was evaluated using a before-and-after study design where the women were followed up over six months. There was some indication that repeat abuse did not occur as frequently after, and more than half of the women did not experience any further abuse. No statistical analyses were reported.

Falk and colleagues,[112] using a before-and-after study with historical controls, evaluated an intervention targeted at employee assistance programme counsellors. The intervention included the introduction of a protocol for screening of domestic violence and further management and this was supplemented with support and (unspecified) training. There were some positive changes over time. However, if only the results relating specifically to women identified as abused are considered, then there was no change in information giving over time, and there was actually a reduction in the number of referrals following the implementation of the protocol. The authors suggest that the reduction occurred because the EAP counsellors were better equipped to support the abused women without having to refer to outside agencies.

4.4 Adverse effects of interventions

There were no reports of adverse outcomes of interventions in any of the studies. These were not considered as primary or secondary outcomes in any study.

4.5 Strength of the evidence

The following tables show the strength of the evidence for effectiveness for the five main groups of interventions (advocacy, psychological, system-centred health care based with structured training and without structured training, and system-centred non-health care based). For each group, we could not calculate effect sizes for many of the studies, so we have estimated the size of the benefit. In each table, the shaded cells highlight the criteria met by each group of interventions. (A description of the table components is given in section 3.7.1).

Table 5: Strength of the evidence for the advocacy interventions and abuse outcomes (see shaded cells)

Design suitability (D) (greatest, moderate only shown in this table)	**Execution (E) (good, fair, poor)**	**Number of studies satisfying both D and E**	**Consistent direction of effect of these studies?**	**Effect size***	**Evidence of effectiveness**
Greatest	Good	At least 2	Yes	Sufficient	Strong
Greatest/ Moderate	Good	At least 5	Yes	Sufficient	
Greatest	Good/fair	At least 5	Yes	Sufficient	
Greatest	Good	1	Not applicable	Sufficient	Sufficient
Greatest = 3	Good/fair = 3	At least 3 (abuse outcome only)	Yes	Sufficient	
Greatest/ moderate	Good/fair	At least 5	Yes	Sufficient	
Studies not meeting criteria for "strong"/"sufficient" evidence					Insufficient

* <0.2 = small, <0.5 = sufficient, ≥0.5 = large

Globally the evidence for effectiveness of advocacy interventions is sufficient, at least as a means of reducing abuse in women who have actively sought help from community services (see table 5). Other outcomes were not measured in a sufficient number of studies that had moderately suitable design or fair execution (i.e. do not constitute sufficient evidence of effectiveness).

Table 6: Strength of the evidence for the psychological interventions and depression outcomes (see shaded cells)

Design suitability (D) (greatest, moderate only shown in this table)	Execution (E) (good, fair, poor)	Number of studies satisfying both D and E	Consistent direction of effect of these studies?	Effect size*	Evidence of effectiveness
Greatest	Good	At least 2	Yes	Sufficient	Strong
Greatest/ moderate	Good	At least 5	Yes	Sufficient	
Greatest	Good/fair	At least 5	Yes	Sufficient	
Greatest	Good	1	Not applicable	Sufficient	Sufficient
Greatest = 3	Good/fair = 4	At least 3	Yes (depression)	Sufficient	
Greatest/ moderate	Good/fair	At least 5	Yes	Sufficient	
Studies not meeting criteria for "strong"/"sufficient" evidence					Insufficient

* <0.2 = small, <0.5 = sufficient, ≥0.5 = large

Globally there is sufficient evidence for the effectiveness of psychological interventions in improving depression in women experiencing abuse (see Table 6). Effects are not consistent for self-esteem and other outcomes were not measured in a sufficient number of studies with moderately suitable design and fair execution (i.e. do not constitute sufficient evidence of effectiveness).

Table 7: Strength of the evidence for the system-centred health care interventions with structured training and referral outcomes (see shaded cells)

Design suitability (D) (greatest, moderate only shown in this table)	Execution (E) (good, fair, poor)	Number of studies satisfying both D and E	Consistent direction of effect of these studies?	Effect size*	Evidence of effectiveness
Greatest	Good	At least 2	Yes	Sufficient	Strong
Greatest/ moderate	Good	At least 5	Yes	Sufficient	
Greatest	Good/fair	At least 5	Yes	Sufficient	
Greatest	Good	1	Not applicable	Sufficient	Sufficient
Greatest	Good/fair	At least 3	Yes	Sufficient	
Greatest/ moderate	Good/fair	At least 5	Yes	Sufficient	
Studies not meeting criteria for "strong"/"sufficient" evidence					Insufficient

* <0.2 = small, <0.5 = sufficient, ≥0.5 = large

For the system-centred health care interventions with structured training, there were too few studies with moderately suitable design and fair execution (i.e. do not constitute sufficient evidence for effectiveness), irrespective of outcome measure (see Table 7). However, seven of nine studies (measuring referrals) found a large and consistent effect.

Table 8: Strength of the evidence for the system-centred health care interventions without structured training (see shaded cells)

Design suitability (D) (greatest, moderate only shown in this table)	Execution (E) (good, fair, poor)	Number of studies satisfying both D and E	Consistent direction of effect of these studies?	Effect size*	Evidence of effectiveness
Greatest	Good	At least 2	Yes	Sufficient	Strong
Greatest/ moderate	Good	At least 5	Yes	Sufficient	
Greatest	Good/fair	At least 5	Yes	Sufficient	
Greatest	Good	1	Not applicable	Sufficient	Sufficient
Greatest	Good/fair	At least 3	Yes	Sufficient	
Greatest/ moderate	Good/fair	At least 5	Yes	Sufficient	
Studies not meeting criteria for "strong"/"sufficient" evidence					Insufficient

* <0.2 = small, <0.5 = sufficient, ≥0.5 = large

For the system-centred health care interventions without structured training, there was only one study and it did not constitute sufficient evidence for effectiveness, irrespective of outcome measure (see Table 8).

Table 9: Strength of the evidence for the system-centred non-health care interventions and abuse (including proxy abuse) outcomes (see shaded cells)

Design suitability (D) (greatest, moderate only shown in this table)	Execution (E) (good, fair, poor)	Number of studies satisfying both D and E	Consistent direction of effect of these studies?	Effect size*	Evidence of effectiveness
Greatest	Good	At least 2	Yes	Sufficient	Strong
Greatest/ moderate	Good	At least 5	Yes	Sufficient	
Greatest	Good/fair	At least 5	Yes	Sufficient	
Greatest	Good	1	Not applicable	Sufficient	Sufficient
Greatest	Good/fair	At least 3	Yes	Sufficient	
Greatest/ moderate	Good/fair	At least 5	Yes	Sufficient	
Studies not meeting criteria for "strong"/"sufficient" evidence					Insufficient

* <0.2 = small, <0.5 = sufficient, ≥0.5 = large

For the system-centred non-health care interventions, there were too few studies that had moderate design suitability and fair execution (i.e. do not constitute sufficient evidence of effectiveness), irrespective of outcome measure (see Table 9).

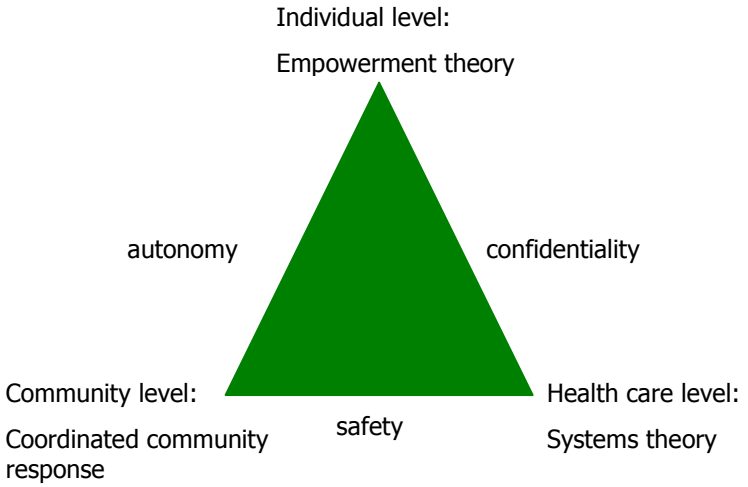
4.6 Narrative synthesis

In this section, we highlight the underlying theoretical frameworks of the primary studies, to the extent that these are explicit or we can deduce them from the description of the interventions, and then explore factors explaining variation in the outcomes.

4.6.1 Theoretical frameworks

Frameworks for partner violence interventions can reflect three levels at which interventions are targeted: the individual, health care system and the community (see Figure 2).[55]

Figure 2: Frameworks for partner violence interventions



Theoretical frameworks are not explicit in all the primary studies we considered, nor can they always be deduced. In general the frameworks for the woman-centred interventions (Appendix VIII) were pragmatic, promoting adjustment of the intervention to the wants or needs of individual women. There was wide variation in the detail provided for each model. For example, all professionals using the psychological intervention designed by Kubany[96;97] had to adhere to an identical procedure as detailed in a proscriptive manual. By contrast Tutty[72] used a more open-ended approach, which gave advocates the choice of whether or not to involve the woman's family and friends. The individual level advocacy offered by Sullivan in her pilot and main study [65-71] goes beyond individual support or empowerment of women to focus on making the community more responsive to the woman's needs, brokering structural changes. This dual focus, Sullivan and colleagues believe, helps explain the success of their intervention. Because of the hybrid nature of Sullivan's intervention, we have categorised it at both the individual and ecological levels for woman-centred interventions.

Feminist theory is prominent in most of the studies, but this is not the only theoretical framework underpinning successful interventions. For example, for women centred interventions, cognitive behavioural techniques have more recently become a focus of evaluation.

A broad and heterogeneous range of theoretical frameworks has been used for the system-centred studies (Appendix IX), and no firm conclusions can be drawn about the relative merits of different frameworks. Again, as with woman-centred interventions, feminist theory dominates, where the framework can be determined, but other approaches have been successful.

4.6.2 Factors explaining variation in global outcomes

The interventions and evaluations differed in a number of ways other than their theoretical framework. We found that across the five main types of intervention (advocacy, psychological, system-centred health care with and without structured training, and system-centred non-health care), regardless of intervention model, setting, participant sample, study design and quality, there were small improvements in at least one of the outcome measures for each study. To the extent that there is variation in outcomes, these were not explained by the following factors:

- Study design, including analysis and reporting.
- Characteristics of the intervention in terms of content, intensity, theoretical framework, format, person implementing it, setting (rural or urban, type of organisation).

- Characteristics of the participants (co-existing problems, ethnicity, current relationship status with perpetrator, type and scope of the abuse, help-seeking behaviour and site of recruitment to the study).

The effect of level and duration of prior abuse could not be considered due to a lack of data and the differential effect of socio-economic status was difficult to judge across studies because most recruited women of predominantly low socio-economic status.

In the next sections, since globally we cannot detect any patterns that explain outcomes, we focus only on those studies that measured similar outcomes and their differences. Variations between these in effect on outcomes may be due to variation in the precise nature of the intervention evaluated in each study. They may also be related to variation in study execution. Only the Sullivan studies[65-71] and the Bell and Goodman study[80] were rated fair, among the advocacy studies we are considering in this section. Among the psychological studies we consider, the two Kubany studies[96;97] show the largest effect sizes, and were rated as fair. The other psychological study rated as fair was the small study by Kim and Kim,[90] with all other studies being of poor execution. The system-centred studies were all rated as of poor execution. Details of the assessment of execution are given in Appendix X.

However, other possibilities need to be explored that may help to inform policy and the design of future interventions and their evaluation. We have systematically considered each of the characteristics listed in 4.6.2 in order to clarify differences. Our main findings are summarised below. The full systematic comparison is available from the authors.

4.6.3 Factors explaining variation in abuse outcomes for woman-centred advocacy interventions (including safety planning)

Four advocacy interventions (Sullivan main and pilot study, McFarlane and others, Bell and Goodman[65])[66-71;73-75;80] reduced abuse but two did not (Muelleman and Feighny and McKean[79])[81]. One study showed a reduction in abuse across all intervention groups but there was no no-treatment control.[76] The features we considered in detail to explain this are shown in Table 10.

Table 10: Comparing features of the advocacy studies measuring abuse outcomes*

FEATURE	SULLIVAN[65-71]	BELL AND GOODMAN[80]	MCFARLANE AND OTHERS (1997)[73-76]	MCFARLANE AND OTHERS (2000)[73-76]	MCKEAN[81]	MUELLEMAN AND FEIGHNY[79;81]
Main goals	long-term	short-term (focus on legal advocacy)	short-term	short-term	employ-ment	short-term
Duration of advocacy	60 hours	12-36 hours	30 minutes	"unlimited"	11.5 hours	1.5 hours
Time scale	10 weeks	2-6 weeks	up to 9 months	up to 9 months	several weeks	single session
Were women recruited from abuse help-seeking settings?	yes (refuge)	yes (justice-seeking)	antenatal clinics	antenatal clinics	employ-ment agencies	accident and emergency department
Majority of women living with or otherwise involved with perpetrator?	yes	yes	yes	yes	no	probably
Theoretical framework	empowerment	empowerment	empowerment	empowerment	not reported	"community" (simple information giving) model

**The columns for the studies that did not show reduced abuse are shaded*

Overall it would appear that:

- Advocacy interventions that use an empowerment framework are effective in reducing abuse.
- Advocacy does not need to be frequent but generally has only been shown to be effective in reducing abuse when lasting at least 10 hours. A single meeting with an advocate may not be sufficient to reduce abuse.
- Advocacy is likely to reduce abuse in women who are actively seeking help to end the abuse. Its effect on other abused women is less clear. The effect on abuse outcomes of involvement with the perpetrator cannot be determined from current evidence
- Students successfully provide advocacy.

4.6.4 Factors explaining variation in resource use outcomes for woman-centred advocacy interventions (including safety planning)

When looking at advocacy studies that measure resource use, we found that this improved with the Sullivan pilot and main interventions[65-71] but not with the intervention used by McFarlane and others.[73-75] McFarlane and others (2000)[76] showed an improvement over time but not between groups.

Some features of these studies and interventions that may explain this difference in outcomes are shown in the table in section 4.6.3. In summary, improvements in resource use may be more likely with:

- Long-term goal setting.
- Student advocates.
- Women who have already begun to seek help to end abuse and often also to end their involvement with the perpetrator.

However, there are caveats:

- We only compare two different interventions.
- The McFarlane control groups received at least a brief intervention, reducing the ability of the studies to detect an effect for the main intervention. So an increase in resource use due to the main intervention may have occurred with the McFarlane intervention even though not shown in their analyses.
- Sullivan and colleagues only showed that resource use changed immediately post-intervention. Their longer term results were not reported but may have been similar to those of McFarlane and colleagues (1997-1999),[73-75] who only reported outcomes at 6 and 12 months post-intervention. Thus it is possible that some level of advocacy needs to be available to women long-term, and also possible that some benefits occurred early on in the McFarlane study but were not detected or sustained. This is also supported by the decrease over time in resource use seen in the later, larger, antenatal study by McFarlane and colleagues.[76]

4.6.5 Factors explaining variation in social support outcomes for woman-centred advocacy interventions (including safety planning)

Turning now to social support, only one subtype, appraisal support, was reported to have improved with advocacy from Tutty[82;83] and from Sullivan.[67-71] Emotional support improved with the advocacy provided by Bell and Goodman,[80] but women in both the control and intervention groups showed improvement. This may be because the control women had limited access to a separate advocate, reducing the ability of the study to detect an effect from the advocacy intervention under evaluation. But it may also mean that improvement was not due to the interventions. In Table 11 and the text below, we consider other features that may have led to the differences in outcome between the studies.

Table 11: Comparing features of the advocacy studies measuring social support outcomes

FEATURE	SULLIVAN[67-71]	TUTTY[82;83]	BELL AND GOODMAN[80]
Type of social support that improved	total support appraisal support	appraisal support	emotional support
Main goals	long-term	long-term	short-term (focus on legal advocacy)
Duration of advocacy	60 hours	13 hours	12-36 hours
Time scale	10 weeks	3-6 months	2-6 weeks
Identity of advocates	trained students	social workers	trained students
Were women recruited from abuse help-seeking settings?	yes (refuge)	yes (refuge)	yes (justice-seeking)
Majority of women living with or otherwise involved with perpetrator?	yes	yes	yes
Theoretical framework	empowerment	empowerment	empowerment

From this comparison, it would seem that the content, goals and focus of the advocacy intervention and its setting are sufficient to explain the findings of differential effects on subtypes of social support, and possibly differences in the significance of the results.

Considering the findings in more detail, Tutty used social workers, Bell and Goodman used law student advocates and Sullivan used psychology student advocates, reflecting the differential focus of the interventions. The timing of the intervention, and what help the women have already received, may be important. Tutty suggested that emotional, tangible and belonging support did not improve with her intervention because the women in her study had just left a refuge that had already met some of their social support needs. This explanation would also apply to the Sullivan intervention.

We also found that:

- The studies were similar in terms of women's help-seeking behaviour and involvement with partners, as well as theoretical frameworks, so these factors did not drive differences between the studies
- Benefits were short-term. Sullivan and colleagues conclude that there may be a need for continued advocacy, perhaps on an as-needed basis, to maintain social support benefits.

4.6.6 Factors explaining variation in abuse outcomes for woman-centred psychological interventions

Limandri and May[91;92] found that their psychological intervention improved women's perception of abuse, both over time and compared with controls, and de Laverde[84] reported similar results, whereas Rinfret-Raynor and Cantin[87] and McNamara and colleagues[88;89] found a significant effect over time only, and Melendez and colleagues[93] found no effect on abuse. In Table 12 and the text below, we consider features that may have led to the differences in outcome between the studies.

Table 12: Comparing features of the psychological studies measuring abuse outcomes

FEATURE	LIMANDRI AND MAY[91;92]	de LAVERDE[84]	RINFRET-RAYNOR AND CANTIN[87]	MCNAMARA ET AL[88;89]	MELENDEZ ET AL[93]
Duration of intervention	not stated	20 sessions, 60 hours	not stated	3 sessions, duration not stated	8 or 16 hours
Time scale	12 weeks	10.5 weeks	not stated	not stated	4 or 8 weeks
Were women recruited from abuse help-seeking settings?	probably - known to domestic violence coordinator	yes	referred from social services	yes, refuge	no, family planning clinic
Majority of women living with or otherwise involved with perpetrator?	not sure	yes	no	probably not	no
Format of intervention	individual	group	group and individual	individual	group

When we looked at specific features of the studies, we found that in general they were unable to adequately explain these differences:

- The duration of the intervention was not stated for most of the studies.
- Melendez and colleagues found no effect on abuse after group psychotherapy, whereas de Laverde did. Rinfret-Raynor's study compared group and individual psychotherapy and found that both were effective. However, the three studies considered very different samples of women. Commonsense suggests that each format, group or individual, may be more suitable for some women and this needs to be explored in more depth.
- By its nature, psychological interventions require trained professionals. So differences cannot be attributed to the use of non-professionals. They could however be related to differential training, which we were unable to explore.
- In most of the studies, few women were still involved with their assailant. Since women in both the control and intervention groups reported reduced abuse in all but the Melendez study, this lack of involvement, rather than the intervention per se, may explain results. However, abuse also decreased in both groups in the de Laverde study where 75% of women were still married to their assailants. More studies need to be undertaken with women who are still involved with, and intend to remain involved with, their partners, to tease out this influence on effect.

4.6.7 Factors explaining variation in depression outcomes for woman-centred psychological interventions

Kim and Kim[90] and Cox and Stoltenberg[85] found no significant improvement in depression measures between groups after psychological intervention, although depression decreased over time. By contrast, the Kubany studies[96;97] showed a significant decrease in depression with the intervention compared with controls. Results are most robust for the Kubany studies, which included important analytical features such as intention-to-treat analysis. In Table 13 and the text below, we consider other features that may have led to the differences in outcome between the studies.

Table 13: Comparing features of the psychological studies measuring depression outcomes

FEATURE	KUBANY[96]	KUBANY[97]	KIM AND KIM[90]	COX AND STOLTENBERG[85]
Duration of intervention	13.5 hours	13.5 hours	not stated	12-18 hours
Time scale	9 weeks	9 weeks	8 weeks	2 weeks
Were women recruited from abuse help-seeking settings?	various	various	yes, long-stay refuges	yes, refuge
Majority of women living with or otherwise involved with perpetrator?	no	no	no	about 50%
Technique used	cognitive-behavioural therapy	cognitive-behavioural therapy	problem-focused goal-directed empowerment counselling	cognitive-behavioural therapy
Format of intervention	individual	individual	group	group

When we looked at specific features of the studies we found that:

- The duration of the intervention was similar for most of the studies.
- The severity of the women's problems may be relevant. The women recruited by Kubany [97]had more severe problems and more traumatic histories than the women in the other studies, making them harder to treat but with more room for improvement.
- A focus on a specific mental disorder or syndrome may increase beneficial effects on mental health in general, and only the Kubany interventions had this focus, treating women with partner violence-related PTSD.
- The technique used may be important, but the evidence is equivocal. Kubany used cognitive-behavioural therapy techniques. So did Cox and Stoltenberg, but their control group received some sort of psychological intervention and groups were poorly matched.
- It may be that group sessions are less effective in treating depression in abused women; group psychotherapy was evaluated by both Cox and Stoltenberg and Kim and Kim.
- It may be that women recruited from refuges, as for the Kim and Kim and Cox and Stoltenberg studies, may benefit less than abused women in other settings from psychotherapy to reduce depression, but this may be confounded by differences in quality between the Kubany and other studies.
- Mostly, women in the studies were not living with partners. Thus the effect of involvement with assailants on depression outcomes with psychological interventions cannot be determined.

4.6.8 Factors explaining variation in self-esteem outcomes for woman-centred psychological interventions

There was an improvement in self-esteem measures after psychological intervention by Cox and Stoltenberg[85] (both compared with controls and over time) and Rinfret-Raynor and Cantin[87] (over time), whereas the Kim and Kim[90] intervention had no significant effect on self-esteem. In Table 14 and the text below, we consider other features that may have led to the differences in outcome between the studies.

Table 14: Comparing features of the psychological studies measuring self-esteem outcomes

FEATURE	RINFRET-RAYNOR AND CANTIN[87]	KIM AND KIM[90]	COX AND STOLTENBERG[85]
Duration of intervention	not stated	not stated	12-18 hours
Time scale	not stated	8 weeks	2 weeks
Were women recruited from abuse help-seeking settings?	referred from social services	yes, long-stay refuges	yes, refuge
Majority of women living with or otherwise involved with perpetrator?	no	no	about 50%
Technique used	feminist counselling	problem-focused goal-directed empowerment counselling	cognitive-behavioural therapy
Format of intervention	group and individual	group	group

When we looked at specific features of the studies that might explain these differences, we found that:

- The duration of the intervention was not stated for two of the three studies.
- Each study used a different psychological technique.
- Group therapy was used in all the studies and so can improve self-esteem. It was not found to be superior to individual psychotherapy in a comparison in the study by Rinfret-Raynor. Self-esteem needs to be considered as an outcome measure in individual psychological intervention studies.
- Women were recruited from refuges for both the Kim and Cox studies, so that the effect of setting, and women's help-seeking behaviour, on self-esteem after psychological intervention is unclear. Similarly, the majority of the women were not living with or involved with their partners at the time of the studies.

4.6.9 Factors explaining variation in system-centred health care interventions with structured training

Although the nine system-centred health care interventions with structured training were heterogeneous, of the eight that measured referrals, seven showed a positive effect. We can not compare the magnitude of the effect on referrals of the different studies, because we can not calculate effect sizes for most of them from data presented in the papers.

4.6.10 Factors explaining variation in system-centred health care interventions without structured training

Only one intervention was undertaken in a health setting that did not include explicit structured staff training[98] so there is no inter-study variation to analyse.

4.6.11 Factors explaining variation in system-centred non-health care interventions

Five diverse interventions were evaluated in non-health care settings. Abuse outcomes were measured, and improved, in four of these, but three of these were undertaken in the same setting, in Cardiff, at overlapping time periods, and each may have influenced the results of the other two. Therefore it was not appropriate to compare the studies in order to consider how their abuse outcomes were affected by different factors.

4.7 Quantitative synthesis

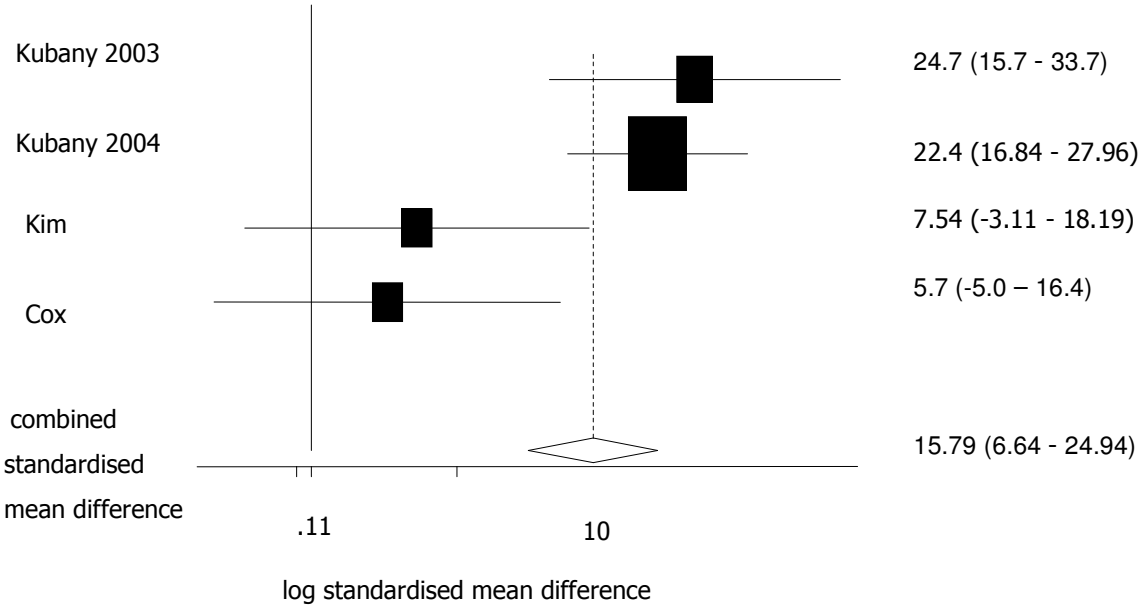
Where possible, we combined the studies quantitatively to estimate a pooled effect size:

- Four psychological interventions measuring depression outcomes.[85;90;96;97]
- Four psychological interventions measuring self-esteem outcomes.[85;90;96;97]
- Three system-centred interventions measuring referral outcomes.[104-106]

Only two advocacy studies reported sufficient data to calculate effect sizes and we chose not to calculate a pooled effect.

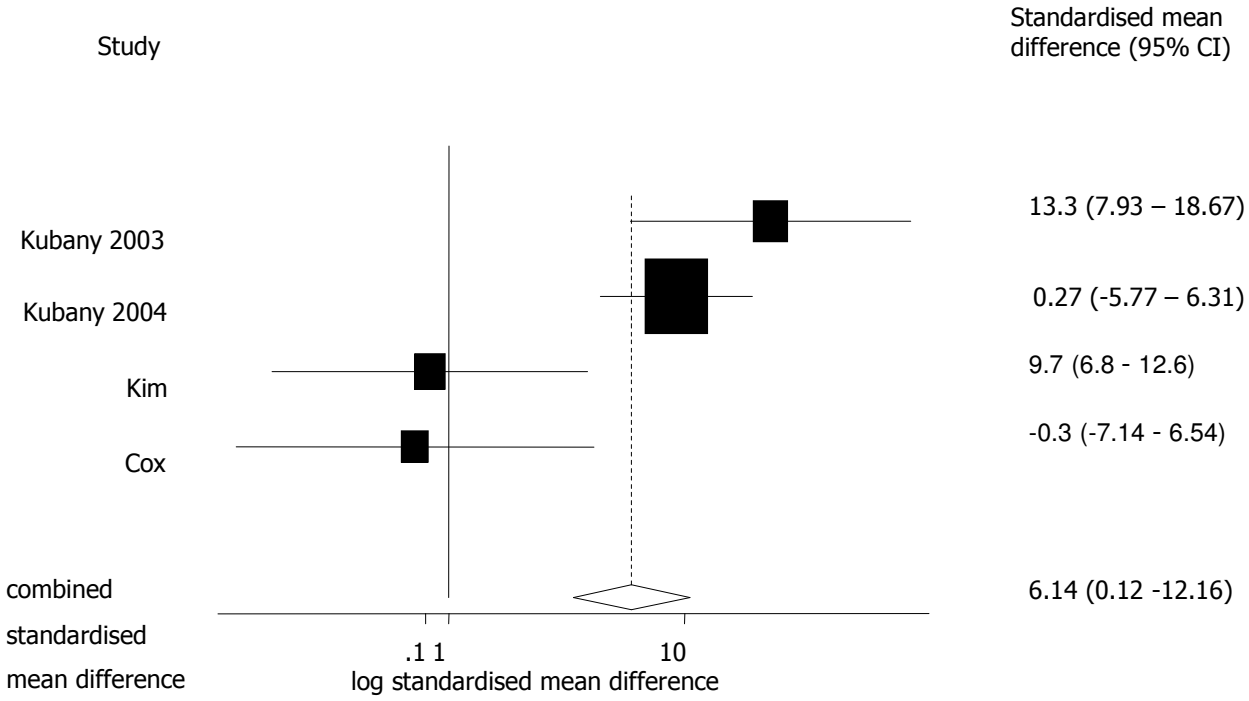
We calculated summary standardised mean differences in mean improvement between intervention and control for the four psychological intervention studies that reported depression data in sufficient detail (see Figure 3). The meta-analysis gave a pooled random effects standardised mean difference (pre-intervention compared with post-intervention) at post-intervention of 15.79 (95% confidence intervals of 6.64-24.94). McNemar's Q test for heterogeneity gives p=0.004, so there is quite strong heterogeneity.

Figure 3: Meta-analysis of psychological intervention studies reporting depression outcomes



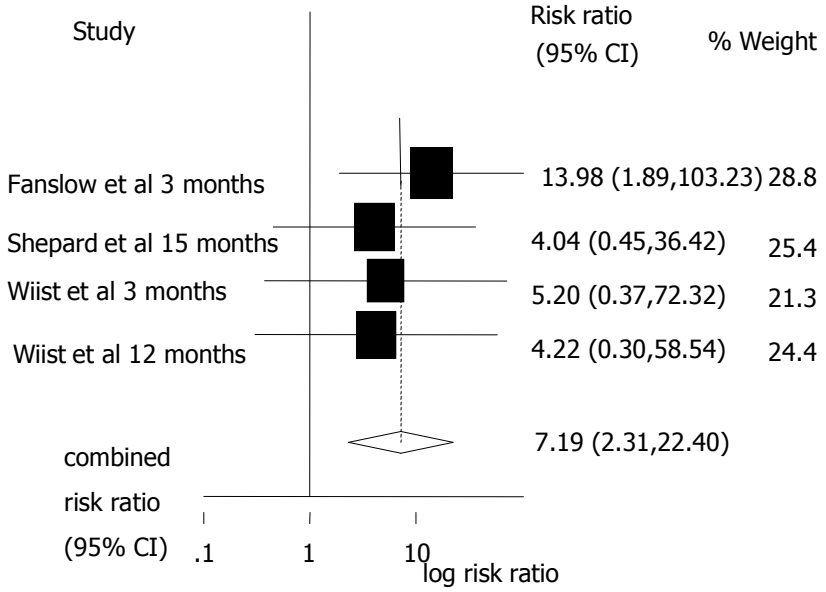
We calculated summary standardised mean differences in mean improvement between intervention and control for the same four psychological intervention studies, for reported self-esteem data (see Figure 4). The meta-analysis gave a pooled random effects standardised mean difference (pre-intervention compared with post-intervention) at post-intervention of 6.14 (95% confidence intervals of 0.12-12.16). McNemar's Q test for heterogeneity gives p=0.001, so there is strong heterogeneity.

Figure 4: Meta-analysis of psychological intervention studies reporting self-esteem outcomes



We calculated a summary relative risk ratio for the three system-centred studies that reported referral rates in sufficient detail, with one study reporting at 3 and 12 months (see Figure 5). The meta-analysis gave a relative risk (pre-intervention compared with post-intervention) of 7.2 (95% confidence interval 2.3 to 22.4). McNemar's Q test for heterogeneity gives p=0.8, so there is no evidence of heterogeneity and we used a fixed effects model.

Figure 5: Meta-analysis of system-centred health care with structured training intervention studies reporting referrals outcomes



Overall, the meta-analyses provided a pooled estimate of the effect of different interventions on different outcomes, but the inability to use many of the studies in each case limits the validity of this estimate.

The remainder of the studies were not amenable to statistical pooling because they reported insufficient data or the outcomes were not comparable. In most of the papers where effect sizes were absent we could not calculate them with the reported data. This also meant that we were unable to create funnel plots to test formally for publication bias. Further, for all the primary studies, there were insufficient data in the papers to carry out sensitivity analyses on the effect of missing data and differential attrition or choice of analysis.

4.8 Consultation with stakeholders

4.8.1 Pre-consultation with UK domestic violence and health fora

Most of the pre-review responses from the stakeholders about the proposed methodology were positive, although there were a number of suggestions about extending the review to include qualitative studies. This, however, was beyond the scope of the present review. Two respondents also suggested additional search terms and these were included in the search strategy (see Appendix XI).

4.8.2 Post-consultation with UK domestic violence and health fora and other stakeholders

We had comments about the preliminary report from 15 stakeholders: four domestic violence agency professionals, seven health care academics, two obstetrics and gynaecology consultants, one general practitioner, and one emergency medicine registrar. We have tabulated these comments (see Appendix XII) with our responses and noted where we have amended this final report in accordance with comments.

*4.9 Our findings compared with other reviews**

4.9.1 Chalk and King, 1998[47]

This review took a broad view of domestic violence, considering interventions that targeted partner, elder and child abuse. They identified 34 quasi-experimental evaluations of partner violence: 7 social service interventions, 19 law enforcement strategies, and 8 health care interventions. Of the 34 studies that they identified, two advocacy interventions, which they considered under social service interventions, and one psychological intervention fulfilled our inclusion criteria.

Chalk and King noted that advocacy programs appear to improve various outcome measures, such as social support, self-esteem and feelings of empowerment. They concluded that short-term advocacy services do not reduce the risk of future violence for abused women, which is in contrast with our findings. However, Chalk and King could not draw on the longer term follow-up data for the studies that they considered (while noting the absence of such data), which we were able to do.

With regard to psychological interventions, Chalk and King considered it important to evaluate the effects of different types of treatment formats (individual, group, couples) and protocols, which we also concluded.

Many of the interventions that Chalk and King included were staff training programs and protocols but none of these met our criteria for inclusion, mostly because they only considered screening for abuse. However, these authors observed, as we have done, that staff training programmes by themselves do not ensure that patients will receive the services they need. There also need to be available and accessible local resources, amongst other requirements.

Overall, Chalk and King found some of the same methodological and quality problems with the evidence base as we have done, including small study samples, and the complexity of independent variables in multiple and overlapping interventions, a lack of studies of robust design, and of longer term follow-up, a lack of analytic data. They add that such studies need to be supported by detailed process evaluations and non-experimental studies that can inform on the nature and clients of a particular intervention as well as aspects of the institutional or community settings that facilitate or impede implementation. Chalk and King believe, as we do, that closer attention needs to be paid to the individual abuse trajectories and context of the abuse.

4.9.2 Abel, 2000[48]

Abel states that she identified nine studies, but two of these report the same study thereby giving a total of eight primary studies. All of these fit our criteria category of woman-centred interventions. Five of the studies she identified are also included in this review; the remaining three did not fulfil our inclusion criteria. Abel found that most of the interventions identified in her review were: (1) focused on short-term group interventions; (2) used small samples; (3) provided little detail but were predominantly based on feminist, social support and cognitive frameworks; (4) used inexperienced workers to provide the bulk of the interventions; (5) had weak study designs, with only one study having a control group and only one reporting follow-up data. These findings largely concur with our own. However, Abel does not draw on this evidence to suggest which interventions are effective. Rather she uses the data to highlight the inadequacies of the evidence- base at that time and to make recommendations for how future research should be conducted. Many of the problems she identified have still not been addressed and are reiterated in our recommendations for future research at the end of this report. The one exception is her suggestion that increased professionalisation of the

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* In our review we have differentiated between the number of primary studies and the number of papers that report these studies. This differentiation has not been made in some of the reviews listed below. Where there has been no such differentiation, we highlight the actual number of primary studies that were included.

persons providing the intervention could result in more successful treatment outcomes for abused women. We did not find this in the interventions that we reviewed; inexperienced non-professional workers given suitable training often were successful in improving outcomes for the women.

4.9.3 Davidson et al, 2001[33]

This review addressed the question of what works in health care settings to reduce domestic violence and considered issues around screening and how best to help abused women once they have been identified. No details were provided about the number of primary intervention studies included in the review, neither were there any details about the nature of the individual interventions included other than that they tended to take a short-term perspective. Only one specific study was mentioned but this was not referenced. The reviewers suggest that this one study provides some limited support for introducing advocacy within a health care setting. As such, this conclusion concurs with the findings of our review of the evidence. The reviewers also state that the evaluation of interventions is extremely limited, with no randomised controlled trials so far in any country at that time. Further, they assert that there are serious limitations to our knowledge about what works in decreasing the impact of domestic violence on women and consequently what is cost-effective. Intervention studies conducted after the publication of the Davidson review and included in our review have begun to address these shortcomings. Nonetheless, we agree that the current evidence base remains limited.

4.9.4 Hender, 2001[49]

Hender restricted her review to an evaluation of controlled therapy and counselling interventions for women victims of domestic violence. This included "counselling" interventions that we have classified as advocacy. Hender states that she identified four interventions fulfilling her inclusion criteria, but two of these are in fact the same study, thereby giving a total of three primary studies. All of these were included in our review. Hender reports that all but one of the primary studies resulted in an increase in positive outcomes. However, she also points out that the studies were of variable quality (including lack of randomisation, baseline differences between groups, high attrition, and small sample sizes). There is no attempt to draw on the evidence reviewed to suggest which interventions are effective. As such, our review is more comprehensive.

4.9.5 Ramsay et al, 2002[44]

This review evaluated a range of studies around the issue of screening by health professionals. However, only the studies reporting on interventions that aimed to improve outcomes for women identified as abused are considered here. Six such primary studies were identified by Ramsay. All of these are also included in the present review. Two of the primary studies were woman-centred interventions and the remaining four were system-centred. The reviewers concluded that there was little evidence for the effectiveness of interventions in health care settings with women who are identified by screening programmes. In particular, they noted that there was a lack of randomised controlled trials, a need to include more woman-centred outcomes (such as quality of life), and an over-reliance on proxy measures (such as referrals). Subsequent research that we have reviewed here starts to address these shortcomings, although the overall lack of robustness of study designs is still problematic.

4.9.6 Cohn et al, 2002[50]

This review evaluated studies of health care student or professional training to improve their response to family violence, including elder abuse and child abuse. The authors identified 41 studies, of which 16 targeted partner violence (four overlapped with our review). The overall conclusions of this review are similar to ours for health care training interventions: a dearth of studies that investigate outcomes for the abused women themselves, a lack of studies of robust design, and insufficient follow-up in most cases. Cohn and colleagues also criticise the fact that training is often only offered once, with no support or follow-up. Cohn and colleagues suggest a core problem is that accreditation, and other certification requirements do not consistently and explicitly address family violence and thus do not encourage training to address it.

4.9.7 Wathen et al, 2003[51;52]

Wathen and colleagues considered a wide range of interventions, but only those that fitted with our description of woman-centred or system-centred interventions are considered here. Wathen states that she identified six such interventions, but one of these is tested in two separate studies thereby giving seven primary studies. Five of these studies are included in this review; the remaining two did not fulfil our inclusion criteria. Using more stringent quality and design criteria then we did, the reviewers concluded that specific interventions for women exposed to violence have not been adequately evaluated. The notable exception was the randomised controlled trial by Sullivan and colleagues of an advocacy intervention in a refuge. However, we judge that a wider range of studies is contributory to the evidence base.

4.9.8 Nelson et al, 2004[53]

The focus of this review was screening for partner violence within primary care health settings, but also included primary care studies aiming to reduce harm from family and partner violence. For the latter, Nelson and her colleagues identified two interventions, both of which also were included in our review. Both of the studies were conducted in antenatal settings and showed a reduction in abuse following a brief "counselling" intervention (termed as advocacy in our review). The reviewers conclude that few intervention studies have been conducted and those that they did identify were focused on pregnant abused women, so restricting their interpretation. Our review is wider in scope, but also suggests that advocacy may benefit abused women.

4.9.9 Klevens et al, 2004[54]

This review considered the evidence from woman-centred interventions. The reviewers identified 12 primary studies, eight of which also are included in our review. The remaining studies did not fulfil our inclusion criteria. On the basis of two advocacy and two safety planning studies (which, in our review, we have also classified as advocacy), the reviewers concluded that the evidence suggests that such interventions are likely to be beneficial. However, the reviewers reported unknown effectiveness for support group interventions (no studies found), refuge use as an intervention (one study identified), cognitive behaviour-orientated (one study), grief resolution-orientated counselling (one study), and couples counselling (two studies). Further, on the basis of three studies, they concluded that non-specific counselling was unlikely to be beneficial. These conclusions largely concur with the findings of our review.

5. Discussion

5.1 Achieving the objectives of the review

5.1.1 To examine systematically the evidence concerning the effectiveness of interventions to reduce violence and to improve the physical and psychosocial health of women experiencing partner violence

Using explicit methods, our review comprehensively identifies and analyses the evidence for controlled interventions targeting either (1) women who have been abused, or (2) the organisations and professionals that may have contact with these women. It is a definitive synthesis of contemporary studies of this nature.

5.1.2 To determine which women are most likely to benefit, and in what ways, from the different interventions examined (taking into account socio-demographic variables such as age, ethnicity, and socio-economic status)

The primary studies do not permit us to identify sub-groups of women who may particularly benefit from interventions. The exception is a consistent finding that advocacy interventions were most effective with women in the context of a refuge or after actively seeking help.

5.1.3 To consider how the reviewed interventions might work

Only one study in this review, that conducted by Sullivan et al,[99] formally explored what aspects of the intervention were associated with better outcomes. They suggest that short-term success in accessing community resources as a result of advocacy combined with greater social support resulted in an improved quality of life for participants. This persists over time and ultimately serves as a protective factor from subsequent abuse. They also highlight the importance of brokering community resource use, improving its availability to the participants.

The global positive effect of a support group intervention[83] is partly explained, through multivariable modelling, by the greater effect of groups led by two facilitators.

None of the other studies in our review formally identified explanatory factors in their analysis.

5.1.4 To compare the findings of this review with the findings of existing reviews of interventions to reduce violence and promote the physical and psychosocial well-being of women who experience partner abuse

This puts our review into context (see results chapter 4.9).

5.1.5 To consult with members of the national Domestic Violence and Health Research Forum for views on the scope and methods of the review

This consultation broadened our search terms but did not substantially affect our scope or method.

5.1.6 To understand the views of women's groups and of service providers on the implications of this review

This was a successful consultation that influenced our evidence synthesis (see Appendix XII).

5.1.7 To discuss the policy implications of the review for the NHS and to make recommendations which incorporate the views of women's groups and service providers

Implications for policy and recommendations are the focus of this chapter.

5.2 Summary of principal findings

- Thirty-six studies fulfilled the inclusion criteria, comprising nine interventions for advocacy, one support group intervention, eleven interventions for counselling and therapy, and fifteen system-centred interventions. Most of the primary studies used weak research designs for answering questions about effectiveness of interventions

and the quality of execution of many of the primary studies is poor. However, they provide a basis for policy within health care settings.

- Evidence from the advocacy studies suggests that this form of intervention, particularly for women who have actively sought help from professional services or are in a refuge setting, can reduce abuse, increase social support and quality of life, and lead to increased use of safety behaviours and accessing of community resources. We do not know how effective advocacy is for women identified in health care settings, because of the small number of studies and their relatively poor design.
- The one support group intervention resulted in a reduction of abuse and improved psychological outcomes, including self esteem and coping with stress.
- There is some evidence that psychological interventions are effective in reducing depression in women with a history of partner violence, although it is unclear to what extent this is in addition to spontaneous resolution as time from abuse elapses.
- System-centred interventions, with at least some degree of staff training and supportive materials, including ten in health care settings, increase referral rates in the short-term. From studies with longer term follow-up, there is evidence that reinforcement and training of new staff is needed to sustain this effect.
- The system-centred non-health care intervention studies, largely police-based, are methodologically problematic and largely non-contributory to health service policy. However, one of these studies supports the usefulness of multi-agency case conferences, and the overall positive effect of these interventions demonstrates the value of a service making structural changes to improve response to partner violence.

5.2.1 Advocacy

Overall the nine studies that evaluated the effectiveness of providing advocacy services for abused women showed that this form of intervention can reduce abuse, increase social support and quality of life, and lead to increased use of safety behaviours and accessing of community resources. The six studies conducted outside of health care were more elaborate in terms of content and the amount of time spent with the women. Nonetheless, the three advocacy intervention studies[73-76;79] conducted in health care settings also resulted in positive outcomes for abused women. On the basis of the studies reviewed, we may conclude the following:

- Effective partner violence advocacy can be delivered by relatively inexperienced staff, such as the undergraduate students in Sullivan's studies, but training and supervision are pre-requisites and the optimum time with a client is likely to vary according to their needs.
- Advocacy that is associated with a reduction of abuse generally entailed more than 10 hours of contact with the client.
- Reduction in abuse is more likely after advocacy interventions if the abused women are seeking help or in a refuge, but improvements in the use of community resources or social support are just as likely in women who have not yet sought help to end abuse.
- Benefits from advocacy occur whether or not the women are still living with a partner at the start of the intervention.
- Advocacy is effective when based on empowerment models.
- The setting for advocacy, and its aims, may have an influence on the type of improvements seen; for example, advocacy provided via court services may result in different benefits to advocacy from within health care.
- Advocacy in an antenatal setting is associated with a reduction in abuse which may be amplified by mentoring.
- Improved use of community resources (use of refuges) may result from the provision of advocacy in an accident and emergency department.

5.2.2 Support groups

The only evaluation of a support group intervention suggests that feminist-informed support groups for abused women in the community, facilitated by social workers, may lead to reduced abuse and improvements in a number of psychological outcomes, particularly when groups have two facilitators.

5.2.3 Psychological interventions

Eleven studies evaluated the effectiveness of providing psychological interventions, four implemented partly or exclusively within health care settings. All eleven of the studies resulted in some health benefits for the women participants, but it is difficult to compare their relative effectiveness because of differences in terms of focus, sample populations, and reported outcomes. Nonetheless, on the basis of the studies reviewed, we may conclude the following:

- Overall, psychological intervention does not result in decreased abuse.
- There is some evidence that psychological interventions are effective in reducing depression, although it is unclear to what extent this is in addition to spontaneous resolution as time from abuse elapses.
- Weekly sessions held over several weeks improve a wide range of psychological outcomes, including self-esteem, locus of control, self-efficacy, assertiveness.
- Within the range of settings in which psychological interventions were applied, outcomes for women were largely positive overall. This implies that these methods are transferable between different types of health care setting.
- Depression may be less likely to improve in women from refuges after psychological interventions, compared with women enrolled from other settings, although this difference may be confounded by variations in study quality. If the difference is real, it is possible that depression may not improve until practical needs, such as housing, have been addressed.
- Overall we do not have sufficient evidence to discriminate between different models of psychological intervention, although comparing outcomes from individual and group psychological interventions suggests that the latter are less effective in improving depression for women who have experienced abuse in the past year.
- From the four studies that each compared two psychological interventions we cannot conclude that any one model is superior to another.

5.2.4 System-centred interventions

Fifteen of the included studies evaluated system-centred interventions. The majority of these were implemented in health care settings, with only four being initiated entirely outside of health care. Positive results were found in all of the studies, but findings from the health care-based interventions were particularly encouraging. Thus we may conclude the following:

- System-centred interventions, with at least some degree of staff training, including ten in health care settings, increases referrals to specialist services in the short-term.
- From studies with longer term follow-up, there is evidence that reinforcement and training of new staff is needed to sustain this effect.
- In the only study that reported outcomes for women, referred for counselling as a result of a training initiative, there is some indication that attendance for counselling resulted in a reduction of abuse and improved psychological health.
- Two of the studies suggest that staff training may also increase information giving to women identified as abused. This benefit was found when training was provided for health visitors and for counsellors based in an employee assistance programme.
- There is some indication that prioritised health care for abused women can increase health service use and the diagnosis and management of health problems.
- Police initiatives, such as domestic violence units and enhanced policing, and police-related initiatives, such as women's safety units and multi-agency risk assessment conferences, can reduce the likelihood of further abuse (at least in terms of abuse that is reported to the police).

5.3 Strengths of the review

5.3.1 Scope

The boundaries of the review were clearly defined. Its focus was to evaluate the efficacy of interventions that either directly targeted women experiencing partner violence themselves, or the agencies or professionals that may provide support for this group of women. We included a wide range of experimental studies, not restricted to randomised controlled trials, but excluded studies without comparative data. We included studies measuring a wide range

of woman-centred outcomes covering all aspects of the physical and psychosocial health of abused women. We also included proxy outcome measures (such as referral and information-giving, employment, repeat calls to the police). There were no language restrictions.

5.3.2 Method

A total of fourteen electronic databases were searched, including biomedical, psychosocial and legal databases, thereby ensuring that a diverse selection of data sources was searched from multiple disciplines. Inclusion and exclusion criteria for study designs were pre-specified and decisions about the inclusion or exclusion of studies were made independently by two reviewers. We used an analytic qualitative approach to data synthesis combined with quantitative meta-analyses, where appropriate.

5.3.3 External consultation

The first authors of all studies included in the review were consulted and asked to comment on the accuracy of our data extraction and, where appropriate, to provide missing or additional data. Prior to conducting the review we consulted with members of the UK Domestic Violence and Health Research Forum. These consultations allowed us to gauge potential problems with the proposed method of the review and our choice of search terms. We sent a preliminary report of our review findings to members of the above forum, the UK Domestic Violence and Health Practitioners Forum, and other key stakeholders. This allowed us to obtain feedback from people who actively work with abused women on a daily basis and from other researchers within the field.

5.4 Limitations in the scope and method of the review

5.4.1 Scope

Studies that employed a qualitative research design were excluded. Data collected by such methods can enrich our understanding of health service responses to partner violence but were beyond the scope of this review. Similarly, we did not include perpetrator, couple and family interventions, even though such interventions are of potential benefit. Neither did we include community and societal interventions conducted with the aim of increasing awareness of the problem of partner violence.

5.4.2 Method

To assess the strength of the evidence we used criteria originally developed by the U.S. Preventive Services Task Force (USPSTF)[58] to evaluate public health programmes and policies. We chose to use these criteria because of the complex nature of many interventions, particularly the system-centred ones, the wide variety of study designs and the lack of validation for particular quality scoring methods.[115;116] As a result, we may have been too generous in judging the sufficiency of evidence for groups of interventions, especially in relation to the advocacy and psychological interventions, as the grading system ascribes the same weight to randomised and non-randomised parallel controlled studies.

5.5 Limitations in generalising from the primary studies

We have included a diverse range of interventions, conducted in a variety of settings (many outside of the UK), and reporting a wide assortment of outcome measures. Inevitably, however, this heterogeneity makes generalisation of findings problematic.

5.5.1 Countries in which interventions sited

Only six of the thirty-six studies, all system-centred, were based in the UK. While there is no reason to assume that findings from interventions conducted outside of the UK could not be replicated if tested here, disparities between our health care and legal services and those provided elsewhere may limit the generalisability of many of the studies included in the review.

5.5.2 Populations sampled

In relation to woman-centred interventions, most of these studies were conducted in urban settings with primarily low-income populations. This limits their generalisability to the wider

population of abused women. A further limitation is that women recruited into these studies often were convenience samples; that is, they were women recruited from organisations such as refuges, legal support agencies, and counselling services. Such populations are not representative of women who have experienced partner violence. Rather, they are representative of a distinct subgroup of abused women who have already taken the first steps to seek help either to end or recover from the abuse.

It was not clear in most studies whether or not the abused women were co-habiting with their abusers, particularly with the system-centred staff training studies. On the whole, women recruited to advocacy intervention studies still tended to be living with their assailants but had begun to seek help. With counselling intervention studies, the participants were more likely to have left their assailants, and the studies often did not measure abuse, even though this may have continued after the women left the relationship. Hardly any of the woman-centred intervention studies considered women who were at an early stage in the abuse trajectory. With community-based sampling, typically used in the system-centred studies, a more varied cross-section of women is likely to have been considered in terms of status in the abuse trajectory.

5.5.3 Frameworks of the studies

Many of the studies included in the review had a theoretical framework underlying the intervention provided. However, details about the various frameworks were generally scanty, thereby making it difficult to identify the more effective frameworks and limiting any replication.

5.5.4 Content of interventions

We think that the evidence base for advocacy interventions is more comprehensive and consistent – and therefore allows for more definitive conclusions to be drawn. However, even when examining the findings of a subgroup of interventions, such as advocacy, there are still difficulties comparing results across various studies because of differences in the way the interventions have been conducted. The difficulty in generalising from studies testing woman-centred interventions stems partly from insufficient detail in the methods section of papers reporting the studies. Generalising from the system-centred training interventions is also difficult. These studies aimed to improve the response of professionals who come into contact with abused women, but the quality and extent of the training provided varied across the different studies and was often not well described.

Most of the advocacy and psychological intervention studies gave some form of active intervention to participants in control groups, even if this was only information about services. Therefore, the difference in outcomes between intervention and control groups may have been reduced, under-estimating the magnitude of the intervention's effect. To some extent this may balance the potential over-estimate of effect from study designs that are prone to bias.

5.5.5 Outcome measures

For the woman-centred interventions, wide variation in the choice of outcome measures makes comparison between the studies difficult. This is further compounded by some studies using non-validated outcome measures, and by others using validated measures, the usefulness of which have since been called into question, such as the Conflict Tactics Scale to measure abuse.[3;117] A similar problem also is evident for the system-centred interventions. Even though many of these measured referral, there was variation in how this was reported. Some studies reported referral rates, but others only provided data on the numbers referred or just statistical significance, thereby limiting any meaningful comparison across studies.

Further, referrals from professionals to in-house or community resources that support women experiencing abuse are not a strong outcome measure, particularly if there is no record of whether the referral resulted in contact with the client. Nevertheless, we believe that they are an acceptable proxy measure for increased professional activity in relation to partner abuse, because they are a necessary condition of securing support to women disclosing abuse.

5.6 Limitations in the design and quality of primary studies

The primary studies are variable in terms of their design (ranging from before-and-after studies to randomised controlled trials), the quality of their execution (including small sample sizes and little or no follow-up beyond the period of the initial intervention), and the quality of data analysis (including an overall lack of intention-to-treat and multivariate analyses and little reporting of effect sizes). Studies with a robust design and good quality execution are in a minority, limiting our ability to make strong recommendations based on their findings.

5.6.1 Sample sizes

Sample sizes for some of the psychological intervention studies were small, increasing the likelihood of a type I error. Although our meta-analyses give pooled estimates of the effects on depression and self-esteem, the exclusion of the majority of studies in those analyses makes the results open to bias. For studies testing other types of intervention, the sample sizes were usually larger but most investigators did not justify their sample size or report the results in a format that allowed the precision of the estimated differences to be judged.

5.6.2 Outcome measures

Most of the studies measured multiple outcomes. This is problematic for two reasons. First, many of the woman-centred intervention studies did not pre-specify their primary outcome(s); therefore we do not know if these studies were underpowered for our outcomes of interest. Second, only two of the studies made any adjustment when analysing their data (such as the Bonferonni correction) to control for the possibility of Type I errors, even though these are more likely if multiple tests are conducted.

5.6.3 Stage in the abuse trajectory

The interventions considered in this review are generally targeted at women who have disclosed abuse and who have begun to seek help to end the abuse. The studies do not adequately address what may be achieved at earlier stages of the abuse trajectory. To this extent, we believe that the evidence needed to show that screening has positive consequences beyond initial identification is still largely lacking.

Some qualitative studies have considered the potential to match interventions to where women are in the abuse trajectory, to the extent that it is possible to articulate a trajectory.[118 119;120] We do not propose to consider this further here, since experimental evidence for such interventions is lacking.

5.6.4 Multi-agency collaborations

None of the women-centred studies we reviewed involved multi-agencies working together in formal partnerships. In contrast, several of the system-centred interventions did involve some degree of collaboration although, in the main, such collaborations were limited; for example, links were forged between health and community services for the purpose of helping to train health professionals about partner violence or to facilitate the referral process once abuse was identified. Only a minority of the system-centred interventions reviewed involved multiple agencies actively working together. For example, in the MARAC study reported by Robinson (looking at the efficacy of multi-agency risk assessment conferences) there was active collaboration between the police, women's safety units, probationary services, health services, housing services, and refuges. However, none of the multi-agency collaboration studies addressed the relative effect of the different components.

Given this lack of evidence from controlled studies of multi-agency interventions, at the current time it is not clear if the positive results from a variety of single agency interventions reflect what would happen when they are linked in multi-agency programmes. It is likely that they would work synergistically - but further evaluations of multi-agency collaborations are necessary to understand the impact of the different components and the effectiveness of the overall response.

5.7 Enough evidence to inform policy?

There is a debate about the type and quality of evidence that is needed to support health care policy.[121;122] When considering the health service's response to partner violence, policy has often been forged before systematic evidence of effectiveness has been available.[41] Although our review does provide evidence for policy, the overall body of research, with the threats we have identified to the internal and external validity of primary studies, is not particularly robust. Nevertheless, we think our review is a benchmark for the current state of research for the types of interventions covered and reflects a growing evidential base for policy on partner violence for health services.

Below we make recommendations that are based on our synthesis of the primary studies. As previously stated, not all types of interventions for partner violence were evaluated in the review. As such, these recommendations are restricted to and classified by the different groups of interventions that fulfilled our inclusion criteria: advocacy, support groups, psychological and system-centred. For each of these areas we also make recommendations for further research. We end with some general research recommendations that are applicable to all types of interventions.

Our policy recommendations are *tentative*, not only because they are focused on a sub-group of interventions, but also because they are based exclusively on controlled studies. We recognise the value of a range of research designs, such as qualitative studies, action research and surveys in formulating policy. Therefore we offer these recommendations in the spirit of discussion, to be considered in relation to other types of evidence, in the development of health services policy in relation to partner violence.

5.8 Recommendations

5.8.1 Advocacy (including safety planning)

Policy

I. Improve links between community-based domestic violence advocacy programmes and local health services. Although our review cannot specify the model for these links, we think that the consistent finding that advocacy is beneficial, particularly to women who have sought help, is a sufficient reason for implementing a more formal relationship such as NHS-funded secondment of domestic violence advocates to health care settings. This will facilitate referral by all professionals in all health care settings of women to advocacy services.

II. Formal training and supervision of advocates and monitoring of advocacy standards needs to be part of the mainstreaming of advocacy services vis à vis the NHS.

III. Availability of advocacy within health services to women disclosing abuse in response to questioning in antenatal clinics and accident and emergency departments is a priority.

Research

We need:

IV. Studies testing different methods for women accessing advocacy services via health care settings. For example, direct referral from clinicians in addition to provision of advocacy contact details; information giving in the clinical consultation in addition to general publicity material in the waiting room or women's toilets.

V. Studies testing the potential added benefit of a domestic violence advocate based in or seconded to health care settings.

VI. Studies testing different durations of contact and follow-up with clients.

5.8.2 Support groups

Policy

There is insufficient evidence to inform policy on the role of support groups in helping women who have experienced abuse.

Research

VII. We need studies testing the role of support groups either combined or separate from other interventions in relation to different stages of the abuse trajectory.

5.8.3 Psychological interventions

Policy

VIII. Referral to counselling or other forms of psychological therapy should not take priority over advocacy for women who are still in an abusive relationship.

IX. Psychological interventions are recommended for women who have left the abusive relationship for improvement of depression and low self esteem.

X. We cannot recommend any specific method of psychological intervention.

Research

We need:

XI. Adequately powered studies comparing different methods of psychological intervention (e.g. cognitive behavioural therapy versus non-directive counselling).

XII. Studies targeting women at different stages in the trajectory of abuse.

XIII. Studies testing different durations of contact and follow-up with clients.

5.8.4 System-centred interventions

Policy

XIV. Health care services need to integrate appropriate responses to women experiencing abuse with clinical activity, possibly with a named person responsible for this issue.

XV. Training on the identification of women experiencing partner violence, their support and appropriate referral, needs to be integrated into undergraduate and postgraduate clinician education.

XVI. Team training on partner violence in health care settings needs to be implemented, with regular reinforcement.

XVII. Training should include close collaboration with community-based advocacy services.

Research

We need:

XVIII. Better quality studies testing different system changes for improving the response of health professionals to partner violence.

XIX. Studies that compare different methods and durations of training of health professionals in the management of partner violence.

XX. Studies that explore feasible roles of health professionals in multi-agency collaboration and coordination around partner violence.

XXI. Conceptual and methodological research on the use of proxy measures, such as referral, for system-centred studies.

5.8.5 General research recommendations

These are recommendations that transcend the specific areas discussed above. They address the general methodological weakness of the current evidence base. We need:

XXII. More randomised controlled trials with better reporting of interventions and studies, explicit descriptions of theoretical frameworks, and using standardised or comparable outcome measures. This methodology is also applicable to system-centred interventions, even if woman-centred outcomes (e.g. quality of life or mental health measures) cannot be measured for methodological or ethical reasons.

XXIII. Studies with longer follow-up to assess the medium term benefits of interventions on individual women.

XXIV. Cost-effectiveness studies, particularly when assessing the value of interventions of variable intensity.

XXV. Systems for recording adverse effects of interventions that are not addressed in the outcome measures.

Reference List

1. Jamieson, Beals Lalonde and Associates Inc. A handbook for health and social service professionals responding to abuse during pregnancy. 1999. Family Violence Prevention Unit, Health Canada, Minister of Public Works and Government Services Canada.

2. Watts C, Zimmerman C. Violence against women: global scope and magnitude. *The Lancet* 2002;359:1232-7.

3. Taft A, Hegarty K, Flood M. Are men and women equally violent to intimate partners? *Australian and New Zealand Journal of Public Health* 2001;25:498-500.

4. Henwood M. Domestic violence: A resource manual for health care professionals. 2000. London, Department of Health.

5. Florida Mortality Review Project. Florida Governor's Task Force on Domestic and Sexual Violence. 47. 1997.

6. Campbell JC. Health consequences of intimate partner violence. *The Lancet* 2002;359:1331-6.

7. Barnish M. Domestic Violence: a literature review. 2004.

8. Researching gender violence: Feminist methodology in action. Willan Publications, 2005.

9. Stanko E. The day to count: A snapshot of the impact of domestic violence in the UK. 2000. Criminal Justice 1:2.

10. Simmons J and colleagues. Crime in England and Wales 2001/2002. 2002. London, Home Office Statistical Bulletin.

11. Walby S and Allen J. Domestic violence, sexual assault and stalking: findings from the British Crime Survey. Home Office Research Study 276. 2004. London, Home Office.

12. Richardson J, Coid J, Petruckevitch A, Chung WS, Moorey S, Feder G. Identifying domestic violence: cross sectional study in primary care. *BMJ* 2002;324:274.

13. Social Services Inspectorate. Domestic violence and social care. 1996. London, SSI.

14. WHO. Violence against women information pack: a priority health issue. 1998. WHO (http://www.int/frh-whd/VAW/infopack/English/VAW_infopack.html), accessed March 2004

15. Guth AA, Pachter L. Domestic violence and the trauma surgeon. *American Journal of Surgery* 2000;179:134-40.

16. Homicide Statistics. 1998. London, The Stationery Office.

17. Criminal Statistics, England and Wales, 1997. 1997. London, The Stationery Office.

18. The Scottish Executive Statistical Services. Homicide in Scotland 2000. Statistical Bulletin CrJ/2001/9. 2001.

19. Diaz-Olavarrieta C, Campbell J, García de la Cadena C, Paz F, Villa AR. Domestic violence against patients with chronic neurologic disorders. *Archives of Neurology* 1999;56:681-5.

20. Coker AL, Smith PH, Bethea L, King MR, McKeown RE. Physical health consequences of physical and psychological intimate partner violence. *Arch Fam Med* 2000;9:451-7.

21. Tollestrup K, Sklar D, Frost FJ, Olson L, Weybright J, Sandvig J *et al*. Health indicators and intimate partner violence among women who are members of a managed care organization. *Preventive Medicine* 1999;29:431-40.

22. Mezey GC. Domestic violence in pregnancy. In Bewley S, et al, eds. *Violence against women*, London: RCOG, 1997.

23. Gazmararian JA, Petersen R, Spitz AM, Goodwin MM, Saltzman LE, Marks JS. Violence and reproductive health: current knowledge and future research directions. *Maternal & Child Health Journal* 2000;4:79-84.

24. Parsons LH, Harper MA. Violent maternal deaths in North Carolina. *Obstetrics & Gynecology* 1999;94:990-3.

25. McWilliams M and McKiernan J. Bringing it out into the open. 1993. Belfast, HMSO.

26. Murphy CC, Schei B, Myhr TL, Du MJ. Abuse: a risk factor for low birth weight? A systematic review and meta-analysis. *Canadian Medical Association Journal* 2001;164:1567-72.

27. Graham DLR, Rawlings E, Rimini N. Survivors of terror: battered women, hostages and the Stockholm Syndrome. In Yllo K, Bograd M, eds. *Feminist perspectives on wife abuse*, London: Sage, 1998.

28. McCauley J, Kern DE, Kolodner K, Dill L, Schroeder AF, DeChant HK *et al*. The "battering syndrome": prevalence and clinical characteristics of domestic violence in primary care internal medicine practices. *Annals of Internal Medicine* 1995;123:737-46.

29. Ratner PA. The incidence of wife abuse and mental health status in abused wives in Edmonton, Alberta. *Can J Public Health* 1993;84:246-9.

30. Golding JM. Intimate partner violence as a risk factor for mental disorders: a meta-analysis. *Journal of Family Violence* 2002;14:99-132.

31. Kirkwood C. Leaving abusive partners. London: Sage, 1993.

32. Stark E, Flitcraft A. Women at risk: domestic violence and women's health. London: Sage, 1996.

33. Davidson LL, King V, Garcia J, Marchant S. What role can the health services play. In Taylor-Browne J, ed. *What works in reducing domestic violence*, London: Whiting and Birch, 2001.

34. Koss MP, Koss PG, Woodruff WJ. Deleterious effects of criminal victimization on women's health and medical utilization. *Ann Intern Med* 1991;151:342-7.

35. Wisner CL, Gilmer TP, Saltzman LE, Zink TM. Intimate partner violence against women: do victims cost health plans more? *Journal of Family Practice* 1999;48:439-43.

36. Walby S. The cost of domestic violence. 2004. London, Department of Trade and Industry.

37. Hester M and Westmarland N. Tackling domestic violence: effective interventions and approaches. 2005. Home Office Research Study 290.

38. Waalen J, Goodwin MM, Spitz AM, Petersen R, Saltzman LE. Screening for intimate partner violence by health care providers. Barriers and interventions. *American Journal of Preventive Medicine* 2000;19:230-7.

39. Ellis JM. Barriers to effective screening for domestic violence by registered nurses in the emergency department. *Critical Care Nursing Quarterly* 1999;22:27-41.

40. Heath I. Domestic violence: the general practitioner's role. http://www.rcgp.org.uk/rcgp/corporate/position/dom_violence/index.asp. 1998. London, The Royal College of General Practitioners, accessed November 2004.

41. Department of Health. Domestic violence: a resource manual for health care professionals. 2000. London, Department of Health.

42. Royal College of Midwives. Domestic abuse in pregnancy: Position paper No. 19a. www.rcm.org.uk/files/info/documents/190602121708-86-1.doc. 1999, accessed November 2004

43. Domestic violence (Council Report CR102). http://www.rcpsych.ac.uk/publications/cr/cr102.htm. 2002. London, The Royal College of Psychiatrists, accessed November 2004

44. Ramsay J, Richardson J, Carter YH, Davidson LL, Feder G. Should health professionals screen for domestic violence? Systematic review. *BMJ* 2002;325:314-8.

45. Jewkes R. Intimate partner violence: causes and prevention. *The Lancet* 2002;359:1423-9.

46. Garcia-Moreno C. Dilemmas and opportunities for an appropriate health-service response to violence against women. *Lancet* 2002;359:1509-14.

47. Chalk R, King P. Violence in families: Assessing prevention and treatment programs. National Academy Press, Washington, D.C., 1998.

48. Abel EM. Psychosocial treatments for battered women: a review of empirical research. *Res Social Work Prac* 2000;10:55-77.

49. Hender K. Is therapy/counselling/group work more effective than no treatment for women who are victims of domestic violence? 2001. Australia, Centre for Clinical Effectiveness, Monash University Medical Centre.

50. Committee on the training needs of health professionals to respond to family violence (Board on Children, Youth and Families). Confronting chronic neglect: The education and training of health professionals on family violence. Washington, DC: National Academy Press, 2002.

51. MacMillan HL, Wathen CN. Prevention and treatment of violence against women: systematic review and recommendations. 2001. London (ON), Canadian Task Force on Preventive Health Care (CTFPHC).

52. Wathen CN, MacMillan HL, with the Canadian Task Force on Preventive Health Care. Prevention of violence against women. Recommendation statement from the Canadian Task Force on Preventive Health Care. *JAMA* 2003;169:582-4.

53. Nelson HD, Nygren P, McInerney Y, Klein J. Screening women and elderly adults for family and intimate partner violence: A review of the evidence for the US Preventive Services Task Force. *Annals of Internal Medicine* 2004;140:387-96.

54. Klevens J, Sadowski L. Women's Health: Intimate partner violence. http://www.clinicalevidence.com/ceweb/conditions/woh/1013/1013.jsp. 2004, accessed March 2005.

55. Feder G, Ramsay J, Zachary MJ. Clinician response to women experiencing intimate partner abuse: what is the evidence for good practice and policy? In Roberts A, Hegarty K, Feder G, eds. *Intimate partner abuse and health professionals: new approaches to domestic violence*, In press, 2005.

56. Vickers S. Incorporating data from dissertations in systematic reviews. *International Journal of Technology Assessment in Health Care* 2004;16:711-3.

57. Dickersin K, Scherer R, Lefebvre C. Identifying relevant studies for systematic reviews. *BMJ* 1994;309:1286-91.

58. Harris RP, Helfand M, Woolf SH, Lohr KN, Mulrow CD, Teutsch SM, et al. Current methods of the US Preventive Services Task Force: a review of the process. *Am J Prev Med* 2001;20:21-35.

59. Briss PA, Zaza S, Pappaioanou M, Fielding J, Wright-de Aguero L, Truman BI, Hopkins DP, Mullen PD, Thompson RS, et al. Developing an evidence-based *Guide to Community Preventive Services* - methods. *Am J Prev Med* 2004;18:35-43.

60. Darby M. Healing the home. *Healthplan.* 1997;38:28-34.

61. Arora D. Domestic violence: ER-based intervention program offers victims an alternative. *Nurse Week California Statewide Edition* 1998;11:8.

62. Robertson N. Stopping violence Programmes: Enhancing the safety of battered women or producing better-educated batterers? *New Zealand Journal of Psychology* 1999;28:68-78.

63. Fouque A. If it is a woman: towards a new human contract [Si c'est une femme: vers un nouveau contrat humain]. *Informations sociales* 1999;38-50.

64. Van Hightower NR, Dorsey AM. Reaching the hard-to-reach: innovative responses to domestic violence. *Texas Journal of Rural Health* 2001;19:30-41.

65. Sullivan CM. The provision of advocacy services to women leaving abusive partners: an exploratory study. *Journal of Interpersonal Violence* 1991;6:41-54.

66. Sullivan CM, Davidson WS. The provision of advocacy services to women leaving abusive partners: an examination of short-term effects. *American Journal of Community Psychology* 1991;19:953-60.

67. Sullivan CM, Tan C, Basta J, Rumptz M, Davidson WS. An advocacy intervention program for women with abusive partners: initial evaluation. *American Journal of Community Psychology* 1992; 20:309-32.

68. Sullivan CM, Campbell R, Angelique H, Eby KK, Davidson WS. An advocacy intervention program for women with abusive partners: six-month follow-up. *American Journal of Community Psychology* 1994;22:101-22.

69. Tan C, Basta J, Sullivan CM, Davidson WS. The role of social support in the lives of women exiting domestic violence shelters: an experimental study. *Journal of Interpersonal Violence* 1995;10:437-51.

70. Sullivan CM, Bybee DI. Reducing violence using community-based advocacy for women with abusive partners. *Journal of Consulting & Clinical Psychology* 1999;67:43-53.

71. Sullivan CM, Rumptz MH. Adjustment and needs of African-American women who utilized a domestic violence shelter. *Violence & Victims* 1994;9:275-86.

72. Tutty LM. Post-shelter services: the efficacy of follow-up programs for abused women. *Research on Social Work Practice* 1996;6:425-41.

73. McFarlane J, Soeken K, Reel S, Parker B, Silva C. Resource use by abused women following an intervention program: associated severity of abuse and reports of abuse ending. *Public Health Nursing* 1997;14:244-50.

74. McFarlane J, Parker B, Soeken K, Silva C, Reel S. Safety behaviors of abused women after an intervention during pregnancy. *Journal of Obstetric Gynecologic & Neonatal Nursing* 1998;27:64-9.

75. Parker B, McFarlane J, Soeken K, Silva C, Reel S. Testing an intervention to prevent further abuse to pregnant women. *Research in Nursing & Health* 1999;22:59-66.

76. McFarlane J, Soeken K, Wiist W. An evaluation of interventions to decrease intimate partner violence to pregnant women. *Public Health Nursing* 2000;17:443-51.

77. McFarlane J, Malecha A, Gist J, Watson K, Batten E, Hall I *et al*. An intervention to increase safety behaviors of abused women: results of a randomized clinical trial. *Nursing Research* 2002;51:347-54.

78. McFarlane J, Malecha A, Gist J, Watson K, Batten E, Hall I *et al*. Protection orders and intimate partner violence: An 18-month study of 150 Black, Hispanic, and White women. *American Journal of Public Health* 2004;94:613-8.

79. Muelleman RL, Feighny KM. Effects of an emergency department-based advocacy program for battered women on community resource utilization. *Annals of Emergency Medicine* 1999;33:62-6.

80. Bell ME, Goodman LA. Supporting battered women involved with the court system - An evaluation of a law school-based advocacy intervention. *Violence Against Women* 2001;7:1377-404.

81. McKean L. Self sufficiency and safety. The case for onsite domestic violence services at employment services agencies. 2004. Chicago, Center for Impact Research.

82. Tutty LM, Bidgood BA, Rothery MA. Support groups for battered women - research on their efficacy. *Journal of Family Violence* 1993;8:325-43.

83. Tutty LM, Bidgood BA, Rothery MA. Evaluating the effect of group process and client variables in support groups for battered women. *Research on Social Work Practice* 1996;6:308-24.

84. Laverde DI. Efectos del tratamiento cognoscitivo-conductal en el maltrato fisico en la pareja. [Effects of cognitive-behavioural therapy in controlling wife abuse.]. *Revista de Analisis del Comportamieno* 1987;3:193-200.

85. Cox JW, Stoltenberg CD. Evaluation of a treatment program for battered wives. *Journal of Family Violence* 1991;6:395.

86. Mancoske RJ, Standifer D, Cauley C. The effectiveness of brief counseling services for battered women. *Research on Social Work Practice* 1994;4:53-63.

87. Rinfret RM, Cantin S. Feminist therapy for battered women: An assessment. In Kantor GK, Jasinski JL, eds. *Out of the darkness: Contemporary perspectives on family violence*, pp 219-34. Thousand Oaks: Sage Publications, 1997.

88. McNamara JR, Ertl MA, Marsh S, Walker S. Short-term response to counseling and case management intervention in a domestic violence shelter. *Psychological Reports* 1997;81:1243-51.

89. McNamara JR, Ertl M, Neufeld J. Problem-solving in relation to abuse by a partner. *Psychological Reports* 1998;83:943-6.

90. Kim S, Kim J. The effects of group intervention for battered women in Korea. *Archives of Psychiatric Nursing* 2001;15:257-64.

91. Limandri BJ, May BA. Psychoeducational intervention to enhance self-efficacy of abused women. 35th Annual Communicating Nursing Research Conference/16th Annual WIN Assembly, "Health Disparities: Meeting the Challenge" held April 18-20, 2002, Palm Springs, California. *Communicating Nursing Research* 2002;35:261.

92. May BA, Limandri BJ. Instrument development of the self-efficacy scale for abused women. *Research in Nursing & Health* 2004;27:208-14.

93. Melendez RM, Hoffman S, Exner T, Leu CS, Ehrhardt AA. Intimate partner violence and safer sex negotiation: effects of a gender-specific intervention. *Archives of Sexual Behavior* 2003;32:499-511.

94. Howard A, Riger S, Campbell R, Wasco S. Counseling services for battered women: a comparison of outcomes for physical and sexual assault survivors. *Journal of Interpersonal Violence* 2003;18:717-34.

95. Bennett L, Riger S, Schewe P, Howard A, Wasco S. Effectiveness of hotline, advocacy, counseling, and shelter services for victims of domestic violence - A statewide evaluation. *Journal of Interpersonal Violence* 2004;19:815-29.

96. Kubany ES, Hill EE, Owens JA. Cognitive trauma therapy for battered women with PTSD: Preliminary findings. *Journal of Traumatic Stress* 2003;16:81-91.

97. Kubany ES, Hill EE, Owens JA, Iannce-Spencer C, McCaig MA, Tremayne KJ *et al*. Cognitive trauma therapy for battered women with PTSD (CTT-BW). *Journal of Consulting & Clinical Psychology* 2004;72:3-18.

98. Muñoz Cobos F, Martín Carretero ML, Vivancos Escobar D, Blanca Barba F, Rodríguez Carrión T, Ruiz Ramos M. Improving care for victims of domestic violence. Impact of a priority intervention. [Spanish]. *Atencion Primaria* 2001;28:241-8.

99. Bybee DI, Sullivan CM. The process through which an advocacy intervention resulted in positive change for battered women over time. *American Journal of Community Psychology* 2002;30:103-32.

100. Allen NE, Bybee D, Sullivan CM. Battered women's multitude of needs: evidence supporting the need for comprehensive advocacy. *Violence Against Women* 2004;10:1015-35.

101. Watson J and Egan D. Domestic violence holistic healthcare project. 2003, unpublished.

102. Harwell TS, Casten RJ, Armstrong KA, Dempsey S, Coons HL, Davis M. Results of a domestic violence training program offered to the staff of urban community health centers. Evaluation Committee of the Philadelphia Family Violence Working Group. *American Journal of Preventive Medicine* 1998;15:235-42.

103. Fanslow JL, Norton RN, Robinson EM, Spinola CG. Outcome evaluation of an emergency department protocol of care on partner abuse. *Australian & New Zealand Journal of Public Health* 1998;22:598-603.

104. Fanslow JL, Norton RN, Robinson EM. One year follow-up of an emergency department protocol for abused women. *Australian & New Zealand Journal of Public Health* 1999;23:418-20.

105. Shepard MF, Elliott BA, Falk DR, Regal RR. Public health nurses' responses to domestic violence: a report from the Enhanced Domestic Abuse Intervention Project. *Public Health Nursing* 1999;16:359-66.

106. Wiist WH, McFarlane J. The effectiveness of an abuse assessment protocol in public health prenatal clinics. *American Journal of Public Health* 1999;89:1217-21.

107. Farrell G, Buckley A. Evaluation of a UK police domestic violence unit using repeat victimisation as a performance indicator. *Howard Journal of Criminal Justice* 1999;38:42-53.

108. McCaw B, Berman WH, Syme SL, Hunkeler EF. Beyond screening for domestic violence: a systems model approach in a managed care setting. *American Journal of Preventive Medicine* 2001;21:170-6.

109. Ramsden C, Bonner M. A realistic view of domestic violence screening in an emergency department. *Accident & Emergency Nursing* 2002;10:31-9.

110. Ulbrich PM, Stockdale J. Making family planning clinics an empowerment zone for rural battered women. *Women & Health* 2002;35:83-100.

111. Short LM, Hadley SM, Bates B. Assessing the success of the WomanKind program: an integrated model of 24-hour health care response to domestic violence. *Women & Health* 2002;35:101-19.

112. Falk DR. Evaluation of a domestic violence assessment protocol used by employee assistance counselors. *Employee Assistance Quarterly* 2002;17:1-15.

113. Robinson AL. The Cardiff Women's Safety Unit: a multi-agency approach to domestic violence. 2003, unpublished.

114. Robinson AL. Domestic violence MARACs (Multi-Agency Risk Assessment Conferences) for very high risk victims in Cardiff, Wales: a process and outcome evaluation. 2004, unpublished.

115. Jüni P, Witschi A, Bloch R, Egger M. The hazards of scoring the quality of clinical trials for meta-analysis. *JAMA* 1999;282:1054-60.

116. Balk EM, Bonis PAL, Moskowitz H, Schmid CH, Ioannidis JPA, Wang C *et al*. Correlation of quality measures with estimates of treatment effect in meta-analyses of randomized controlled trials. *JAMA* 2002;287:2973-82.

117. Hegarty K, Roberts G. How common is domestic violence against women? The definition of partner abuse in prevalence studies. *Australian & New Zealand Journal of Public Health* 1998;22:49-54.

118. Zink T, Elder M, Jacobson J, Klostermann B. Medical Management of intimate partner violence considering the stages of change: Precontemplation and contemplation. *Ann Fam Med* 2004;2:231-9.

119. Dienemann J, Campbell J, Landenburger K, Curry MA. The domestic violence survivor assessment: a tool for counseling women in intimate partner violence relationships. *Patient Education & Counseling* 2002;46:221-8.

120. Brown J. Working toward freedom from violence. The process of change in battered women. *Violence Against Women* 1997;3:5-26.

121. Davey Smith G, Ebrahim SH, Frankel SL. How policy informs the evidence. *BMJ* 2001;322:184-5.

122. Marmot MG. Evidence based policy or policy based evidence? *BMJ* 2004;328:906-7.

123. Attala JM, Weaver TL, Duckett D, Draper V. The implications of domestic violence for home care providers. *International Journal of Trauma Nursing* 2000;6:48-53.

124. Farrell G, Clarke K, Pease K. Arming the toothless tiger: court injunctions, family protection orders and domestic violence. *Justice of the Peace* 1993;157:88-90.

125. Forgey MA, Colarossi L. Interdisciplinary social work and law: A model domestic violence curriculum. *Journal of Social Work Education* 2003;39:459-76.

126. Griffiths S. Repeat victimisation: a new approach to reducing domestic violence. Keynote address at one-day domestic violence conference. 1999. Kent Journal of Clinical Practice. http://health.canterbury.ac.uk/health-and-social/resources/conference/dv_keynote.html, accessed April 2005.

127. Grisurapong S. Establishing a one-stop crisis center for women suffering violence in Khonkaen hospital, Thailand. *International Journal of Gynaecology & Obstetrics* 2002;78:S27-S38.

128. Hanmer J and Griffiths S. Policing domestic violence. Briefing note: Reducing domestic violence. What works? 2000. London, Home Office.

129. Haque YA and Clarke JM. The Woman Friendly Hospital Initiative in Bangladesh setting: standards for the care of women subject to violence. *International Journal of Gynaecology & Obstetrics* 2002;78:S45-S49.

130. Kelly L. Domestic violence matters: An evaluation of a development project. No. 91. 1999. London, Home Office Research, Development and Statistics Directorate. Research Findings.

131. McDonald B, editor. Relationships Australia. Multi-site evaluation and development of a better practice model for family violence services. 1991. http://www.relationships.com.au/services/violence_fvexerep.asp#link14 accessed 10-5-2005, unpublished.

132. McNutt LA, Carlson BE, Rose IM, Robinson DA. Partner violence intervention in the busy primary care environment. *American Journal of Preventive Medicine* 2002;22:84-91.

133. Nicolaidis C. The Voices of survivors documentary: using patient narrative to educate physicians about domestic violence. *Journal of General Internal Medicine* 2002;17:117-24.

134. Phillips LR. Domestic violence and aging women. *Geriatric Nursing* 2000;21:188-95.

135. Schraiber LB, d'Oliveira AF. Violence against women and Brazilian health care policies: a proposal for integrated care in primary care services. *International Journal of Gynaecology & Obstetrics* 2002;78:S21-S25.

136. Thompson RS, Rivara FP, Thompson DC, Barlow WE, Sugg NK, Maiuro RD *et al*. Identification and management of domestic violence: a randomized trial. *American Journal of Preventive Medicine* 2000;19:253-63.

137. Waterschoot I. United Nations Development Fund for Women (UNIFEM) contact list. http://www.unifem.org/. 2004, accessed 11-2-2004.

138. Zachary MJ, Schechter CB, Kaplan ML, Mulvihill MN. Provider evaluation of a multifaceted system of care to improve recognition and management of pregnant women experiencing domestic violence. *Womens Health Issues* 2002;12:5-15.

139. Zachary MJ, Mulvihill MN, Schechter CB, Burton WB, Meissner P, and Kaplan ML. Evaluation of two multifaceted partner violence intervention programs for prenatal care. 2004, unpublished.

140. Bergman B, Brismar B. A 5-year follow-up study of 117 battered women. *American Journal of Public Health* 1991;81:1486-9.

141. Berk RD, Newton PJ, Berk SF. What a difference a day makes: An empirical study of the impact of shelters for battered women. *J Marriage Fam* 1986;48:481-90.

142. Bowker LH. The effectiveness of counseling services utilized by battered women. *Women & Therapy* 1987;5:65-82.

143. Campbell JC, Coben JH, McLoughlin E, Dearwater S, Nah G, Glass N *et al*. An evaluation of a system-change training model to improve emergency department response to battered women. *Academic Emergency Medicine* 2001;8:131-8.

144. Caputo RK. Managing domestic violence in two urban police districts. *Social Casework* 1988;69:498-504.

145. Carlson MJ, Harris SD, Holden GW. Protective orders and domestic violence: Risk factors for re- abuse. *Journal of Family Violence* 1999;14:205-26.

146. Davis JW, Parks SN, Kaups KL, Bennink LD, Bilello JF. Victims of domestic violence on the trauma service: unrecognized and underreported. *Journal of Trauma-Injury Infection & Critical Care* 2003;54:352-5.

147. Davis RC, Taylor BG. A proactive response to family violence: the results of a randomized experiment. *Criminology* 1997;35:307-34.

148. Dienemann J, Trautman D, Shahan JB, Pinnella K, Krishnan P, Whyne D *et al*. Developing a domestic violence program in an inner-city academic health center emergency department: the first 3 years. *Journal of Emergency Nursing* 1999; 25:110-115.

149. Dimmitt J, Davila YR. Group psychotherapy for abused women - a survivor group prototype. *Applied Nursing Research* 1995;8:3-7.

150. Dutton MA, Mitchell B, Haywood Y. The emergency department as a violence prevention center. *JAMA* 1996;51:92-6.

151. Gadomski AM, Wolff D, Tripp M, Lewis C, Short LM. Changes in health care providers' knowledge, attitudes, beliefs, and behaviors regarding domestic violence, following a multifaceted intervention. *Academic Medicine* 2001;76:1045-52.

152. Gelles RJ, Maynard P. A structural family systems approach to intervention in cases of family violence. *Family Relations* 1987;36:270-5.

153. Gutman MA, Ketterlinus RD, McLellan AT. Characteristics of substance-abusing women on welfare. Findings from the evaluation of CASAWORKS for Families pilot demonstration. *Evaluation review* 2003;27:597-628.

154. McLellan AT, Gutman M, Lynch K, McKay JR, Ketterlinus R, Morgenstern J *et al*. One-year outcomes from the CASAWORKS for Families intervention for substance-abusing women on welfare. *Evaluation review* 2003;27:656-80.

155. Harris MH, Weber M. Providing crisis counselors on-site to victims of domestic violence in the emergency department: a report of a local pilot project. *South Dakota Journal of Medicine* 2002;55:147-9.

156. Holt VL, Kernic MA, Lumley T, Wolf ME, Rivara FP. Civil protection orders and risk of subsequent police-reported violence. *JAMA* 2002;288:589-94.

157. Holt VL, Kernic MA, Wolf ME, Rivara FP. Do protection orders affect the likelihood of future partner violence and injury? *American Journal of Preventive Medicine* 2003;24:16-21.

158. Johannson MA. An evaluation of after-treatment couples' groups for wife abuse. *Family Relations* 1998;47:27-36.

159. Keilitz SL, Davis C, Efkeman HS, Flango C, and Hannaford PL. Civil Protection Orders: Victims' views on effectiveness summary of a research study. 1998. US, National Institute of Justice. Department of Justice Office of Justice Programs.

160. Krasnoff M, Moscati R. Domestic violence screening and referral can be effective. *Annals of Emergency Medicine* 2002;40:485-92.

161. Kurz D. Emergency Department responses to battered women: Resistance to medicalization. *Social Problems* 1987;34:69-81.

162. Kurz D. Interventions with battered women in health care settings. *Violence & Victims* 1990;5:243-56.

163. Levin R. Participatory evaluation: Researchers and service providers as collaborators versus adversaries. *Violence Against Women* 1999;5:1213-27.

164. McFarlane J, Willson P, Lemmey D, Malecha A. Women filing assault charges on an intimate partner: Criminal justice outcome and future violence experienced. *Violence Against Women* 2000;6:396-408.

165. Willson P, McFarlane J, Malecha A, Lemmey D. A special police unit: Intimate partner violence and perceived helpfulness of services received. *Journal of Police and Criminal Psychology* 2001;16:40-50.

166. Willson P, McFarlane J, Lemmey D, Malecha A. Referring abused women: does police assistance decrease abuse? *Clinical Nursing Research* 2001;10:69-81.

167. Meisel J, Chandler D, Rienzi BM. Domestic violence prevalence and effects on employment in two California TANF populations. *Violence Against Women* 2003;9:1191-212.

168. Mertin P, Mohr PB. A follow-up study of posttraumatic stress disorder, anxiety, and depression in Australian victims of domestic violence. *Violence & Victims* 2001;16:645-54.

169. Murphy PA and Pike L. Columbus Pilot Project Evaluation: First interim report. 2002. Perth, Family Court of Western Australia, School of Social and Cultural Studies, The University of Western Australia and School of Psychology, Edith Cowan University, Perth.

170. Murphy PA and Pike L. Columbus Pilot Evaluation: Report of Stage II Cost/Outcome Analysis and Stakeholder Feedback. 2003. Perth, Family Court of Western Australia, School of Social and Cultural Studies, The University of Western Australia and School of Psychology, Edith Cowan University, Perth.

171. Murphy PA and Pike L. Report of Stages II and III of the Evaluation of the Columbus Pilot in the Family Court of Western Australia: Cost / Outcome Analysis, and Feedback from Parents, Children, and Stakeholders. 2004. Perth, Family Court of Western Australia: School of Psychology, Edith Cowan University, Perth.

172. Norton IM, Manson SM. Domestic violence intervention in an urban Indian health center. *Community Ment Health J* 1997;33:331-7.

173. Nosko A. Applying a strengths, competence and empowerment model. *Groupwork* 1997;10:55-69.

174. O'Leary KD, Heyman RE, Neidig PH. Treatment of wife abuse: A comparison of gender-specific and couples approaches. *Behavior Therapy* 1999;30:475-505.

175. Paluzzi P, Gaffikin L, Nanda J. The American College of Nurse-Midwives' Domestic Violence Education Project: evaluation and results. *Journal of Midwifery & Women's Health* 2000;45:384-91.

176. Rachor RE. An evaluation of the First Step PASSAGES domestic violence program. *Journal of Reality Therapy* 1995;14:29-36.

177. Regan, L. Final Report of the Portsmouth Domestic Violence Intervention Project (EIP) Evaluation. 2004. London, London Metropolitan University.

178. Reilly S, Graham-Jones S, Gaulton E, Davidson E. Can a health advocate for homeless families reduce workload for the primary healthcare team? A controlled trial. *Health Soc Care Community* 2004;12:63-74.

179. Rounsaville B, Lifton N, Bieber M. The natural history of a psychotherapy group for battered women. *Psychiatry* 1979;42:63-78.

180. Rubin A. The effectiveness of outreach counseling and support groups for battered women - a preliminary evaluation. *Research on Social Work Practice* 1991;1:332-57.

181. Schlee KA, Heyman RE, O'Leary KD. Group treatment for spouse abuse: Are women with PTSD appropriate participants? *Journal of Family Violence* 1998;13:1-20.

182. Weisz AN, Tolman RM, Bennett L. An ecological study of nonresidential services for battered women within a comprehensive community protocol for domestic violence. *Journal of Family Violence* 1998;13:395-415.

183. Wolfe DA, Wekerle C, Scott K, Straatman AL, Grasley C, Reitzel-Jaffe D. Dating violence prevention with at-risk youth: a controlled outcome evaluation. *Journal of Consulting & Clinical Psychology* 2003;71:279-91.

184. Parad HJ, Parad LG. Crisis Intervention Book 2: The practitioner's sourcebook for brief therapy. Milwaukee: Family Service America, 1990.

Appendix I: Published reviews of quantitative evaluations of interventions for women who have experienced partner violence

1. Chalk and King (1998):[47] This was a US-based systematic review and searched for studies published between 1980 to 1996. Its primary sources were wide-ranging, with 23 databases searched. It also took a broad view of domestic violence, considering interventions that targeted intimate partner, elder and child abuse. There was no restriction on setting. All studies had to include a control or comparison group. In the light of research activity in the past 9 years, this review needs updating. Also, it did not consider before-and-after studies, which we have included in our review.

2. Abel (2000):[48] This US-based review was undertaken before 2000. It had no restrictions by setting and looked at a range of psychosocial interventions, including advocacy, counselling, refuge services and support groups. The method was not described in any detail.

3. Davidson et al (2001):[33] This review was not systematic and did not critically appraise primary studies. There is no description of the method used. It was first published as a Home Office Briefing note in January 2000 and does not include the more recent studies.

4. Hender (2001):[49] This review, which searched 11 electronic databases as primary sources, restricted itself to controlled psychological interventions for women victims of domestic violence. This included "counselling" interventions that we have classed as advocacy. The publishers, the Australian Monash University Centre for Clinical Effectiveness, in this as in all their reviews, selected only some of the relevant studies for appraisal, using a hierarchical quality assessment approach. If sound relevant systematic reviews, evidence-based clinical practice guidelines, or health technology assessments, or randomised controlled trials are found, the search is stopped. Otherwise, the search is broadened to include other studies, such as case-control and longitudinal cohort studies.

5. Ramsay et al (2002):[44] This review searched three electronic databases to February 2001. The review primarily examined the evidence around screening for domestic violence, but also considered controlled interventions for women identified as abused. However, the inclusion criteria limited included studies to those reporting interventions initiated in a health care setting.

6. Cohn et al, 2002:[50] The authors of this review systematically searched four databases, published bibliographies, and reference lists, as well as unpublished materials, for studies that evaluated formal training efforts in family violence, to November 2000. They took a broad view of family violence, to include partner violence, elder abuse/neglect, and child abuse/neglect, and also of the focus of the training (assessment, evaluation, detection, identification and intervention). Trainees could be health profession students or practising health professionals. Particular study designs were not excluded, as long as they involved quantitative evaluation of desired outcomes of the training and did not exclusively report provider self-report surveys. In total, 41 interventions were identified, 30 of which considered training related to partner violence. New studies have been reported since this review, which is more limited than ours in its scope.

7. Wathen et al (2003):[51;52] This review was intended to develop recommendations that were appropriate to the Canadian setting. The primary source of studies was a search of five electronic databases to March 2001. Controlled studies (including, but not exclusively, randomised controlled trials) were included if set within primary care and concerned with domestic violence screening, interventions for abused women, or male perpetrator treatment programmes. Interventions outside of primary care also were reviewed but not used in the recommendations.

8. Nelson et al (2004):[53] This review searched six electronic databases to December 2002. All included studies had to be applicable to US clinical practice, include a comparison group, and be conducted in or linked to primary care (including emergency department settings). A health care provider also had to be involved in the assessment or intervention. The review focused on screening for domestic violence, but also included studies aiming to reduce harm

from family and partner violence. Studies that tested the effectiveness of interventions to educate health care professionals about family violence were excluded.

9. Klevens et al, 2004:[54] This clinical evidence review is the most up-to-date, with a search date up to March 2004. Eight electronic databases were searched. The selection of primary studies used quality criteria, which meant that less robust controlled studies were only included if randomised controlled trials were not available. System-level interventions were excluded.

Appendix II: Medline search

Other searches may be obtained from the authors. Apart from section a), the "explode" facility is used throughout where relevant.

a) To determine central subject matter

SEARCH TERM	COMMENT
1. *domestic violence/	"focus" facility used
2. *battered women/	"focus" facility used
3. *spouse abuse/	"focus" facility used Also tried *partner abuse/ but Medline translates this into spouse abuse
4. (abus$ adj wom#n).tw	
5. ((wife or wives) adj batter$).tw	
6. ((wife or wives) adj abus$).tw	
7. (abus$ adj3 partner$).tw.	
8. (abus$ adj3 spous$).tw.	
9. pregnan$.tw	To detect abuse in pregnancy
10. 9 and (or/1-8)	
11. women/	
12. female/	
13. (wom#n or female$).tw	
14. (or/ 1-8,10) and (or/11-13)	**Total for central subject matter. The and (or/11-13) is designed to restrict the search to studies of women**

b) Interventions (changes to these are also potential outcomes)

SEARCH TERM	COMMENT
15. exp communication or exp communication barriers or exp emergency medical service communication systems or exp hospital communication systems or exp persuasive communication/	
16. Exp clinical protocols/	
17. exp evaluation studies/	
18. exp health services accessibility/	
19. education, medical/ or education, nursing, continuing/	
20. Exp teaching materials/	
21. Exp inservice training/	
22. exp health promotion/ or exp health education/ or exp patient education/ or patient education handout.pt	

23. intervention studies/	
24. exp interviews/	
25. Exp program evaluation/	
26. Exp documentation/	
27. exp questionnaires/	
28. exp referral/ and exp consultation/	
29. monitoring.tw	
30. house calls/	
31. nurse-patient relations/	
32. physician-patient relations/	
33. professional-patient relations/	
34. knowledge, attitudes, practice/	interested in knowledge and practice
35. consumer advocacy/	
36. patient advocacy/	
37. exp counseling/	
38. follow up studies/	
39. exp housing/ or exp public housing/	
40. exp nursing care/	
41. prenatal care/	
42. patient care planning/	
43. case management/	
44. delivery of health care/	
45. community mental health services/	
46. community health services/	
47. community health nursing/	
48. exp police/ or exp social control, formal/ or exp social work/	
49. crisis intervention/	
50. exp social environment/	includes community groups etc
51. decision support systems, clinical/ or decision support techniques/ or financial support/ or health planning support/ or life support care/ or social support/ or non-US govt sup/ or (other US govt sup/ and NIH sup/) or (other US govt sup/ and PHI sup/) or other US govt sup/	
52. safety behaviour$.mp or protection.mp or safety.mp or security.mp	
53. mentor.mp	
54. (Police.mp or custodial.mp) adj5 arrest$.mp	The adj5 is chosen because more inclusive statements such as adj25 bring up a lot of cardiac arrest cases

55. or/15-54	**Total for interventions**

c) Outcomes

We considered excluding these, as outcomes should be reported in studies anyway. But Medline misclassifies sometimes, and also, some studies might be excluded if one of our outcomes of interest was not a main study objective. A quick check confirmed that these outcomes terms picked up a very few potentially relevant papers that would otherwise be missed, so we include them.

SEARCH TERM	COMMENT
56. (police adj25 calls).tw	
57. police.tw adj25 complaints.tw	
58. police.tw adj25 reports.tw	
59. adaptation, psychological/	
60. depression/	
61. stress/ or stress disorders, post-traumatic/ or stress, psychological/	
62. Exp emotions/	
63. Exp substance-related disorders/ or psychoses, substance-induced/	
64. exp social isolation/ or exp social behavior/ or exp social adjustment/ or exp interpersonal relations/	
65. exp personality/	
66. exp eating disorders/	
67. suicid$ ideation.mp or exp suicide, attempted/ or exp suicide/	
68. genital diseases, female/ or sexually transmitted diseases, bacterial or sexually transmitted diseases, viral	
69. sex offenses/ or (sexual adj abuse).tw or Rape/	
70. quality of life/	
71. health status indicators/	
72. severity of illness index/	
73. exp wounds/ and injuries/	
74. exp emergency treatment/ or exp Trauma Centers/ or exp Emergency Service, Hospital/	
75. Exp homicide/	
76. Exp mortality/ or exp fatal outcome/ or exp death/	
77. ((economic or financ$) adj (control$ or constraint or depriv$ or abus$)).tw and (family or partner or spouse or wife).tw	
78. safety	the mesh term seems to focus on the

	commercial so I have left this term out of the search
79. (wom#n and (refuge or shelter)).mp	
80. Exp program evaluation/	
81. outcome assessment/ or process assessment/	
82. patient acceptance of health care/	
83. community health services/ut	
84. health resources/ut	
85. exp records/	for outcomes, to monitor e.g. trauma (includes trauma indices)
86. pregnancy complications/	
87. pregnancy, high-risk/	
88. reproductive history/ (includes gynae problems)	
89. divorce/	(includes separation etc)
90. re-abus$.mp or reabus$.mp	
91. exp treatment outcome/	
92. Treatment failure/	
93. or/56-92	

d) Study types

This search routine has been adapted from published routines developed by the Cochrane, which are described as maximally sensitive for study type. A few extra lines have been added to capture extra time series and parallel group studies, and lines relating to placebo have been deleted.

SEARCH TERM	**COMMENT**
94. randomized controlled trial.pt	
95. controlled clinical trial.pt	
96. randomized controlled trials.sh	
97. random allocation.sh.	
98. double–blind method.sh	
99. single–blind method.sh	
100. or/94-99	Line 102 is the final term to be used for this subgroup of study types. The three line routine 100-102 is replicated for each study type below.
101. animal.sh not human.sh	
102. 100 not 101	
103. clinical trial.pt	
104. exp clinical trials/	
105. (clin$ adj25 trial$).ti,ab	
106. ((single or double or treble or triple) adj25	

(blind$ or mask$)).ti,ab	
107. random$.ti,ab	
108. research design.sh	
109. or/103-109	
110. 109 not 101	Excludes animal studies, as above.
111. 110 not 102	This line is the final term to be used for this subgroup of study types. It excluded duplicates from the first subtype total with the "not" statement.
112. parallel adj group$.tw	
113. comparative study.sh	
114. evaluation studies/	
115. follow up studies.sh	
116. prospective studies.sh	
117. (control$ or prospectiv$ or volunteer$).ti,ab	
118. or/112-117	
119. 118 not 101	Excludes animal studies, as above.
120. 119 not (102 or 111)	This line is the final term to be used for this subgroup of study types. It excluded duplicates from the previous subtype totals with the "not" statement.
121. Exp case control studies/	
122. Exp cohort studies/	
123. Case control.tw	
124. (cohort adj (study or studies)).tw	
125. Cohort analy$.tw	
126. (Follow up adj (study or studies)).tw	
127. time.tw adj series.tw	
128. Longitudinal.tw	
129. Retrospective.tw	
130. Or/121-129	
131. 130 not 101	Excludes animal studies, as above.
132. 131 not (102 or 111 or 120)	This line is the final term to be used for this subgroup of study types. It excluded duplicates from the previous subtype totals with the "not" statement.
133. review, academic.pt.	
134. review, tutorial.pt.	
135. meta–analysis.pt.	
136. meta–analysis.sh.	
137. (systematic$ adj25 review$).tw	

138. (systematic$ adj25 overview$).tw	
139. (meta-analy$ or metaanaly$ or (meta analy$)).tw	
140. or/133-139	
141. 140 not 101	Excludes animal studies, as above.
142. 141 not (102 or 111 or 120 or 132)	This line is the final term to be used for this subgroup of study types (reviews, which are included in case their bibliographies cite further useful papers). It excluded duplicates from the previous subtype totals with the "not" statement.
143. 102 or 111 or 120 or 132 or 142	**Total for the different study types**

e) Negative impact

These are intended to pick up outcomes that are worse after an intervention, and that might be missed from other parts of the search.

SEARCH TERM	**COMMENT**
144. (violence or retribution or reprisal or revenge).tw	
145. attack.tw not (ischemic attack, transient/ or complement membrane attack complex/ or antigens, CD59/ or ischaemic)	The "not" part of this aims to exclude all disease-related rather than abuse-related meanings of the term attack
146. (spouse or wife or person$ or wom#n or female).tw	
147. (144 or 145) and 146	**This aims to restrict the previous two terms to abuse**

f) Search results

These are shown as multiple separate lines, rather than combining them more economically, so that the effect of different choices on final sample size is evident.

SEARCH TERM	**COMMENT**
148. (55 or 92) and 14	All outcomes and interventions related to abuse
149. 148 and 143	All abuse interventions and outcomes investigated by the chosen study types
150. 149 and 147	All abuse interventions and outcomes investigated by the chosen study types plus adverse outcomes for abused women (intervention not specified in the search).
151. remove duplicates from 150	**This is the final search, with any duplicate entries removed, and provides the list of articles that we are evaluating in the first round of the review for Medline.**

Appendix III: Quality of execution and study design

(adapted from Harris et al, 2001[58] and Briss et al, 2004[59])

a) Quality of execution

DEFINITION	GRADE
A study (including meta-analyses or systematic reviews) that meets all design-specific criteria* well.	Good
A study (including meta-analyses or systematic reviews) that does not meet (or it is not clear that it meets) at least one design-specific criterion* but has no known "fatal flaw" i.e. any or all of the following problems may occur, without the limitations noted in the "poor" category below: Generally comparable groups are assembled initially, but some question remains about whether some (although not major) differences occurred in follow-up; measurement instruments are acceptable (although not the best) and generally applied equally; some but not all important outcomes are considered; and researchers account for some but not all potential confounders.	Fair
A study (including meta-analyses or systematic reviews) that has at least one design-specific* "fatal flaw", or 4 lesser flaws. Fatal flaws are: Groups assembled initially are not close to being comparable or are not maintained throughout the study, unreliable or invalid measurement instruments are used or are not applied at all equally among groups, and key confounders are given little or no attention or a number, i.e. criteria 2, 4 or 7.	Poor

* The design-specific criteria are:

- For RCTs: adequate randomization, including concealment and whether potential confounders were distributed equally among groups
- For other studies: consideration of potential confounders
- Maintenance of comparable groups (includes crossovers, adherence, contamination)
- No important differential loss to follow-up or overall high loss to follow-up (>20%)
- Measurements: equal, reliable, and valid
- Clear definition of interventions
- All important outcomes considered or good match of outcomes to goals
- In analysis, intention-to-treat analysis for RCTs, or adjustment for potential confounders for other studies

b) Study design

DEFINITION	GRADE
Prospective study with parallel controls	Greatest
All retrospective studies (e.g. Historical controls), or multiple assessment before and after studies without parallel controls	Moderate
Single before and after measurements and no parallel control, or case studies and series	Least

Appendix IV: Data Summary Tables

Key to questionnaire codes

ABI = Abusive Behavior Inventory score
APQ = Abuse Problem-solving Questionnaire score
ATFS = Attitudes Towards Feminism Scale
BDI = Beck Depression Inventory
CA-PTSD = Clinician-Administered scales for PTSD
CES-D = Center for Epidemiological Studies Depression scale
CSEI = Coopersmith Self-Esteem Inventory
CSQ = Client Satisfaction Questionnaire
CSQ-8 = Client Satisfaction Questionnaire-8 score
CSS = Client Satisfaction Scale
CTS = Conflict Tactics Scale
DAS = Dyadic Adjustment Scale
DEQ = Distressing Event Questionnaire
DOR = Difficulty Obtaining Resources
EOR = Effectiveness in Obtaining Resources
GAF = Global Assessment of Functioning rating
GAI = Global Assessment of Improvement score
HIS = Hudson's Index of Self-esteem
I-E = Locus of control measured on an Internal-Powerful Others scale
IPA= Index of Psychological Abuse
IRI = Interpersonal Relationship Inventory
ISA = Index of Spouse Abuse
ISEL = Interpersonal Support Evaluation List
LSQ = Life Satisfaction Questionnaire score (includes global life satisfaction)
MAS = Marital Assertion Scale
PFQ = Personal Feelings Questionnaire
PMW-short form = short form Psychological Maltreatment of Women
PSS-short form = Perceived Stress scale short-form
RAS = Rathus Assertiveness Schedule
RAST = Rape Aftermath Symptom Test
RSES = Rosenberg Self-Esteem Scale
SAS = Social Adjustment Scale
SEI = Self-Esteem Inventory
SES = Self-Efficacy Scale
SESAW = Self-Efficacy Scale specific for Abused Women revised
SVAWS = Severity of Violence Against Women Scale
SRIS = Sex Role Ideology Scale
STRGS = Sources of Trauma-Related Guilt Survey
TLEQ = Traumatic Life Events Questionnaire
TRGI = Trauma-Related Guilt Inventory
TSCS = Tennessee Self-Concept Scale
TSS = Tennessee Self-Concept Scale
WOC = Ways of Coping checklist

Table 1 Design of Woman-centred Intervention Studies

Author(s), Publication year	Design	Setting	Inclusion criteria	Intervention	Comparison care	Data monitoring periods	Data source	Primary outcome measures
Advocacy (including safety planning)								
Sullivan, 1991[65] (first study) Sullivan & Davidson, 1991[66] (first study)	RCT	USA Community (post refuge)	Abused women living in a refuge and intending to leave assailants; women excluded if they left the refuge quickly without completing exit form or telling anyone where they were going, returned immediately to assailants, left the area, spoke no English	Individual advocacy to help women leaving a DV refuge to access community resources: 6-8 hours contact per week for first 10 weeks after leaving refuge	Usual after-refuge care (if any)	Baseline, 5 and 10 weeks during advocacy, and 10 weeks post-intervention	Interviews including self-report questionnaires	Validated: Abuse (CTS – modified) Resources (EOR) Non-validated: Independence from assailant

Table 1 Design of Woman-centred Intervention Studies (continued)

Author(s), Publication year	Design	Setting	Inclusion criteria	Intervention	Comparison care	Data monitoring periods	Data source	Primary outcome measures
Advocacy (including safety planning)								
Sullivan, Tan, Basta, Rumptz, Davidson, 1992[67] *(second study)* Sullivan, Campbell, Angelique, Eby, Davidson, 1994[68] (second study) Tan, Basta, Sullivan, Davidson, 1995[69] *(second study)* Sullivan & Bybee, 1999[70] (second study) Sullivan & Rumptz, 1994[71] *(subset of second study)*	RCT	USA Community (post refuge)	Abused women who stayed at least one night in refuge and intended to stay in area for at least 3 months post-refuge	Individual advocacy to help women leaving a DV refuge to devise safety plan and access community resources: 4-6 hours planned contact per week for first 10 weeks after leaving refuge, actually provided mean 7 hours per week contact	Usual after-refuge care (if any)	Baseline and 10 weeks post-intervention Baseline and 10 weeks, 6 months post-intervention Baseline, and 10 weeks, 6, 12, 18, 24 months post-intervention Baseline and 10 weeks post-intervention	Interviews including self-report questionnaires	Validated: Abuse (CTS – modified) Psychological abuse (IPA, developed for study) Resources (EOR and DOR) Depression (CES-D) Locus of control (I-E) Fear and anxiety (RAST) Self-efficacy (developed for study) Non-validated: Independence from assailant

Table 1 Design of Woman-centred Intervention Studies (continued)

Author(s), Publication year	Design	Setting	Inclusion criteria	Intervention	Comparison care	Data monitoring periods	Data source	Primary outcome measures
Advocacy (including safety planning)								
Tutty, 1996[72]	Before/ after, own controls	Canada Community (post refuge)	Women who were ready to exit refuges and intended not to return to perpetrator	Feminist-informed post refuge services (counselling and advocacy) provided by professional social workers; visited women in their new homes for 1-2 hours per week, typically for 3-6 months; main goals to respond to the women's diverse needs and coordinate services needed to remain independent and safe. *Authors state services provided were more than just advocacy, but we have classified it as primarily advocacy*	Not stated, presumably usual care provided post refuge (if any)	Baseline, and 3 months after study entry	Self-report questionnaires, social worker survey	Validated Self-esteem (SEI) Social support/ isolation (ISEL, without self-esteem subscale) Stress (PSS, short-form)
McFarlane, Soeken, Reel, Parker, Silva, 1997[73] (first study)	Before/ after, parallel groups	USA Intervention-antenatal clinics Comparison-family planning/ post-partum /child clinics	Women physically or sexually abused by current partner in year prior to or during pregnancy; intervention group were pregnant, comparison group had delivered a viable infant within the past 2 months	Empowerment protocol, including advocacy and advice offering options, assistance in making safety plan, `reinforcement' brochure listing community resources: 3 sessions evenly spaced throughout pregnancy, each about 30 minutes (10 minutes protocol and 20 minutes for data collection) Authors state the services provided were counselling, but we have classified it as advocacy	Women offered wallet-sized card with information on community resources	Baseline, and 6, 12 months post birth	Questionnaires read out by interviewers	Non-validated: Relationship Inventory (developed for study to gauge resource use, abuse status, current relationship with abuser)
McFarlane, Parker, Soeken, Silva, Reel, 1998[74] (sub-set of first study)			Intervention group only			Baseline, twice during pregnancy, and 2, 6,12 months post birth		Non-validated: Use of safety behaviours (15-item safety assessment, developed for study)

Table 1 Design of Woman-centred Intervention Studies (continued)

Author(s), Publication year	Design	Setting	Inclusion criteria	Intervention	Comparison care	Data monitoring periods	Data source	Primary outcome measures
Advocacy (including safety planning)								
Parker, McFarlane, Soeken, Silva, Reel, 1999[75]				In this report, half of intervention group also offered 3 further advocacy ("counselling and information") support group sessions at local refuge (but results pooled)		Intervention Baseline, twice during pregnancy, and 2, 6,12 months post birth Comparison Baseline and 6, 12 months post birth		Validated measures: Abuse (ISA, SVAWS) Non-validated: Use of safety behaviours (15-item safety assessment, developed for study)
McFarlane, Soeken, Wiist, 2000[76] (second study)	RCT (absence of a no treatment control)	USA Antenatal clinics	Women physically or sexually abused by current or former male partner in year prior to or during pregnancy	Three intervention groups: Brief - women offered wallet-sized card with information on community resources and a brochure "Counselling" – unlimited access during clinic opening times to onsite bilingual DV advocate offering support, education, referral, assistance in accessing resources; available by appointment or drop-in for the duration of pregnancy Outreach – as "counselling", plus services of a bilingual trained non-professional mentor mother offering support, education, referral, assistance in accessing resources; achieved through personal visits and telephone contact Authors state (2) and (3) provided counselling, but we have classified it as advocacy	Usual pre-intervention care	Baseline and 2, 6, 12, 18 months post-intervention (must also have followed up at 24 months, but no analyses past 18 months)	Unclear , but likely that the questionnaires read out by interviewers	Validated measures: Abuse (SVAWS) Non-validated: Community Resource Assessment (developed to gauge resource use)

Table 1 Design of Woman-centred Intervention Studies (continued)

Author(s), Publication year	Design	Setting	Inclusion criteria	Intervention	Comparison care	Data monitoring periods	Data source	Primary outcome measures
Advocacy (including safety planning)								
McFarlane, Malecha, Gist, Watson, Batten, Hall, Smith, 2002[77] (third study) McFarlane, Malecha, Gist, Watson, Batten, Hall, Smith, 2004[78] (third study)	RCT	USA Family-violence unit of a large urban district attorney's (DA) office	All English- or Spanish-speaking women who applied and qualified for a civil protection order (CPO) against an intimate partner	Usual services of DA office (see next column), then women given 15-item safety checklist and phoned six times to discuss specific safety promoting behaviours	Usual services: office hours service that processes CPOs, offers advocacy and referrals (including safety plans, resource information, encourages contact with a caseworker who provides 1 hour of advocacy and referrals session with follow-up activities as needed)	Baseline and 3, 6, 12, 18 months post-intervention	Face-to-face and telephone interviews	Non-validated: Use of safety behaviours (same as above)
Muelleman & Feighny, 1999[79]	Before/ after, historical controls	USA AED (Level 1 trauma centre, equipped to handle most serious cases)	Women aged 18+ identified in AED as injured by current or former partner	Single advocacy session (approximately 1.5 hours) given in AED to increase community resource utilisation, includes advice on safety issues (refuges, police, protection orders) and advice/information on counselling	Women offered information sheet with resource telephone numbers	6 months pre-intervention, and up to 18 months post-intervention (mean = 65 weeks)	Medical records, police reports, protection orders filed, refuge database	Non-validated: Repeat visits to AED documented as due to partner abuse Calls to police Protection orders Refuge use Refuge-sponsored counselling

Table 1 Design of Woman-centred Intervention Studies (continued)

Author(s), Publication year	Design	Setting	Inclusion criteria	Intervention	Comparison care	Data monitoring periods	Data source	Primary outcome measures
Advocacy (including safety planning)								
Bell & Goodman, 2001[80]	Before/ after, parallel groups	USA Domestic Violence Intake Center of a Superior Court's Battered Women's Program	Women aged 18+ meeting legal clinic definition of poverty, seeking temporary protection orders (TPO) due to assault by intimate heterosexual partner; excluded if in receipt of other legal or community agency help, "out of it", admitted initiating the assault, or no phone access for follow-up	Usual centre care (see next column) then, after TPO granted, individual advocacy with pairs of law student advocates, by phone or in person; advocacy focussed on legal help, but provided safety plans, emotional support, information on DV, community agency referrals; mean of 4 contacts/week, mean time 1.5 hours, for 2-6 weeks (until hearing for permanent PO)	Usual care: Centre volunteer advocate meets once (up to 30 minutes) with all women to help with TPO process, gives list of referral services; same or other advocate may phone woman before hearing	Baseline and immediate post-intervention	Self-report questionnaires and telephone interviews to administer questionnaires	Validated: Physical abuse (CTS-2) Psychological abuse (PMWPA) Depression (CES-D, short form) Social support (ISEL) Non-validated: Abuse (3-item score, not validated but fair alpha score) Contact with abuser
McKean, 2004[81]	Before/ after, own controls	USA Employment services agencies	Women abused by an intimate partner within the past 12 months	Presentations and group sessions to highlight in-house DV services (advocacy and support groups), abused women either then self-referred or were referred by staff; advocacy *(authors use the term "counselling")* provided on individual basis and included crisis intervention, safety planning, legal and court issues, referral to other services (including mental health); if interest strong, support groups established; the format and duration of the presentations/group sessions differed across agencies; advocates spent median 11.5 hours with each client	Not clear that any pre-intervention care was provided	Baseline and 3, 9 months thereafter	Interviews with advocates, using standard forms across the agencies	Non-validated measures: Abuse Employment

Table 1 Design of Woman-centred Intervention Studies (continued)

	Design	Setting	Inclusion criteria	Intervention	Comparison care	Data monitoring periods	Data source	Primary outcome measures
Support groups								
Tutty, Bidgood, Rothery, 1993[82] Tutty Bidgood, Rothery, 1996[83]	Before/ after, own controls	Canada Community support groups, part of the Family Violence Co-ordinated Treatment Program	Abused women referred to support groups	12 feminist-informed individualised support groups with common goals (not varied by women's intention to return or leave abuser): stop violence by education about male/female socialization, build self-esteem, help with concrete plans; half the groups had two leaders, half only one; 10-12 weeks of attendance for 2-3 hours per session, with at least 8 women per group; groups closed to new members after the first "several" sessions (over-subscription meant women had to wait 1-4 months before being able to start the group)	Not clear that any pre-intervention care was provided	Baseline, immediate post-intervention, and 6 months post-intervention	Interviews including self-report questionnaires	Validated: Abuse (CTS, ISA, Controlling Behaviour) Locus of control (I-E) Self-esteem (SEI) Social support/ isolation (ISEL) Perceived stress/ coping (PSS, modified short form) Marital relationship (FAM) Sex role (ATMF) Client satisfaction (CS)

Table 1 Design of Woman-centred Intervention Studies (continued)

Author(s), Publication year	Design	Setting	Inclusion criteria	Intervention	Comparison care	Data monitoring periods	Data source	Primary outcome measures
Psychological interventions								
de Laverde, 1987[84]	RCT	Columbia Family Welfare Institute	Women who had experienced physical partner abuse (at least one episode of physical abuse per month), requested help for this from the Institute, literate, not receiving psychiatric therapy, not alcoholic, interested in improving relationship with spouse	Cognitive behavioural therapy (CBT) framework aimed at training and improving skills for coping with aggression (including assertion training, cognitive restructuring, relaxation training). Lectures and structured exercises - women shown models of appropriate and inappropriate behaviour in different situations, followed by role play and CBT techniques	Support group with unstructured sessions aiming to consider partner violence issues, legal rights, and services available from the Institute, with empathetic support rather than psycho-therapeutic solutions	Baseline, 15 days post-intervention, with no further assessment of assertive-ness or handling of aggressive situations, but for communicati on, feelings about the relationship, and self-reports of physical abuse, assessment also at a further 15 days and 30 days after the post-intervention assessment (30 and 45 days post-intervention)	Self-report and researcher-administered questionnaires	*Validated* (adapted for the study population): Communication Feelings within the relationship (including spouse attractiveness) Assertiveness (first measure) *Non-validated* Handling aggressive situations Assertiveness (second measure, qualitative behavioural) Abuse (frequency and intensity)

Table 1 Design of Woman-centred Intervention Studies (continued)

Author(s), Publication year	Design	Setting	Inclusion criteria	Intervention	Comparison care	Data monitoring periods	Data source	Primary outcome measures
Psychological interventions								
Cox & Stoltenberg, 1991[85]	Before/ after, parallel groups	USA DV refuge	Women aged 18+ newly resident at a refuge who had not yet started the routine counselling required for all residents	2 groups each receiving 5 structured group counselling modules based on published therapeutic guidelines: 1) Cognitive therapy – to improve self-concept, interactional skills, preparation for work; 2) Self assertiveness and communication skills; 3) Problem solving – 5 step-model; 4) Vocational counselling – career/ education/ training guidance, job seeking skills; 5) Body awareness – including image projected. Modules as uniform as possible. 2-3 hour sessions, three times per week for 2 weeks; Intervention groups (E1 and E2) only differed in that E2 also completed and received feedback on a personality questionnaire as part of vocational counselling	Non-structured weekly group counselling by refuge staff that all residents had to attend; monitored to ensure the counselling techniques differed from experimental groups	Baseline and immediate post-intervention NB. Authors report 2 conflicting time periods for comparison groups (2 or 9 weeks after study start), the former presumed correct by us	Self-report and researcher-administered questionnaires	Affect - anxiety, depression, hostility (MACCL) Locus of control (I-E) Self-esteem (RSE) Assertiveness (ASES) Career attitudes and competencies (CMI)
Mancoske, Standifer, Cauley, 1994[86]	RCT (but no active control group)	USA Battered Women's Program services	Women aged 18+ who had experienced emotional, sexual or physical abuse from partner & requested short-term counselling services from social workers at a battered women's programme	Usual care (see next column) plus alternate assignment either to feminist-oriented (FO) or grief resolution-oriented (GRO) individual counselling; each comprising 8 weekly sessions, combining basic problem solving and psycho-education	Usual care: rapid crisis response services (e.g. safety plans), plus optional services (e.g. refuge, legal referrals, support groups)	Baseline and immediate post-intervention	Self-report questionnaires	Validated: Self-esteem (ISE) Self-efficacy (SES) Attitudes towards feminism (ATFS)

Table 1 Design of Woman-centred Intervention Studies (continued)

Author(s), Publication year	Design	Setting	Inclusion criteria	Intervention	Comparison care	Data monitoring periods	Data source	Primary outcome measures
Psychological interventions								
Rinfret-Raynor & Cantin, 1997[87]	Before/ after, parallel groups	Canada 3 social service centres, 15 community health centres, and one non-institutional setting	Women experiencing physical violence or threats within the past 2 years, and referred by social services	Therapy based on feminist ideology, included three stages (crisis counselling, short-term goals therapy, and medium or long-term goals therapy); also an advocacy component (information-giving, helping women to demand their rights and make use of resources); the same model used under two therapy conditions - group and individual; number and duration of sessions not stated N.B. Authors acknowledge that there are some similarities between the intervention and control care provided	Various standard therapies used by social services agencies, these mainly used a psychosocial or systemic approach, or involved crisis counselling	Baseline and 1, 6, 12 months post-intervention	Interviews and self–report questionnaires	Validated: Abuse (CTS) Self-esteem (TSCS, French translation) Adjustment (DAS, SAS) Assertiveness (RAS, MAS) Non-validated: Employment rate Abuse (Other reported measures not relevant to review)
McNamara, Ertl, Marsh, Walker, 1997[88] McNamara, Ertl, Neufeld, 1998[89]	Before/ after, parallel groups (absence of a no treatment control)	USA DV refuge /refuge out-patients	Women who sought help from a refuge and whose case was closed, or was eligible to be closed (45 days without a service contact)	Individual residential or outpatient counselling or case management from a DV refuge; no other details given but probably 3 sessions 63% received counselling 22% case management 15% missing data 61% treatment as outpatients 26% treatment as refuge residents 13% missing data	Usual pre-intervention care	Baseline and post-intervention; follow-up period not specified, but likely that final assessment followed very quickly after last session	Self-report questionnaires	Validated: Abuse (ABI, ABQ) Satisfaction with services (CSQ) Global improvement (GAI) Global functioning (GAG) Life satisfaction (LSQ)

Table 1 Design of Woman-centred Intervention Studies (continued)

Author(s), Publication year	Design	Setting	Inclusion criteria	Intervention	Comparison care	Data monitoring periods	Data source	Primary outcome measures
Psychological interventions								
Kim & Kim, 2001[90]	Before/ after, parallel groups	Korea 2 DV refuges	Women `battered' by spouse (physical or psychological), residing at refuge	Crisis intervention model (short-term, goal-directed, problem-focused empowerment model), comprising 8 weekly group counselling / teaching sessions, with aim of reducing anxiety and depression, and improving self-esteem	States no formal or therapeutic interventions given, so presumably usual care	Baseline and immediate post-intervention	Self-report questionnaires	Validated: Depression (CES-D) Anxiety - state and trait (measure not specified) Self-esteem (RSES)
Limandri & May, 2002[91] Limandri & May, 2004[92]	Before/ after, parallel groups	USA District Attorney (DA) office Victims' Witness Program	Women known to the Program DV co-ordinator as experiencing abuse perpetrated by heterosexual husbands/partners	A psycho-educational (counselling) group programme (Insight) of 12 weeks duration; content included: safety planning, information about domestic violence, self-esteem, relationship skills, loss and grief, communication and networking skills, assertiveness skills, stress management, self-nurturing skills	Community referrals	Baseline and immediate post-intervention	Self-report questionnaires	Validated: Abuse (ABI) Self-efficacy (SES) Non-validated: Self-efficacy (SES-AW)
Melendez, Hoffman, Exner, Leu, Ehrhardt, 2003[93]	RCT	USA Family planning clinic	Female clients physically abused by male partner in last year, aged 18-30, able to understand English, sexual activity in last year; excluded if pregnant, trying to conceive, blood transfusion 1980-85, HIV+ serostatus, injected drugs in last year	Gender-specific HIV/STD prevention (group cognitive-behavioural / psycho-educational) aimed at all women attending; discusses abused women as discrete subgroup; weekly small group 2-hour sessions either for 4 or 8 weeks	Usual care	Baseline and 1, 6, 12 months post-intervention	Self-report questionnaires, interview	Non-validated: Abuse Various measures of safer sex behaviours

Table 1 Design of Woman-centred Intervention Studies (continued)

Author(s), Publication year	Design	Setting	Inclusion criteria	Intervention	Comparison care	Data monitoring periods	Data source	Primary outcome measures
Psychological interventions								
Howard, Riger, Campbell, Wasco, 2003[94] Bennett, Riger, Schewe, Howard, Wasco, 2004[95]	Before/ after, own controls	USA DV refuges and community-based programmes	Battered women 18+ seeking counselling services	Counselling services provided by one of 54 DV programmes; however, type of counselling not consistent across programmes (not in terms of theoretical perspective or whether offered on an individual or group basis, or both); 90% of women received individual counselling, 41% also had group and 12% family counselling; mean number of 2.2 sessions	Not stated	Baseline and immediate post-intervention	Self-report questionnaires	Non-validated: Well-being/coping N.B. scale called Counselling Outcomes Index in 2004 paper [Howard, personal communication]
Kubany, Hill, Owens, 2003[96] (first study)	RCT	USA Not stated – but women mostly referred from victim service agencies, presumably to psycho-logical services	Battered women with abuse-related PTSD and at least moderate abuse-related guilt, out of relationship with no abuse/stalking for 30+ days, no intention to reconcile; excluded substance abusers, schizophrenic or bipolar women	Individual cognitive trauma therapy for battered women (CTT-BW), with elements from existing CTT for PTSD + extra elements for battered women; emphasises correction of dysfunctional beliefs and reduction of negative self-talk; average 9 weekly sessions of 1.5 hours duration	Usual care, but then received intervention after 6 week delay	Intervention Baseline and 2 weeks, 3 months post-intervention Comparison Baseline, 6 weeks later, and 2 weeks, 3 months post-intervention	Clinician administered and self-completed questionnaires	Validated measures: Depression (BDI) PTSD (CA-PTSD, DEQ) Self esteem (RSES) Guilt (TGI, STGS) Shame proneness (TLEQ) Personal feelings (PFQ) Client satisfaction (CSS)

Table 1 Design of Woman-centred Intervention Studies (continued)

Author(s), Publication year	Design	Setting	Inclusion criteria	Intervention	Comparison care	Data monitoring periods	Data source	Primary outcome measures
Psychological interventions								
Kubany, Hill, Owens, 2004 (second study)[97]	RCT	USA Not stated – but women mostly referred from victim service agencies, presumably to psycho-logical services	Battered women with abuse-related PTSD and at least moderate abuse-related guilt, out of relationship with no abuse/stalking for 30+ days, no intention to reconcile; excluded substance abusers, schizophrenic or bipolar women	Individual cognitive trauma therapy for battered women (CTT-BW), with elements from existing CTT for PTSD + extra elements for battered women; emphasises correction of dysfunctional beliefs and reduction of negative self-talk; average 9 weekly sessions of 1.5 hours duration	Usual care, but then received intervention after 6 week delay	Intervention Baseline and 2 weeks, 3, 6 months post-intervention Comparison Baseline, 6 weeks later, and 2 weeks, 3, 6 months post-intervention	Clinician administered and self-completed questionnaires	Validated measures: Depression (BDI) PTSD (CA-PTSD, DEQ) Self esteem (RSES) Guilt (TGI, STGS) Shame proneness (TLEQ) Personal feelings (PFQ) Client satisfaction (CSS)

Table 2 Characteristics of Abused Women Participant in Women-centred Intervention Studies

Author(s), Publication year	N eligible	N participants (% of eligible)	N completing intervention (% of participants)	N completing follow-up (% of participants)	Age range of sample	Ethnic origin of sample	SES of sample	Relationship with abuser (at study entry)	Features of abuse
Advocacy (including safety planning)									
Sullivan, 1991[65] (first study) Sullivan & Davidson, 1991[66] (first study)	48	46 (96%) Intervention 30 Comparison 16	41 (89% of recruited) Intervention 25 (83%) Comparison 16 (100%)	41 (89% of recruited) Intervention 25 (83%) Comparison 16 (100%)	19-39 Mean = 28 (No significant group differences)	56% White 39% African American 5% Hispanic (No significant group differences)	63% unemployed 71% receive government aid 59% educated to high school level or less (No significant group differences except comparisons more likely to have car access)	73% married or cohabiting and living with assailant 15% involved but not living with assailant 10% single, divorced, separated	Physical abuse 34% sought medical attention in last 3 months

Table 2 Characteristics of Abused Women Participant in Women-centred Intervention Studies (continued)

Author(s), Publication year	N eligible	N participants (% of eligible)	N completing intervention (% of participants)	N completing follow-up (% of participants)	Age range of sample	Ethnic origin of sample	SES of sample	Relationship with abuser (at study entry)	Features of abuse
Advocacy (including safety planning)									
Sullivan et al, 1992[67] (second study) Sullivan *et al*, 1994[68] (second study) Tan et al, 1995[69] (second study) Sullivan & Bybee, 1999[70] (second study)	1992-5 papers 157 1999 paper 305 calculated by us	1992-5 papers 146 (93%) 1999 paper 284 (93%)	1992-5 papers 141 (97% of recruited) Intervention 71 Comparison 70 1999 paper 278 (98% of recruited) Intervention 143 Comparison 135	1992-5 papers 6 months 131 (90% of recruited; 93% of intervention group who completed 3+ sessions and all comparison group) 1999 paper 24 months 265 (93% of recruited; 95% of intervention group who completed 3+ sessions and at least 4/5 F/Us and all comparison group)	17-61 Mean = 29 (No significant between groups differences)	42-43% African American 45% White 7-8% Hispanic 1-2% Asian American rest: Other (No significant group differences) (Study enlarged between 1995 and 1999 papers, hence slight variation in figures)	*1992-95 papers* 82% unemployed 81% receive government aid 64% educated to high school level 31% some college education *1999 paper* 59% unemployed 76% receive government aid 65% educated to high school level 35% some college education (No significant group differences)	1992-5 papers 77% married or cohabiting and living with assailant 6% involved but not living with assailant 15% single, divorced, separated 1999 paper 69% married or cohabiting and living with assailant 7% involved but not living with assailant 20% single, divorced, separated	Physical abuse 40% sought medical attention in last 6 months

Table 2 Characteristics of Abused Women Participant in Women-centred Intervention Studies (continued)

Author(s), Publication year	N eligible	N participants (% of eligible)	N completing intervention (% of participants)	N completing follow-up (% of participants)	Age range of sample	Ethnic origin of sample	SES of sample	Relationship with abuser (at study entry)	Features of abuse
Advocacy (including safety planning)									
Sullivan & Rumptz, 1994[71] (sub-set of second study)	Not stated	Not stated	Not stated	60 (% can not be calculated)	17-49 Mean = 26.5	100% African American (43% of women from main study)	87% unemployed 87% receive government aid 73% below poverty line 28% educated to high school level 30% some college	73% married or cohabiting and living with assailant 9% involved but not living with assailant 18% single divorced, separated	Physical abuse 43% had sought medical attention in last 3 months
Tutty, 1996[72]	Not stated	60 (% can not be calculated)	Not clear, may be 60 (100%)	28 (47% of recruited)	18-60 Mean = 33	13% aboriginal, "several immigrants", others not stated	Average education to 11th grade 1-14 years of schooling 65% receipt of full or part social assistance average income (post refuge) $888 per month	57% divorced /separated 28% single 12% married 7% cohabiting (% added to more than 100% in paper)	Physical, emotional and sexual abuse

Table 2 Characteristics of Abused Women Participant in Women-centred Intervention Studies (continued)

Author(s), Publication year	N eligible	N participants (% of eligible)	N completing intervention (% of participants)	N completing follow-up (% of participants)	Age range of sample	Ethnic origin of sample	SES of sample	Relationship with abuser (at study entry)	Features of abuse
Advocacy (including safety planning)									
McFarlane *et al*, 1997[73] (first study) McFarlane *et al*, 1998[74] (sub-set of first study: intervention group only) Parker *et al*, 1999[75]	228	216 (95%)	216 (100% of recruited)	199 (92% of recruited) Intervention 132 Comparison 67	14-42 Mean = 23 (No significant group differences)	Intervention 36% African American 34% Hispanic 30% White Comparison 33% African American 31% Hispanic 36% White (No significant group differences)	Mean years of education = 10 All below poverty line (No significant group differences)	46% married or cohabiting 30% separated 19% in relationship but not living together 5% `other' (No significant group differences)	Physical or sexual abuse
McFarlane *et al*, 2000[76] (second study)	349	342 (98%) but paper only reports on 329 Hispanic patients	292 (89% of recruited Hispanic women)	259 (79% of recruited Hispanic women)	15-42 Mean = 24 (No significant group differences)	100% Hispanic	Mean years of education = 8 23% employed 66% <$10,000 6% >$20,000 (No significant group differences)	56% living with partner	Physical or sexual abuse, and threats of abuse

Table 2 Characteristics of Abused Women Participant in Women-centred Intervention Studies (continued)

Author(s), Publication year	N eligible	N participants (% of eligible)	N completing intervention (% of participants)	N completing follow-up (% of participants)	Age range of sample	Ethnic origin of sample	SES of sample	Relationship with abuser (at study entry)	Features of abuse
Advocacy (including safety planning)									
McFarlane *et al*, 2002[77] (third study) McFarlane *et al*, 2004[78] (third study)	154	150 (97%) Intervention 75 Comparison 75	149 (99% of recruited)	149 (99% of recruited)	Intervention Mean = 30 Comparison Mean = 35 Significant difference (p=0.003)	Intervention 31% African American 25% White 44% Latino 83% spoke English Comparison 35% African American 28% White 37% Latino 85% spoke English (No significant group differences)	Intervention Mean years of education = 11 Comparison Mean years of education = 12 (No significant group differences)	Intervention 53% spouse 19% ex-spouse 7% boyfriend 21% ex-boyfriend Comparison 55% spouse 15% ex-spouse 9% boyfriend 21% ex-boyfriend	Physical, since evidence of assault required to obtain CPO
Muelleman & Feighny, 1999[79]	Intervention 183 Comparison 117	Intervention 105 (57%) Comparison 117 (100%)	Not applicable, single meeting with advocate	Not applicable, women consented to review of various records	Mean = 31 (No significant group differences)	Intervention 75% Black Comparison 61% Black Significant difference (p<0.05)	Not stated but no group differences in mean income/ education using ZIP codes	Not stated	Not stated, but presumably physical if attending the AED

Table 2 Characteristics of Abused Women Participant in Women-centred Intervention Studies (continued)

Author(s), Publication year	N eligible	N participants (% of eligible)	N completing intervention (% of participants)	N completing follow-up (% of participants)	Age range of sample	Ethnic origin of sample	SES of sample	Relationship with abuser (at study entry)	Features of abuse
Advocacy (including safety planning)									
Bell & Goodman, 2001[80]	157	93 (59%) Intervention 34 Comparison 59	57 (61% of recruited) Intervention 21 (62% of recruited) NB. Authors report higher rates based on N actually attending 1st advocacy session in intervention group Comparison 36 (61% of recruited)	No post-intervention follow-up	19-50 Mean = 30 (No significant group differences)	93% African American (No significant group differences)	91% <$20,000 42% employed full-time, 26% part-time 31% unemployed 25% public assistance 63% educated to high school 32% college education (No significant group differences)	40% ex-boyfriend 37% boyfriend 16% spouse 7% separated Not stated how many were living with abuser at study entry	Bell & Goodman, 2001
McKean, 2004[81]	368	243 (66%)	Not applicable	3 months 125 (51% of recruited) 9 months 47 (19% of recruited)	Median = 31	43% African American 27% Latina 19% Caucasian 4% multiracial 3% Asian 4% other	42% high school education only 4% university degree 25% no income 51% assisted income Median monthly income $440 13% full or part time employed 41% unemployed	81% single, separated, divorced, widowed 16% married, cohabiting 3% other	75% reported severe physical aggression; also reported emotional and sexual abuse, controlling behaviour, stalking

Table 2 Characteristics of Abused Women Participant in Women-centred Intervention Studies (continued)

Author(s), Publication year	N eligible	N participants (% of eligible)	N completing intervention (% of participants)	N completing follow-up (% of participants)	Age range of sample	Ethnic origin of sample	SES of sample	Relationship with abuser (at study entry)	Features of abuse
Support groups									
Tutty *et al*, 1993[82] Tutty *et al*, 1996[83]	Not stated	76 (% can not be calculated) N.B. 13 of the 76 repeated intervention, so analysis based on 89	60 (67% of the 89) NB. Data from 1993 paper, slightly lower figures in 1996 paper	6 months 32 (36% of 89; 53% of the 60 who completed therapy) NB. Data from 1993 paper, slightly lower figures in 1996 paper	20-67 Mean = 35	Not stated	Income details only available for 28% of women: low, mean = $1224 per year	54% married or cohabiting (most still living with partner) 38% separated or divorced (with about half of these hoping to reunite with partner)	In previous month, 11% had medical attention, 3% of all women hospitalized, no other details about abuse perpetrated by partner stated
Psychological interventions									
de Laverde, 1987[84]	Not stated	20 (% can not be calculated) Intervention 10 Comparison 10	16 (80% of recruited; 80% of women starting counselling)	16	19-50 Mean 30 (Not stated if any significant between group differences)	Not stated (Columbian study)	Low socio-economic status (No other details stated)	75% married 25% single Lived together on average for 10 years	Minimum of one episode of physical abuse per month

Table 2 Characteristics of Abused Women Participant in Women-centred Intervention Studies (continued)

Author(s), Publication year	N eligible	N participants (% of eligible)	N completing intervention (% of participants)	N completing follow-up (% of participants)	Age range of sample	Ethnic origin of sample	SES of sample	Relationship with abuser (at study entry)	Features of abuse
Psychological interventions									
Cox & Stoltenberg, 1991[85]	Not stated	50 (% can not be calculated) Intervention groups (E1 and E2) 35 Comparison 15	28 (56%) Intervention groups (E1, E2) 16 (46% of recruited) (9 in E1 and 7 in E2) Comparison 6 (40% of recruited)	No post-intervention follow-up	Approx mean = 26 to 32 NB. Authors state by 5 subgroups (allocation groups and completion status) (Not stated if significant group differences)	48% white 12% black 38% Mexican American 2% other NB. Authors also state by 5 sub-groups; higher rates of Mexican Americans in intervention groups non-completers and E2 intervention group, not stated if significant	Approx mean = 10-11 years education 100% unemployed in E2 intervention group, others ranged from 17-33% NB. Authors state by 5 subgroups (Not stated if significant group differences)	About one-half married or co-habiting, except for comparison non-completers and E1 intervention group, where about one-third (Not stated if significant group differences)	Not stated

Table 2 Characteristics of Abused Women Participant in Women-centred Intervention Studies (continued)

Author(s), Publication year	N eligible	N participants (% of eligible)	N completing intervention (% of participants)	N completing follow-up (% of participants)	Age range of sample	Ethnic origin of sample	SES of sample	Relationship with abuser (at study entry)	Features of abuse
Psychological interventions									
Mancoske *et al*, 1994[86]	Not stated	34 (% can not be calculated) Intervention (FO) 10 (GRO) 10 14 dropped out pre-start (recruited until 10 per group assigned and started)	20 (59% of recruited; 100% of women starting counselling)	No post-intervention follow-up	Not stated, but had to be 18+ (Not stated if any significant between group differences)	65% White 25% African-American 5% Hispanic 5% Native American 5% Asian (% stated in paper add up to more than 100%) (Not stated if significant group differences)	15% no high school 30% did not complete high school 30% high school level 30% some college 45% no income 30% limited income 10% received aid (Not stated if significant group differences)	65% living with abuser 60% married 30% single 10% divorced	10% verbal/ psycho-logical abuse only 90% physical abuse (may also be experiencing other types of abuse)

Table 2 Characteristics of Abused Women Participant in Women-centred Intervention Studies (continued)

Author(s), Publication year	N eligible	N participants (% of eligible)	N completing intervention (% of participants)	N completing follow-up (% of participants)	Age range of sample	Ethnic origin of sample	SES of sample	Relationship with abuser (at study entry)	Features of abuse
Psychological interventions									
Rinfret-Raynor & Cantin, 1997[87]	Not stated	181 (% can not be calculated) Numbers in each group not stated, but likely to be about 60 in each	161 (89%) N.B. Not clear if this is post-therapy or at 1 month F/U	6 months 124 (69% of recruited) 12 months 123 (68% of recruited): Intervention (group) 40 (individual) 44 Comparison 39 Attrition similar across groups	19-60 Mean = 34 (approx 66% 25-39) (No significant group differences)	Not stated, but 96% French-speaking, 96% born in Quebec (No significant group differences)	Mean = 10.5 years schooling, 23% went to college 45% homemakers 32% employed 9% unemployed 2% disabled 10% students Mean annual income = $11,016 75% <$15,000 3% >$30,000 (Comparison group were "better off")	38% living with abusers, others separated for less than 2 years (Comparison group were "better off")	All abused within last 2 years Physical (mean = 6 years, range 2 weeks to 30 years)

Table 2 Characteristics of Abused Women Participant in Women-centred Intervention Studies (continued)

Author(s), Publication year	N eligible	N participants (% of eligible)	N completing intervention (% of participants)	N completing follow-up (% of participants)	Age range of sample	Ethnic origin of sample	SES of sample	Relationship with abuser (at study entry)	Features of abuse
Psychological interventions									
McNamara *et al*, 1997[88] McNamara *et al*, 1998[89]	Not stated	81 (% can not be calculated)	40 (49% of recruited)	Not clear if there was any post-intervention follow-up	18-63 Mean = 32	79% Euro-American 7.4% minorities 13.6% missing	24% college or beyond 69% no college 7% missing	37% married 40% single 10% other 13% missing Not stated how many were living with abuser at study entry	Not stated
Kim & Kim, 2001[90]	60	60 (100%) Intervention 30 Comparison 30	33 (55%) Intervention 16 (53% of recruited) Comparison 17 (57% of recruited)	Not applicable as no follow-up subsequent to completion of intervention	Intervention 23-43 Mean = 36 Comparison 28-52 Mean = 37 Above based on N completing therapy, not recruited (Not stated if differences significant, only that they were non-equivalent)	Not stated, presumably all Korean	Intervention: 12% post-high school 44% <$1000 per month 6% >£3000 per month Comparison: 0% post-high school 53% <$1000 per month 0% >£3000 per month Above based on N completing therapy (Not stated if differences significant)	Not stated	Not stated, but interested in recruiting women with physical and psycho-logical abuse

Table 2 Characteristics of Abused Women Participant in Women-centred Intervention Studies (continued)

Author(s), Publication year	N eligible	N participants (% of eligible)	N completing intervention (% of participants)	N completing follow-up (% of participants)	Age range of sample	Ethnic origin of sample	SES of sample	Relationship with abuser (at study entry)	Features of abuse
Psychological interventions									
Limandri & May, 2002[91] Limandri & May, 2004[92]	Not stated	50 (% can not be calculated) Intervention 23 Comparison 27	50 (100%) Intervention 23 Comparison 27	No post-intervention follow-up	Mean = 36	69% white 12% native American 11% Hispanic/ Mexican 6% African American	Combined income 61% <$25000 p.a. 12% >£50000 p.a. 50% unemployed 37% full-time , 14% part-time employed 10% students Education 2% < high school 27% graduated school, 71% >high school	58% married 54% never married 2% divorced 30% living with "someone" (% added to more than 100% in paper)	Not stated other than "various types"
Melendez *et al*, 2003[93]	2042 abused *and non-abused* women, not stated separately	360 (18%): 152 abused 208 non-abused Group breakdown not stated by abuse status Intervention (4 wks) 128 (8 wks) 112 Comparison 120	Not stated	1 month 331 (92%) 6 months 324 (90%) 12 months 349 (97%) Group breakdown not stated separately by abuse status	Mean = 23 Above based on abused N only (Not stated if significant group differences)	75% Black 21% Latina 4% White/other Above based on abused N only (Not stated if significant group differences)	37% below poverty line 63% public assistance 78% completed high school Mean = 13 years education Above based on abused N only (Not stated if significant group differences)	31% still with abuser at study entry	Not stated, but study focuses on physical abuse, and also sexual abuse and verbal harassment

Table 2 Characteristics of Abused Women Participant in Women-centred Intervention Studies (continued)

Author(s), Publication year	N eligible	N participants (% of eligible)	N completing intervention (% of participants)	N completing follow-up (% of participants)	Age range of sample	Ethnic origin of sample	SES of sample	Relationship with abuser (at study entry)	Features of abuse
Psychological interventions									
Howard *et al*, 2003[94] Bennett *et al*, 2004[95]	Not stated	2003 paper: Not stated 2004 paper: 5260 (% can not be calculated)	2003 paper: Not stated 2004 paper: 1440 (27%)	2003 paper: 500 (% can not be calculated) 2004 paper: 638 (12%) N.B. It is not clear why the Ns differ	2003 paper: 41% 18-30 35% 31-40 24% 41+ 2004 paper: Mean = 34	2003 paper: 64% Caucasian 27% African American 9% other 2004 paper: 64% Caucasian 27% African American 4% Latino 5% other	Not stated	Not stated	Not stated, but includes physical and sexual abuse
Kubany *et al*, 2003[96] (first study)	37	37 (100%) Intervention 19 Comparison 18	32 (86%) Intervention 18 (95%) Comparison 14 (78%)	25 (68%) Intervention 14 (74% of recruited; 78% of therapy completers) Comparison 11 (61% of recruited; 79% of therapy completers)	22-62 (No significant between groups differences)	49% White 27% Asian 16% Pacific Islander 8% other (No significant group differences)	Education ranged from 11th grade to a doctorate Mean = 14 years education (No significant group differences)	Not stated, but had to have been out of the abusive relationship for at least 30 days	100% experienced physical abuse, also mentions psycho-logical and sexual abuse

Table 2 Characteristics of Abused Women Participant in Women-centred Intervention Studies (continued)

Author(s), Publication year	N eligible	N participants (% of eligible)	N completing intervention (% of participants)	N completing follow-up (% of participants)	Age range of sample	Ethnic origin of sample	SES of sample	Relationship with abuser (at study entry)	Features of abuse
Psychological interventions									
Kubany *et al*, 2004[97] (second study)	125	125 (100%) Intervention 63 Comparison 62	86 (69%) Intervention 46 (73%) Comparison 40 (65%)	3 months 60 (48%) Intervention 34 (54% of recruited; 74% of therapy completers) Comparison 26 (42% completed; 65% of therapy completers) 6-months: 62 (50%) Intervention 32 (51% of recruited, 70% of therapy completers) Comparison 30 (48% of recruited; 75% of therapy completers)	18-70 (No significant group differences)	53% White 9% Native Hawaiian 7% Filipino 6% Japanese 5% Black 5% Samoan 14% "other" or mixed ethnicities (No significant group differences)	Education from 5th grade to a doctorate, with a mean of 13 years (No significant group differences)	Not stated, but had to have been out of the abusive relationship for at least 30 days Mean = 5 yrs since last incidence of abuse	93% experienced physical abuse, also mentions psycho-logical and sexual abuse

Table 3 Results of Women-centred Intervention Studies (unless indicated otherwise, results are based on participants completing)

Author(s), Publication year	**Outcomes including any multivariate analysis / adjustment for confounders**
Advocacy (including safety planning)	
Sullivan, 1991[65] (first study) Sullivan & Davidson, 1991[66] (first study)	**Abuse** ▪ at 5 weeks no women experienced further abuse, at 10 weeks, no women who returned to assailants experienced further abuse, *but* 3 intervention and one comparison women who did not return were abused at 20 weeks, no women who returned experienced further abuse, *but* 3 intervention and 3 comparison women who did not return were abused **Relationship status with assailant** (no significant between-group differences) ▪ at 5 weeks, 82% no involvement (21% intervention and 13% comparison groups were still involved) ▪ at 10 weeks, 93% no involvement (8% intervention and 6% comparison groups were still involved) ▪ at 20 weeks, 83% no involvement (17% intervention and 19% comparison groups were still involved) **Perceived effectiveness in obtaining resources** ▪ intervention group more effective (p<.05)
Sullivan et al, 1992[67] (second study) Sullivan et al, 1994[68] (second study) Tan et al, 1995[69] (second study) Sullivan & Bybee, 1999[70] (second study)	The following results are based on the findings as reported in the 1999 paper (findings from the earlier studies are similar but are based on a different sample configuration) ***Short-term effects*** (from baseline to 10 weeks, i.e. advocacy period) Significant effects (p<0.001) across time for both groups ▪ decreased physical abuse, psychological abuse and depression ▪ increased quality of life and social support Significant multivariate effect (p<.001) across groups (adjusted for individual baseline scores), univariate analyses also showed benefits for intervention ▪ significant decrease in physical abuse (p=0.03) and depression (p=0.02) ▪ non-significant decrease in psychological abuse (p=0.12) ▪ significant increase in quality of life (p=0.01) and social support (p=0.001) ▪ perceived effectiveness in obtaining resources, intervention group more effective (p<.001) ***Long-term effects*** (from baseline to end of follow-up, 26.5 months after recruitment) ▪ significant effect (p<0.01) across time (levels changed in both groups) ▪ significant effect (p<0.01) across time by condition, supported by multivariate analyses: o **physical abuse**; lower levels for intervention at all except 6 mo, but difference between groups only stats sig. at 10 weeks and 24 mo o **psychological abuse**; while intervention group always had lower levels, the differences between groups were not significant o **quality of life**; significantly higher scores for intervention group at 10 weeks, 18 and 24 months, as well as trends at all other times o **social support**; significantly higher scores for intervention group at 10 weeks, also higher at all other times but not significantly o **depression**; no significant effects with time or time x condition but generally lower in intervention group **Risk of further violence from a partner** (survival analysis) ▪ significant difference (p<0.01) between groups, hazard dissipated at 15 months for intervention group but still present at 24 months for comparison ▪ by end of study, no reabuse in 24% intervention, 11% comparison women ▪ median time to first re-abuse, 9 months intervention, 3 months comparison **results continue next page .....**

Table 3 Results of Women-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Advocacy (including safety planning)	
Sullivan et al, 1992[67] (second study) Sullivan et al, 1994[68] (second study) Tan et al, 1995[69] (second study) Sullivan & Bybee, 1999[70] (second study)	**… results continued from previous page** The following results are based on the findings as reported in the 1999 paper (findings from the earlier studies are similar but are based on a different sample configuration) ***Long-term effects*** (from baseline to end of follow-up, 26.5 months after recruitment) **Perceived difficulty in obtaining resources** ▪ significant effect (p=0.01) across time for both groups (difficulties declined over the 6-24 period) ▪ significant effect (p<0.05) across time by condition, with intervention group overcoming difficulties more quickly (but only at 24 months is the difference between groups statistically significant) **Relationship status with assailant** ▪ at entry 75% of women wanted to or had ended relationship; at 24 months post-intervention, 92% of these were not involved ▪ intervention group more effective (p<0.03) in ending relationship (96%) compared with controls (87%) ▪ at entry 25% of women wanted to continue the relationship; at 24 months post-intervention, 55% of these were no longer involved (not related to condition)
Sullivan & Rumptz, 1994[71] (sub-set of second study)	From baseline to 10 weeks, i.e. advocacy period **Risk of further violence from a partner** ▪ by end of study, 46% reported further physical abuse (not considered by condition) **Relationship status with assailant** ▪ at refuge exit 72% of women wanted to or had ended relationship ▪ at 10 weeks 71% not involved (not considered by condition) ▪ this subsample of African American women more likely to not be involved with assailants at 10 weeks than white women in the same main study (71% vs. 48%, p<0.05) **Social support and quality of life** ▪ both groups improved significantly in 9 parameters analysed, but significant multivariate effects (p<0.05) across time for advocacy group compared with comparison group in improved social support and increased quality of life **Perceived effectiveness in obtaining resources** ▪ intervention group more effective (p<.01)

Table 3 Results of Women-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Advocacy (including safety planning)	
Tutty, 1996[72]	**Abuse (as rated by the social workers)** ▪ compared with baseline, there was a significant reduction in physical abuse at 3 months follow-up (p<.0.001) ▪ compared with baseline, there was a near-significant reduction in verbal abuse at 3 months follow-up (p=0.06) ▪ compared with baseline, scores for controlling behaviour also improved slightly but did not attain statistical significance at 3 months follow-up (p=0.26) **Contact with abuser** ▪ at study start, 67% (38/57) had no contact, at 3 month follow-up 51% (21/41) still had no contact ▪ at study start, 21% (12/57) had weekly contact, at 3 month follow-up this number had increased to 42% (17/41) ▪ at study start, 12% (7/57) had frequent contact, at 3 month follow-up 7% (3/41) remained in frequent contact **Social support** ▪ compared with baseline, there was a significant improvement in appraisal support (someone to talk with about problems) subscale at 3 months follow-up (p<.0.05), the intervention explaining 0.33 of the variance ▪ compared with baseline, scores also improved on other social support measures but did not attain statistical significance: belonging support subscale (p=0.50), tangible support subscale (p=0.48), total support (p=0.14) **Self-esteem** (only measured in a subset of 12 women) ▪ compared with baseline, there was a significant improvement in self-esteem at 3 months follow-up (p=.0.05), the intervention explaining 0.34 of the variance **Stress/coping** ▪ compared with baseline, stress levels slightly worsened at 3 months follow-up (p=0.56)
McFarlane *et al*, 1997[73] first study)	**Resource use** ▪ adjusting for baseline differences, no differences at 6 months (p=0.23), comparison group more likely to use at 12 months (p=0.01) **Police use** ▪ adjusting for baseline differences, no differences at 6 months (p=0.76), no differences at 12 months (p=0.70)
McFarlane *et al*, 1998[74] (sub-set of first study)	**Adoption of each safety behaviour** ▪ significant increase (p<.0001) across time, most behaviours showing significant increase after 1st session, results did not vary by ethnic group or parity ▪ some evidence that older women adopted safety behaviours more readily at entry and 2nd session
Parker *et al*, 1999[75]	**Abuse** ▪ Index of Spouse Abuse (ISA) scale at 6 and 12 months, adjusting for baseline differences, comparison group reported more ongoing physical and non-physical abuse (p=0.007), controlling ethnicity and age showed similar effects ▪ Severity of Violence Against Women Scale (SVAWS) at 6 and 12 months, adjusting for baseline differences, comparison group reported more threats and actual violence (p=0.052), controlling ethnicity and age showed similar effect for ethnicity but for age the effect increased (p=0.023) **Safety behaviours** ▪ at 12 months, adjusting for baseline differences, intervention group used more safety behaviours (p<.001)

Table 3 Results of Women-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Advocacy (including safety planning)	
McFarlane *et al,* 2000[76] (second study)	**Physical violence** (used a 0.01 level of significance to adjust for correlations between actual and threatened dimensions) ▪ at 2 months post-delivery, there was a significant decrease regardless of intervention group, with the greatest decrease being for women at 10-29 weeks gestational age at study entry ▪ over all 5 measurement times (up to 18 months follow-up), the effects of time (p=0.001) and time x gestational age at study entry (p=0.003) were significant ▪ when entry scores added as covariates, results were not significant **Threats of violence** (used a 0.01 level of significance to adjust for correlations between actual and threatened dimensions) ▪ at 2 months post-delivery, there was a significant decrease regardless of intervention group or gestational age at study entry ▪ over all 5 measurement times (up to 18 months follow-up), only the effect of time was significant (p=0.001) ▪ when entry scores added as covariates, results were not significant **Physical violence and threats of violence at 2 months** *(analysed together with entry scores as covariates)* ▪ post-hoc analyses showed physical violence scores significantly lower (p=0.05) for women receiving both advocacy and mentoring, as compared with advocacy alone; but no significant differences between women receiving both advocacy and mentoring, as compared with brief intervention in form of resource card/brochure ▪ post-hoc analyses showed no differences between intervention groups for threats of violence **Community resource use** ▪ about 30% of women reported using resources at study entry, but this had decreased to 7% at 18 months ▪ over time, use of resources decreased in all 3 intervention groups and there were no significant between-group differences **Effects of attrition** analyses showed that loss to follow-up did not affect the results
McFarlane *et al*, 2002[77] (third study) McFarlane *et al*, 2004[78] (third study)	**Number of safety-promoting behaviours performed** ▪ at intake, 10 (69%) of applicable safety behaviours performed, but by week 8 of intervention 14 (92%) of the behaviours adopted ▪ significant main effect for group, with significant increase in the intervention group compared with the comparison (p< 0.001) ▪ significant main effect for time (p< 0.001) in the intervention group only ▪ significant group-by-time interaction, changes in numbers of safety-promoting behaviours over time between the two groups significantly different (p=0.028) ▪ significant (p<0.001] quadratic trend, number of adopted safety behaviours increased sharply for first 4 phone calls, increased slightly for remaining calls ▪ mean number of safety-promoting behaviours in intervention group increased by 2 from intake to three months, mean increase of nearly 2 sustained over 18 months ▪ effect size between groups was large at three months (0.91), lessened at 6 months (0.64), and remained moderate at 12 months (0.50) and 18 months (0.56) ▪ at 3 months, the intervention group were significantly more likely to adopt four specific safety behaviours: hiding keys (p< 0.001), hiding clothes (p=0.001), asking neighbours to call police (p=0.001), establishing a code with others (p<0.001), the first three of these and hiding money were significant at 6 months (p<0.001)

Table 3 Results of Women-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Advocacy (including safety planning)	
Muelleman & Feighny, 1999[79]	**Repeat visits to AED for partner abuse injury** ▪ no difference (p=0.63); 8 (8%) intervention versus 13 (11%) comparison (95% C.I. –11% to 4%) **Refuge use** ▪ intervention group used more (p=0.003) ▪ 29 (28%) intervention versus 11% comparison (95% C.I. 6% to 27%) **Refuge-sponsored counselling** ▪ intervention group used more (p<.001) ▪ 16 (15%) intervention versus 1% comparison (95% C.I. 7% to 21%) **Calls to police** ▪ no difference (p=0.14) ▪ 37 (35%) intervention versus 29 (25%) comparison (95% C.I. –3% to 24%) **Protection orders** ▪ no difference (p=0.58); 6 (6%) intervention versus 10 (9%) comparison (95% C.I. –10% to 4%)
Bell & Goodman, 2001[80]	No apparent differences between completers and non-completers for demography **Psychological abuse** (correcting for baseline scores) ▪ at 6 weeks, rates lower in advocacy group than comparison group, p=0.003 for Emotional-Verbal subscale, and p=0.004 for Dominance-Isolation subscale, effect size 0.39 ▪ overall, only 10% of advocacy group reported psychological re-abuse of any kind, compared with 47% of the comparison group **Physical abuse** (correcting for baseline scores) ▪ at 6 weeks, physical reabuse significantly lower in advocacy group than among comparison group, p=0.05; medium effect size 0.26 ▪ only 5% of advocacy group reported physical re-abuse, compared with 25% of comparison group (90% of physical re-abuse was threats, 30% property destroyed, 30% physical assault) **Contact with assailant** ▪ occurred in 68% despite having a temporary restraining order (no significant between group difference) **Perceived tangible and emotional social support** ▪ at baseline, participants endorsed 70% of tangible support items, scores rose (improved) in both groups at 6 weeks, p=0.03 (no significant between group difference); effect size=0.28 ▪ at baseline, participants endorsed 55% of emotional support items, scores rose significantly with time, p=0.001, effect size r=0.41 for both groups, with "marginally significantly" greater increase in advocacy group, medium effect size r=0.26 **Depression** ▪ at baseline, 88% exceeded cut-off of 16, typically used to indicate clinical depression ▪ both groups reported significantly fewer depressive symptoms at 6 weeks compared to baseline, p=0.0001, effect size r=0.45 (no significant between group difference)

Table 3 Results of Women-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Advocacy (including safety planning)	
McKean, 2004[81]	No statistical analyses are reported **Abuse** ▪ 48% (of 236 respondents) reported abuse within last 6 months at baseline ▪ 57% (of 116 respondents) reported abuse still occurring at 3 months follow-up ▪ 47% (of 47 respondents) reported abuse still occurring at 9 months follow-up ▪ 80% of women said their domestic violence situation had improved at 3 and 9 months follow-up **Employment** ▪ 13% (of 243 respondents) were in full or part time employment at baseline ▪ 53% (of 116 respondents) were employed and a further 24% were enrolled in job training or educational programme at 3 months follow-up ▪ 57% (of 47 respondents) were employed and a further 21% were enrolled in job training or educational programme at 9 months follow-up ▪ Differences between women who completed at least one of the 2 follow-up interviews as compared with non-completers ▪ completers were more likely to be of Asian ethnicity ▪ completers were more likely to be severely physically abused at baseline
Support groups	
Tutty *et al*, 1993[82] Tutty *et al,* 1996[83]	***Short-term outcomes*** **Abuse** As measured by the Index of Spouse Abuse(ISA) ▪ at baseline, women were characterized by clinically relevant levels of physical and non-physical abuse ▪ a significant reduction (about 25%) in both types of abuse post-intervention ($p<0.01$), although complete cessation of physical violence only seen in one woman As measured by the Conflict Tactics Scale (CTS) N.B. This scale has a more precise definition of physical abuse, as compared with the ISA ▪ compared with baseline, no statistically significant changes observed on the Reasoning subscale ▪ compared with baseline, a significant reduction on the Verbal Abuse subscale ($p<0.01$) ▪ compared with baseline, a significant reduction on the Physical Violence subscale ($p<0.05$), with 65% of women reporting cessation of overt physical abuse As measured by the Controlling Behaviour scale ▪ compared with baseline, significantly less controlling behaviour post-intervention ($p<0.05$) **Social support/ isolation** ▪ total Social Support did not change significantly after the intervention, neither was there any increase on the Appraisal and Tangible Support subscales ▪ compared with baseline, a significant increase was observed for the Belonging Support subscale ($p<0.05$) **Locus of Control** ▪ compared with baseline, scores improved and shifted to a more internal locus at post-intervention ($p<0.01$) **results continue next page ….**

Table 3 Results of Women-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Support groups	
Tutty *et al*, 1993[82] Tutty *et al,* 1996[83]	***Short-term outcomes (continued)*** **Self-esteem** ▪ compared with baseline, there was a significant improvement in self-esteem by post-intervention ($p<0.01$)), although levels were still not within parameters for general adult female population **Perceived stress/coping** ▪ compared with baseline, at post-intervention a significant reduction in level of perceived stress and an increased belief in coping ability ($p<0.05$) **Attitudes Towards Marriage and the Family** ▪ compared with baseline, scores improved and shifted to less stereotyped beliefs about the roles of men and women at post-intervention ($p<0.01$) **Marital functioning** ▪ compared with baseline, significant improvements at post-intervention in overall score ($p<0.05$) and on 3 of 7 subscales: Task Behaviour ($p<0.01$), Controlling behaviour ($p<0.01$), Affective Expression ($p<0.05$); no significant changes were found on the Role Behaviour, Emotional Involvement, Communication, and Values/Norms subscales There was a high rate of **satisfaction with services** by the clients. 100% had at least some of their needs had been met ***Long-term outcomes*** (6 months follow-up, based on women completing all follow-ups, authors point out that these women differ from women who completed therapy and then dropped out as the former appeared to benefit more from the intervention, as assessed at post-intervention) ▪ initial benefits sustained at 6 months, with continued positive change for ISA total & subscale scores ($p<0.001$), CTS violence subscale ($p<0.001$), self-esteem ($p<0.001$), perceived stress and coping ($p<0.01$), Attitudes Towards Marriage and the Family ($p<0.001$), Marital functioning total scores and Controlling behaviour subscale ($p<0.05$) ▪ long-term changes for Social support/isolation, Locus of control, CTS reasoning and verbal abuse subscales did not change significantly over time ***Secondary analyses as reported in 1996 paper*** (These analyses looked at differential outcomes as a function of variables of the group process and recruited women) ▪ at post-intervention women in 2-facilitator groups showed less traditional sex role attitudes ($p <0.05$); but at 6 months FU women from 2-facilitator groups reported higher tangible support, more internal locus of control, less controlling behaviour and lower verbal abuse ($p<0.05$), and significantly higher satisfaction with the service ($p<0.05$) ▪ at pre-test, non-cohabiting clients had worse scores on the Marital Functioning subscale of Roles, Controlling behaviour, and ISA ($p<0.05$) as compared with cohabiting clients; however, at post-intervention and 6 months follow-up, there were no significant differences based on co-habiting status ▪ at the start, no differences between women who went on to re-contract for a second programme and those who did not; however, baseline figures for the second support group showed that re-contracted women had higher external locus of control and less traditional attitudes to marriage versus women just starting; at 6 months re-contracted clients had higher scores on the Controlling behaviour subscale of the Marital Functioning measure ($p<0.05$) and higher ISA scores ($p<0.05$) ▪ at post-intervention women aged 40+ had significantly higher problem scores for the Marital Functioning emotional involvement subscale; but at 6 months, when compared with women in the 20-29 and 30-39 groups, the 40+ group reported poorer scores for locus of control ($p<0.05$), Attitudes Towards Marriage And The Family ($p<0.05$), the Marital Functioning Emotional involvement and Communication subscales ($p<0.01$), and CTS verbal abuse subscale ($p<0.05$)

Table 3 Results of Women-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Psychological interventions	
de Laverde, 1987[84]	**Abuse** ▪ marked decrease in frequency and intensity from pre- to post-test and at follow-ups for both groups; two women in the intervention group and four in the control group reported physical abuse after pre-test ▪ numbers too small for statistical analysis **Feelings within relationship** ▪ pre- versus post-test improved in intervention group only ($t=4.09$, $p<0.05$), improvements sustained at both follow-ups ▪ between groups difference post-test, $t=3.98$, $p<0.05$ **Handling of aggression** ▪ pre- versus post-test improved in intervention group only ($t=3.67$, $p<0.05$) ▪ between groups difference post-test, $t=3.80$, $p<0.05$ **Assertiveness** ▪ pre- versus post-test improved in intervention group only ($t=3.81$, $p<0.05$), improvements sustained at both follow-ups ▪ between groups difference post-test, $t=3.16$, $p<0.05$ **Behavioural measure of assertiveness** (determined by qualitative assessment and not using scales) ▪ pre-test, 90% of intervention group and 95% of control group not assertive ▪ post-test, majority of intervention group showed assertiveness, but no change in control group **Communication** ▪ pre- versus post-test significantly improved in intervention group only: verbal subscale ($t=2.82$, $p<0.05$) and nonverbal subscale ($t=4.17$, $p<0.05$) ▪ improvements sustained at both follow-ups ▪ between groups difference stated post-test in both subscales (stated $p<0.5$ for nonverbal and $p<$ for verbal, but these presumed to be typographical errors)

Table 3 Results of Women-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Psychological interventions	
Cox & Stoltenberg, 1991[85]	Pre- vs. post-intervention **Affect** ▪ compared with baseline, E1 intervention group women reported reductions in anxiety, depression, and hostility ($p<0.05$) ▪ this benefit did not extend to the E2 intervention group or the comparison group **Assertiveness** ▪ compared with baseline, E1 intervention group women reported higher assertiveness ($p<0.05$) ▪ this benefit did not extend to the E2 intervention group or the comparison group **Self-esteem** ▪ compared with baseline, E1 and E2 intervention group women reported higher self-esteem ($p<0.05$) ▪ this benefit did not extend to the comparison group **Internal-external locus of control** ▪ no statistically significant differences were observed for any groups **Career attitudes and competencies** ▪ no statistically significant differences were observed for any groups Pre- and post- intervention ***between-group analyses*** (Intervention E1 and comparison; Intervention E2 and comparison; Intervention E1 and Intervention E2) ▪ at baseline the E2 intervention group had lower internal locus of control as compared with women in the comparison group ($p<0.05$) ▪ results section of paper says the above was the only significant finding – but in the discussion a further significant finding is referred to: at post-intervention, the E1 intervention group had lower internal locus of control as compared with the E2 group (similar differences also apparent at baseline but not significant)
Mancoske *et al*, 1994[86]	**Feminist-oriented counselling** Compared with baseline, women reported: ▪ improved self-esteem (45.7 to 39.5, ns) ▪ improved self-efficacy (68.4 to 77.7, ns) ▪ more positive attitudes towards feminism (62.0 to 67.9, ns) **Grief resolution-oriented counselling** Compared with baseline, women reported: ▪ improved self-esteem (66.9 to 53.5, $p<0.01$) ▪ improved self-efficacy (63.3 to 74.7, $p<0.01$) ▪ more positive attitudes towards feminism (56.9 to 63.8, ns) The combined groups showed significant improvement in all three scores Results related to differences between interventions not reported

Table 3 Results of Women-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Psychological interventions	
Rinfret-Raynor & Cantin, 1997[87]	***Abuse for women who completed therapy and remained in contact or stayed with abuser*** **Use of Reasoning to resolve disputes** ▪ from baseline, reasoning increased across all 3 groups (2 intervention, 1 comparison) at one month and 12 months follow-up (p<0.005) **Verbal aggression** ▪ from baseline, verbal aggression decreased across all 3 groups (2 intervention, 1 comparison) at one month and 12 months follow-up (p<0.005) **Physical Aggression** ▪ from baseline, physical aggression decreased across all 3 groups (2 intervention, 1 comparison) at one month and 12 months follow-up (p<0.005) ***Abuse for women not in contact/ with partners post-therapy*****:** 22% (35/161) not abused at 1 mo, 24% (30/124) at 6 mo, 11% (14/123) at 12 mo **Assertiveness** For women who completed all three follow-up measures, as measured by the Rathus Assertiveness Schedule ▪ from baseline, increases in assertiveness across all 3 groups (2 intervention, 1 comparison) at 1- month, 6-month and 12-month follow-up (p<0.005) ▪ a significant increase also observed from one month to 12 months follow-up in the comparison group (p<0.005) For women who completed therapy and all three follow-up measures and remained living with abuser, as measured by the Marital Assertion Scale ▪ from baseline, small decreases (more assertiveness) for group therapy and comparison) at 1, 6 and 12 month follow-up (small ns so no statistics) ▪ similar findings in third group (individual therapy), except for slight increase at 6 months compared with one month follow-up (no statistical analysis due to small group Ns) **Adjustment** For women who completed all three follow-up measures, as measured by the Social Adjustment Scale ▪ from baseline, improved social adjustment observed across all 3 groups (2 intervention, 1 comparison) at one month (p<0.05), 6 months and 12 months follow-up (p<0.005) ▪ significant improvement also observed from one month to 12 months follow-up in the group therapy condition (p<0.005) For women who completed therapy and all three follow-up measures and remained living with abuser, as measured by the Dyadic Adjustment Scale ▪ from baseline, increases (better adjustment) in group therapy and comparison at 1, 6 and 12 month follow-up (small ns so no statistical analysis) ▪ this benefit did not extend to the third group (individual therapy), but baselines scores were high **Self-esteem** For women who completed all three follow-up measures ▪ from baseline, self-esteem increased across all 3 groups (2 intervention, 1 comparison) at one month (p<.05), and at 6 months and 12 months follow-up (p<0.005) ▪ a significant increase also observed from one month to 12 months follow-up in the group therapy condition (p<0.005) ***Analysis of covariance on all above outcomes*** (controlling for baseline between-group differences) showed that no one intervention condition was superior over the other or when compared with the comparison group **Employment** ▪ the numbers of women in work increased from 32% at baseline to 43% at the end of therapy, but most women were still below the poverty line

Table 3 Results of Women-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Psychological interventions	
McNamara *et al*, 1997[88] McNamara *et al*, 1998[89]	**Abuse** ▪ a significant decrease in amount of physical abuse across both groups ($p<0.001$), and for psychological abuse ($p<0.01$) **Global assessment of improvement** ▪ women in both groups reported that they improved after only one session (no statistical significance level stated); this sense of improvement did not increase over subsequent sessions ▪ across groups, there were significantly greater improvements found in clients with adjustment disorders versus other disorders ($p<0.05$), less physical abuse ($p<0.01$), and those with higher functioning skills ($p<0.01$) ▪ clients who received counselling rather than case management showed greater overall improvement ($p<0.01$), as did those who received services from director/clinical director rather than from case managers ($p<0.01$) **Global life satisfaction** ▪ women in both groups reported greater life satisfaction after 3 sessions as compared with baseline ($p<0.001$) ▪ across groups, there were significantly greater improvements found in outpatient clients ($p<0.05$), and those reporting less physical abuse ($p<0.05$) **Coping ability** ▪ a significant increase in perceived ability to cope across both groups ($p<0.01$) **Satisfaction with services** ▪ women in both groups were mostly or very satisfied with services decreased, although this did decrease over the sessions ($p<0.01$)
Kim & Kim, 2001[90]	**Trait anxiety** ▪ improvement over time in intervention group greater than comparison group ($p<0.001$); significant changes over time only observed in intervention group ($p<0.001$) **State anxiety** ▪ improvement over time in both groups ($p<0.03$), but no significant differences between groups **Depression** ▪ improvement over time in intervention group ($p=0.007$), but no significant differences between groups **Self-esteem** ▪ no significant increases over time or between groups
Limandri & May, 2002[91] Limandri & May, 2004[92]	No values or results from statistical analyses reported **Abuse** ▪ there was a change in the perception of abuse across both groups, this effect was greater for women in the intervention group **Self-efficacy** ▪ both groups had higher than expected levels at baseline ▪ there was improvement for women in the intervention group, but a slight reduction for women in the comparison group

Table 3 Results of Women-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Psychological interventions	
Melendez *et al*, 2003[93]	**Abuse during follow-up** ▪ no statistically significant between group differences at any point ▪ women who did or did not discuss safer sex had very similar rates of subsequent abuse ▪ two comparison women (one each at 1 and 12 months) reported threats after safer sex request **Reduction in unprotected sex/ maintenance of safer sex behaviours (dichotomous variable)** ▪ 8 sessions group, reduced at 1 month (OR=3.63) and 12 months (OR=2.88), but not 6 months; reduction more likely than 4-session group at 1 month (not significant) ▪ 4 sessions group, no significant improvement at any follow-up point but results in positive direction ▪ comparison group, no significant improvement at any follow-up point (Intention to negotiate, see below, mediates in part the effect of intervention on this outcome) **Reduction in unprotected sex/ maintenance of safer sex behaviours (count variable)** ▪ no significant results at any follow-up point, but estimates in same direction as above **Newly using an alternative safer sex strategy** ▪ 8 sessions Intervention group, OR=8.76 at 1 month follow-up (p<0.01), no significant differences at 6 and 12 months ▪ 4 sessions Intervention group, OR=4.61 at 1 month follow-up (p<.05), no significant differences at 6 and 12 months ▪ comparison group, at 12 months, higher rates of refusing unsafe sex compared to intervention groups (p=0.005) **Negotiation** ▪ 8 sessions Intervention group, OR=5.10 for safer sex discussion at 1 month FU (p<0.01), OR=2.69 at 6 months but not statistically significant, no effect at 12 months. Higher scores on intention to negotiate safer sex at 1 month (p<0.01) and 6 months (p<0.05) ▪ 4 sessions Intervention group, no difference from controls at any time in having safer sex discussion or intention to negotiate (no effect on comfort in having a safer sex discussion, assertiveness, or self-efficacy to negotiate)
Howard *et al*, 2003[94] Bennett *et al*, 2004[95]	*2003 paper:* **Well-being/coping (3 domains: self-blame, self-efficacy and control, social support)** ▪ significant increase following intervention (p<.001) ▪ also looked at effect when differentiated by presence or absence of sexual assault in addition to being physically abused o significant increases following intervention in both groups (p<.001) o but more pronounced for women sexually and physically assaulted (p<.05) (Prior abuse variable used as a control variable in all analyses) *2004 paper:* **Well-being/coping (called here the Counselling Outcomes Index)** ▪ significant increase following intervention, effect size 0.25 (p<0.001) ▪ also looked to see if after-service well-being/coping scores were correlated with specific after-service measures o significant correlations found for information (r=0.40) and goals setting (r=0.50) o but not with type of counselling received (individual, group, family), number of sessions, age, race, language (Spanish or English), time elapsed since last abuse episode, additional use of a crisis hotline

Table 3 Results of Women-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Psychological interventions	
Kubany *et al*, 2003[96] (first study)	Comparison group completed two sets of pre-therapy measures, only the 2nd assessment figures are shown below; there were no significant changes in scores between the two pre-therapy assessments Analyses comparing post-CTT-BW and three-month follow-up scores were all non-significant, indicating improvements were maintained Based on per protocol analyses (effect sizes were smaller in ITT analyses but still statistically significant) **PTSD** ▪ intervention group (immediate therapy): post-therapy scores improved over baseline, effect size 2.6 (p<0.05), maintained at 3 months follow-up; 100% had PTSD pre-therapy and 6% post-therapy ▪ comparison group (delayed therapy): post-therapy scores improved over baseline, effect size 3.3 (p<0.05), maintained at 3 months follow-up; 100% had PTSD pre-therapy and 7% post-therapy **Depression** ▪ intervention group (immediate therapy): post-therapy scores improved over baseline, effect size 3.1 (p<0.05), maintained at 3 months follow-up; 78% had moderate to severe scores pre-therapy, 94% had normal scores post-therapy ▪ comparison (delayed therapy): post-therapy scores improved over baseline, effect size 2.1 (p<0.05), maintained at 3 months follow-up; 93% had moderate to severe scores pre-therapy, 79% had normal scores post-therapy **Global guilt** ▪ intervention group (immediate therapy): post-therapy scores improved over baseline, effect size 2.9 (p<0.05), maintained at 3 months follow-up ▪ comparison group (delayed therapy): post-therapy scores improved over baseline, effect size 2.8 (p<0.05), maintained at 3 months follow-up **Shame proneness** ▪ intervention group (immediate therapy): post-therapy scores improved over baseline, effect size 2.3 (p<0.05), maintained at 3 months follow-up ▪ comparison group (delayed therapy): post-therapy scores improved over baseline, effect size 1.7 (p<0.05), maintained at 3 months follow-up **Self-esteem** ▪ intervention group (immediate therapy): post-therapy scores improved over baseline, effect size 2.9 (p<0.05), maintained at 3 months follow-up ▪ comparison group (delayed therapy): post-therapy scores improved over baseline, effect size 1.9 (p<0.05), maintained at 3 months follow-up No statistical between group differences at baseline for all outcome measures and demography No apparent differences completers vs. non-completers for outcome measures and demography

Table 3 Results of Women-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Psychological interventions	
Kubany *et al*, 2004[97] (second study)	Comparison group completed two sets of pre-therapy measures, only the 2nd assessment figures are shown below; there were no significant changes in scores between the two pre-therapy assessments Analyses comparing post-CTT-BW and three and six-month follow-up scores were all non-significant, indicating improvements were maintained Based on per protocol analyses (effect sizes were smaller in ITT analyses but still statistically significant) **PTSD** ▪ intervention group (immediate therapy): intervention group (immediate therapy): post-therapy scores improved over baseline, effect size 2.4 (p<0.001), maintained at 3 and 6 months follow-up; 100% had PTSD pre-therapy and 9% post-therapy ▪ comparison group (delayed therapy): post-therapy scores improved over baseline, effect size 2.4 (p<0.001), maintained at 3 and 6 months follow-up; 100% had PTSD pre-therapy and 20% post-therapy **Depression** ▪ intervention group (immediate therapy): post-therapy scores improved over baseline, effect size 2.0 (p<0.001), maintained at 3 and 6 months follow-up; 70% had moderate to severe scores pre-therapy, 83% had normal scores post-therapy ▪ comparison (delayed therapy): post-therapy scores improved over baseline, effect size 2.0 (p<0.001), maintained at 3 and 6 months follow-up; 75% had moderate to severe scores pre-therapy, 75% had normal scores post-therapy **Global guilt** ▪ intervention group (immediate therapy): post-therapy scores improved over baseline, effect size 2.9 (p<0.001), maintained at 3 and 6 months follow-up ▪ comparison group (delayed therapy): post-therapy scores improved over baseline, effect size 2.3 (p<0.001), maintained at 3 and 6 months follow-up **Shame proneness** ▪ intervention group (immediate therapy): post-therapy scores improved over baseline, effect size 1.9 (p<0.001), maintained at 3 and 6 months follow-up ▪ comparison group (delayed therapy): post-therapy scores improved over baseline, effect size 1.5 (p<0.001), maintained at 3 and 6 months follow-up **Self-esteem** ▪ intervention group (immediate therapy): post-therapy scores improved over baseline, effect size 2.4 (p<0.001), maintained at 3 and 6 months follow-up ▪ comparison group (delayed therapy): post-therapy scores improved over baseline, effect size 1.8 (p<0.001), maintained at 3 and 6 months follow-up No statistical between group differences at baseline for all outcome measures and demography Some differences between completers and non-completers for outcome measures and demography (age, education, BDI, RSES, distress, sum of guilt scores, shame proneness) (scores worse for non-completers)

Table 4 Design of System-centred Intervention Studies

Author(s), Publication year	Design	Setting	Target group of intervention	Intervention	Comparison care	Sampling time frames	Data source	Primary outcome measures
Health care interventions with structured training								
Harwell, Casten, Armstrong, Dempsey, Coons, Davis, 1998[102]	Before/after, historical controls	USA Four community health centres	Physicians /nurses /social workers/ psychologists	**Framework:** trauma theory, RADAR **Programme:** Training/support package for health providers to increase referrals, includes step-by-step and `where to turn for help' pocket guides **Duration and frequency:** Single session of 3-6 hours didactic training (video presentation) for all staff, with tailored follow-up training for some staff	Usual pre-RADAR management	6 months pre-and 6 months post-intervention	Medical records	In-house referrals Referrals to other agencies
Fanslow, Norton, Robinson & Spinola, 1998[103] Fanslow, Norton & Robinson, 1999[104]	Before/after, parallel groups	New Zealand Emergency Department (AED)	AED staff: medical, nursing, reception	**Framework:** not stated **Programme:** Local protocol (named OASIS) to improve acute management of abused women, includes advice (a*uthors say "counselling" but we have classified it as advice)* to promote discussion of emotional problems/safety behaviours, and to increase referrals to community or social services **Duration and frequency:** Single session of 1 or 4 hours didactic training	Usual no protocol management	Baseline and 3 months post-intervention Baseline and total of 15 months post-intervention	Medical records	Referrals to support agencies Offers to contact police
Shepard, Elliott, Falk & Regal, 1999[105]	Before/after, historical controls	USA Homes of women	Social workers (public health nurses)	**Framework:** Duluth feminist model **Programme:** Use of protocol to increase referrals (to refuge/ women's group, arranging transport to refuge/safe housing) and information giving (booklet on abuse, information on community resources, calling police/ seeking protection order) **Duration and frequency:** Not stated	Usual pre-protocol management	12 months pre- and 12, 24 months post - intervention	Medical records	Referrals to support agencies Information giving

Table 4 Design of System-centred Intervention Studies (continued)

Author(s), Publication year	Design	Setting	Target group of intervention	Intervention	Comparison care	Sampling time frames	Data source	Primary outcome measures
Health care interventions with structured training								
Wiist & McFarlane, 1999[106]	Before/after, parallel groups	USA Antenatal clinics	Nurses, physicians, nutritionists, counsellors, clerical staff	**Framework:** Not stated **Programme:** Use of `March of Dimes' protocol to increase referrals **Duration and frequency:** Single session of 90 minutes didactic training, additional weekly visits from nurse-trainer to provide support/instruct new staff	Usual no protocol management	Baseline and 3, 12 months (total 15 months) post-intervention	Medical records	Referrals
McCaw, Berman, Syme & Hunkeler, 2001[108]	Before/after, historical controls	USA HMO	Nurses, medical assistants, physical therapists, receptionists	**Framework:** Systems model approach, with links to the community **Programme:** Several brief training & information sessions for clinical staff, receptionists; sought improved links with community services, informed patients about domestic violence (mailings, materials in waiting room) and services, provided clinicians with information & prompts, employing on-site domestic violence specialist **Duration and frequency:** "Several brief training and information sessions"	Usual pre-intervention management	12 months pre-and 9 months post-intervention	Medical records	Referrals
Ramsden & Bonner, 2002[109]	Before/after, historical controls	Australia Emergency Department (AED)	AED staff	**Framework:** Feminist **Programme:** Didactic staff training, provision of cards listing DV services, a centrally located resource folder (information/policies), essential resources listed on staff notice board **Duration and frequency:** Core training of a single formal session (20-45 minutes), reduced to 30 minutes for nursing night staff; some nursing staff had 1 or 2 extra sessions, formal session was preceded for some nursing staff by 3 ("short") informal sessions, and followed for key nursing staff, by 3 longer sessions (2 hours)	Usual pre-intervention management	Not stated pre- and 3 months post-intervention	Medical records	Referrals

Table 4 Design of System-centred Intervention Studies (continued)

Author(s), Publication year	Design	Setting	Target group of intervention	Intervention	Comparison care	Sampling time frames	Data source	Primary outcome measures
Health care interventions with structured training								
Ulbrich & Stockdale, 2002[110]	Before/after, historical controls	USA Four rural family planning clinics	All staff, but results relate only to nurse practitioners (NP) and registered nurses	**Framework:** RADAR **Programme:** Didactic training with RADAR pocket cue cards, plus a learning module, a presentation by DV advocacy program, use of a screening/referral protocol; on-site advocate provided one day per week at one clinic, in others an advocate on-site as needed by women with crises, otherwise off-site **Duration and frequency:** Initial session (duration not known), with additional training and support over two-years (also 5-hour quarterly meetings attended by one NP and DV Coordinator from each clinic, and one-hour workshops every six months)	Usual pre-intervention management	Baseline and 6 months post-intervention (staff asked about their responses to abused women in the previous 3 months)	Staff self-reports	Referrals
Short, Hadley & Bates, 2002[111]	After-only, parallel groups	USA Various departments of 5 hospitals (but only Emergency Departments (AED) data assessed	Nurses, physicians, physician's assistants, paramedics, social workers	**Framework:** Integrated model of health care response **Programme:** Use of `WomanKind` program to improve the quality of care that health care providers give to abused women, includes staff training and encouragement to refer abused women to services (advocates) provided by WomanKind **Duration and frequency**: 70 training sessions conducted over a twelve-month period, length of sessions not stated	Presumed to be usual care, but WomanKind training also provided towards end of study period	24 months post-intervention	Medical records (and WomanKind records)	Referrals

Table 4 Design of System-centred Intervention Studies (continued)

Author(s), Publication year	Design	Setting	Target group of intervention	Intervention	Comparison care	Sampling time frames	Data source	Primary outcome measures
Health care interventions with structured training								
Watson & Egan, 2003[101]	Before/after, own controls	UK Health care and community agencies	The aims of the project were to: provide training for health professionals on partner abuse support for survivors of partner abuse and work with perpetrators to challenge violent behaviour	**Framework:** Holistic health care using a multi-agency approach **Programme:** Included training of health care professionals to encourage routine questioning and referral to community organisation for individual counselling, support groups, confidence building groups; only results for counselling referrals given in report (27% from health professionals) **Duration and frequency:** 1-3 hours, in a few cases with follow-on training	Not stated, presumably usual care (if any)	Baseline and immediate post-intervention	Self-report questionnaires completed by women attending counselling	Non-validated: Abuse Depression Fear/anxiety Isolation Confusion Feelings of entrapment
Health care interventions without structured training								
Muñoz Cobos, Martín Carretero, Vivancos Escobar, Blanca Barba, Rodríguez Carrión & Ruiz Ramos, 2001[98]	Before/after, historical controls	Spain Health centre	General practitioners, paediatrician, nurses, midwife, social worker, administrative staff	**Framework:** Not stated **Programme:** Health centre prioritised health care provision for abused women (and their children) living in a refuge who had clinical records opened at the health centre: allocation to a single family doctor and paediatrician; elimination of bureaucratic obstacles and prioritised care; social/family assessment by social worker; preferential inclusion in programmes **Duration and frequency:** Not applicable	Usual care pre-intervention manage-ment	20 months pre- and 11 months post-intervention	Medical records	Various measures relating to the health and health service use of women and their children

Table 4 Design of System-centred Intervention Studies (continued)

Author(s), Publication year	Design	Setting	Target group of intervention	Intervention	Comparison care	Sampling time frames	Data source	Primary outcome measures
Non-health care interventions								
Farrell & Buckley, 1999[107]	Before/after, parallel groups	UK Domestic Violence Unit (DVU)	Police	**Framework:** Not stated **Programme:** A special DVU at one Division, working largely according to Home Office guidelines, offering advice (e.g. where to get legal help, housing and welfare advice) and support to victims together with interagency cooperation **Duration and frequency:** Not applicable	6 other units in same region without a DVU	Baseline and 12 months	Original police incident logs, and police computer single line print-outs of calls	"Domestic" incident" calls to police, primarily but not only perpetrated by men against women (including repeat calls)
Falk, Shepard & Elliott, 2002[112]	Before/after, historical controls	USA Workplace employee assistance programme (EAP)	Professional EAP counsellors	**Framework:** Duluth feminist model **Programme:** Introduction of a screening assessment and intervention protocol similar to that used by Shepard et al, 1999 (see above), with support training, including provision of information to EAP counsellors about DV resources; use of protocol was monitored **Duration and frequency:** Training given to counsellors, but no other details stated	Counsellors' routine non-DV specific assessment, referral, and brief counselling to women (and other clients) in programme	12 months pre- and 24 months post-intervention	Case records	Referrals Information giving

Table 4 Design of System-centred Intervention Studies (continued)

Author(s), Publication year	Design	Setting	Target group of intervention	Intervention	Comparison care	Sampling time frames	Data source	Primary outcome measures
Non-health care interventions								
Robinson, 2003[113]	Before/after, historical controls	Wales Women's Safety Unit (WSU)	WSU staff working in collaboration with police	**Framework**: Not stated **Programme:** WSU as gateway to services for abused women, staffed by a manager, 2 support workers, a seconded police officer, and administrator; women primarily referred by police and Crown Prosecution Services, but also from health services, Women's Aid, housing agencies, social services, probation office, NSPCC, friends; services included safety advice (issue of alarms, etc), advocacy, counselling, survivor's forum, referral to other support agencies **Duration and frequency:** Not applicable	Pre WSU care (if any)	12 months pre-and 12 months post-intervention	Police records	Repeat abuse DV complaints Refusals to complain Concern for children reports Arrests made Persons charged
Robinson, 2003[113]	Before/after, historical controls	Wales Community	Police	**Framework:** Not stated **Programme:** Police initiative (Police Watch) to provide enhanced and escalating police presence/involvement following complaint of DV: (1) high-visibility police patrols over 6 weeks, information for victim, warning letter for perpetrator; (2) if abuse continues, with victim consent, help initiated from neighbours, family, support agencies, perpetrator informed of this via warning letter, (3) if abuse continues, perpetrator sent third warning, victim told about support (including DVU and Crime Prevention officer), police watch increased, full cooperation with the Crown Prosecution Service **Duration and frequency:** Not applicable	Usual pre-intervention police services	16 months pre-and 8 months post-intervention	Police records	Repeat abuse DV complaints Refusals to complain Concern for children reports Arrests made Persons charged

Table 4 Design of System-centred Intervention Studies (continued)

Author(s), Publication year	Design	Setting	Target group of intervention	Intervention	Comparison care	Sampling time frames	Data source	Primary outcome measures
Non-health care interventions								
Robinson, 2004[114]	Before after, own controls	Wales Support agencies/ community	Members of various support agencies	**Framework:** Not stated **Programme:** Multi-agency risk assessment conferences (MARACs): held monthly, attended by members of various agencies (including the police, probationary services, health services, housing services, refuges, WSU) to discuss 20-30 DV cases deemed to be of very high risk, to share information and take actions to reduce future harm to victims and their children, women primarily referred by police, but all agencies take responsibility for identifying risk **Duration and frequency:** Not applicable	Pre-MARAC care (if any)	Baseline and up to 6 months post-intervention	Police records	Repeat abuse

Table 5 Characteristics of Women in System-centred Intervention Studies

Author(s), Publication year	Sample N	Age range of sample	Ethnic origin of sample	SES of sample	N identified as abused	Relationship with abuser	Scope of abuse
Health care interventions with structured training							
Harwell *et al*, 1998[102]	Intervention 255 Comparison 251	Mean = 30 (No significant differences between groups)	52% Latina 47% African American 1% other (No significant differences between groups)	97% public health insurance (No significant differences between groups)	Intervention 13 confirmed abuse 14 suspected abuse Comparison 5 confirmed abuse 5 suspected abuse	Not stated	Physical and emotional abuse
Fanslow *et al*, 1998[103] Fanslow *et al*, 1999[104]	Intervention 2287 post-protocol 2276 pre-protocol Comparison 1720 post-protocol 1768 pre-protocol	Not stated (No significant differences between groups at level of population)	Not stated but catchment areas: Intervention AED 17% Maori Comparison AED 9% Maori	Not stated	256 Intervention 110 53 post-protocol 57 pre-protocol Comparison 99 45 post-protocol 54 pre-protocol	Not stated	Physical abuse
Shepard *et al*, 1999[105]	Intervention 814 (52% with documented DV assessment) Comparison 546	>50% aged 21-30	Not stated	Not stated but many likely to be on low incomes	Intervention 41 Comparison 31	Not stated	Physical abuse
Wiist & McFarlane, 1999[106]	Post-protocol Intervention 360 Comparison 180 Pre-protocol 540 (both groups)	Post-protocol 60% aged 20-29 (both groups) Pre-protocol not stated (both groups)	Post-protocol 96% Latina (both groups) Pre-protocol at least 97% Latina (both groups)	Post protocol 97% income <$20000 (both groups) Pre-protocol not stated (both groups)	Intervention 29 (26 post-protocol and 3 pre-protocol) Comparison 1 (0 post-protocol and 1 pre-protocol)	Not stated	Not stated, but screening tool includes questions on physical and sexual abuse

Table 5 Characteristics of Women in System-centred Intervention Studies (continued)

Author(s), Publication year	Sample N	Age range of sample	Ethnic origin of sample	SES of sample	N identified as abused	Relationship with abuser	Scope of abuse
Health care interventions with structured training							
McCaw *et al*, 2001[108]	Not stated	Not stated, but of local HMO patient population, about 25% aged 20-60	Not stated, but of local HMO patient population: 45% white 22% African American 15% Latino 16% Asian 2% other	Not stated, but of local HMO patient population: Income 37% <$25000 34% $25000-$50000 29% >$50000 Education 92% high school graduates	Not stated	Not stated	Implies that women asked about physical and emotional abuse (and maybe sexual)
Ramsden & Bonner, 2002[109]	Not stated	Not stated	Not stated, but catchment area predominantly Anglo-Saxon, 25% born in non-English speaking countries, 0.7% indigenous Australians	Not stated, but catchment area ranged from affluent to very low income	Intervention – 36 Comparison – not known	Not stated	Not stated, but 2 of the 3 screening questions refer to physical abuse
Ulbrich & Stockdale, 2002[110]	Not stated	Majority of attending women were aged 15-34	Not stated, but in 3 of the 4 clinics, the catchment area was 90% white	In 3 clinics, 55% of the attending women were at or below poverty level; other clinic not stated	Not measured	Not stated	Physical and sexual abuse

Table 5 Characteristics of Women in System-centred Intervention Studies (continued)

Author(s), Publication year	Sample N	Age range of sample	Ethnic origin of sample	SES of sample	N identified as abused	Relationship with abuser	Scope of abuse
Health care interventions with structured training							
Short *et al*, 2002[111]	2531	Not stated	Not stated	Not stated	Not stated (gives total figure of 1719 women being identified and referred, but no numbers of women identified and not referred, and no breakdown for the AED departments)	Not stated	Physical abuse
Watson & Egan, 2003[101]	Not applicable (only abused women in sample)	Not stated	37% white 37% Asian 11% black Caribbean 5% black African 4% black British 4% European 2% unknown	Not stated	156 identified as abused and referred, 99 participated Attrition not clear: 30% completed 8+ sessions 35% completed pre and post measures	Not stated	Physical, emotional, sexual, and financial
Health care interventions without structured training							
Muňoz Cobos *et al*, 2001[98]	Not applicable (only abused women in sample)	Intervention Mean = 34 Comparison Mean = 33 (No between groups differences)	Mainly Spanish, but also some immigrants: Intervention 2% Comparison 8% (No between groups differences)	Not stated, but generally poor catchment area with high rate of employment (No between groups differences)	71 Intervention 35 Comparison 36	Approx 60% married to abuser but most in process of separation	Not stated

Table 5 Characteristics of Women in System-centred Intervention Studies (continued)

Author(s), Publication year	Sample N	Age range of sample	Ethnic origin of sample	SES of sample	N identified as abused	Relationship with abuser	Scope of abuse
Non-health care interventions							
Farrell & Buckley, 1999[107]	Not applicable (only abused women in sample)	Not stated	Not stated	Not stated	Not applicable	Not stated	Not stated
Falk *et al*, 2002[112]	Intervention 437 (between 58%-75% screened for DV over 24 months) Comparison 152 (all `assessed' for DV)	Intervention Mean = 39 Comparison Mean = 37 (Comparison women were significantly younger)	Not stated	55% of EAP clients were blue-collar workers	Intervention 56 Comparison 10	Not stated	Physical abuse
Robinson, 2003[113] (WSU and Police Watch)	Not applicable (only abused women in sample)	Not stated	Not stated	Not stated	Not applicable	Not stated	Physical, sexual emotional, or financial abuse
Robinson, 2004[114]	Not applicable (only abused women in sample)	10% under 20 39% 21-30 24% 31-40 7% 41-50 1% 51+ 19% not known	86% white European 8% non-white 6% not known	28% employed 47% unemployed 16% housewives or students 9% not known	146 7% of these were subject to additional MARACs within study period	14% spouse 10% ex-spouse 39% partner 36% ex-partner 1% mother	Not stated, but presumably severe physical or sexual violence

Table 6 Results of System-centred Intervention Studies

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Health care interventions with structured training	
Harwell *et al*, 1998[102]	**Percentage of abused women referred to community health centre staff** ▪ baseline 2%, 4% after training (p = n.s.) ▪ R.R. = 1.44 (95% C.I. = 1.02 – 2.03) **Percentage of abused women referred to outside agency** ▪ baseline 0.0%, 4% after training (p<0.05) ▪ R.R. = 1.81 (95% C.I. = 1.45 – 2.28)
Fanslow *et al*, 1998[103]	*3 months follow-up:* **Number of referrals to support services such as refuges** ▪ significant increase from 1 (2%) pre-protocol to 13 (25%) post-protocol, at intervention AED ▪ no significant changes over time at the comparison AED (no figures stated) **Number of offers to contact police at intervention AED** ▪ significant increase from 3 (5%) pre-protocol to 23 (43%) post-protocol, at intervention AED ▪ no significant changes over time at the comparison AED (no figures stated)
Fanslow *et al*, 1999[104]	*15 months follow-up:* Data analysed differently to above and no similar specific details, but implication that improved management at 3 months was not sustained over following year
Shepard *et al*, 1999[105]	**Percentage of women referred directly to domestic violence services** ▪ baseline 3%, 13% at 12 months (p=0.20), 17% at 24 months (p=0.10) **Percentage of women given information** ▪ baseline 0.03%, 74% at 12 months (p<0.001), 78% at 24 months (p<0.001) Reanalysing, controlling for age, found similar effect sizes for referrals (non-significant) and information-giving (p<0.001)
Wiist & McFarlane, 1999[106]	**Referrals** **Pre-protocol:** ▪ no referrals documented at intervention or comparison clinics **Post-protocol:** *Comparison* ▪ 0 (0%) identified cases referred at 3 or 12 months *Intervention* ▪ 6 (67%) identified cases referred at 3 months ▪ 9 (53%) identified cases referred at 12 months

Table 6 Results of System-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Health care interventions with structured training	
McCaw *et al*, 2001[108]	**Referrals to a DV specialist** ▪ increase in number of referrals after the intervention (but no referral rates or statistical analysis) ▪ n = 51 pre-intervention, n = 134 post-intervention ▪ number of referrals increased across departments, as did self-referrals o medicine: 25 baseline, 46 post-intervention o obstetrics/gynaecology: 8 baseline, 25 post-intervention o psychiatry: 4 baseline, 24 post-intervention o AED: 3 baseline, 14 post-intervention o social services: 2 baseline, 7 post-intervention o unknown: 7 baseline, 0 post-intervention o self referrals: 2 baseline, 18 post intervention
Ramsden & Bonner, 2002[109]	**Referrals to a social worker or police** ▪ n = 8 pre-intervention (but not reported how many women were identified as abused) ▪ n = 14 post-intervention (out of 36 women identified as abused) ▪ authors report that referrals doubled after the intervention (but no referral rates or statistical analysis)
Ulbrich & Stockdale, 2002[110]	**Referrals to community-based domestic violence advocacy programs** At 6 months, self-reported figures for "referrals made in previous 3 months" were: ▪ decrease in "none" from 46.7% of staff to 42.9% of staff ▪ decrease in 1-3 from 53.3% to 35.7% ▪ increase in 4+ from 0% to 21.4% (no reporting of how many abused women were identified, either pre or post-intervention, so no referral rates or statistical analysis)
Short *et al*, 2002[111]	**Referrals** ▪ higher number of referrals at intervention AEDs (only AEDs of hospitals audited, and not clear if this was just referrals to WomanKind) ▪ no numbers or rates stated, but AED staff at intervention sites provided documentation of referral more often than comparison site staff ($p<0.0001$) Over a 2-year period ▪ about 1238 referrals to WomanKind from intervention hospitals ▪ 27 referrals to trained social workers based in comparison hospitals

Table 6 Results of System-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Health care interventions with structured training	
Watson & Egan, 2003[101]	No results from statistical analyses reported. Data are based on responses from 35 women, most of whom attended 5 or more sessions Women referred or self-referred for counselling: **Fear/anxiety** ▪ at post-intervention, 61% reported less fear, 16% slightly less, 23% the same degree **Depression** ▪ at post-intervention, 62% reported less depression, 7% slightly less, 28% the same degree, 4% an increase **Confusion** ▪ at post-intervention, 65% reported less confusion, 4% slightly less, 30% the same degree **Isolation** ▪ at post-intervention, 41% reported less isolation, 14% slightly less, 45% the same degree **Feelings of entrapment** ▪ at post-intervention, 48% reported feeling less trapped, 17% slightly less, 35% the same degree **Abuse** ▪ 24/35 (69%) women were no longer with their partner post-intervention - however, it is not stated how many may have already left pre-intervention ▪ 18 (75%) of these reported no further abuse, 4 (17%) continued to experience abuse, 2 (8%) not known ▪ 11/35 (31%) women remained with their partner post-intervention ▪ 3 (27%) of these reported no further abuse, 1 (9%) reported reduced abuse, 4 (37%) continued to experience abuse but mostly felt clearer about situation, 3 (27%) not clear if abuse continued but they felt clearer about situation

Table 6 Results of System-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Health care interventions without structured training	
Muňoz Cobos *et al*, 2001[98]	The intervention significantly improved all outcome measures **Number of visits to family doctor:** intervention 3.00, comparison 2.05 (p=0.002) **Number of visits to paediatrician:** intervention 1.95, comparison 1.14 (p<0.001) **Number of visits to social worker**: intervention 1.09, comparison 0.96 (p=0.03) **Number of visits to programmes**: intervention 1.01, comparison 0.49 (p<0.001) **Social and family assessment**: intervention 100%, comparison 84%, p<0.001 **Family planning**: intervention 51%, comparison 14%, p<0.001 **Hepatitis B vaccination**: intervention 49%, comparison 19%, p<0.001 **Vaccinations**: intervention 64%, comparison 26.34%, p<0.001 **Early cervical cancer diagnosis**: intervention 26%, comparison 0%, p<0.001 **Child health**: intervention 70.58%, comparison 33.34%, p=0.003 **Analytical tests**: intervention 38.15%, comparison 14.15%, p<0.001 **Numbers with prescriptions**: intervention 65%, comparison 39%, p=0.007 **Number without recorded health problems**: intervention 14.47%, comparison 47%, p<0.001 **Numbers who were not referred**: intervention 67%, comparison 87.7%, p<0.001
Non-health care interventions	
Farrell & Buckley, 1999[107]	**Total partner abuse calls to police** (authors did not consider this a meaningful outcome, as figure not corrected for population size. etc) The DVU division showed an increase over time of 4% ▪ 3 of the 6 non-DVU divisions also showed an increase (ranging from 4% to 16%), while other 3 showed a decrease (ranging from 0.1% to 1.2%) **Repeat partner abuse calls to police** (authors considered this a meaningful outcome as shows outcome corrected for relevant sample) ▪ a reduction of 1.5% in the number of repeat calls received as a proportion of all calls concerning domestic incidents in the DVU division ▪ an increase in the number of repeat calls as a proportion of all calls concerning domestic incidents in the 6 non-DVU divisions (ranging from 5% to 11%) **Chronic cases of partner abuse** ▪ there was no evidence to suggest that the intervention reduced the number of calls from households classified as "chronic cases" (i.e. more than 8 calls) (No statistical analysis of the data)

Table 6 Results of System-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Non-health care interventions	
Falk *et al*, 2002[112]	**Benefits were seen in terms of EAP counsellor ability to deal with partner abuse without referral:** ▪ pre-intervention, over 40% of women identified as abused were referred ▪ post-intervention, only about 4% of women identified as abused were referred, this reduction being statistically significant ($p<0.01$) ▪ similar reductions in referral rates across time also were observed for the total number of women assessed for partner abuse (n/s), and for the total number of women seeing an EAP counsellor ($p=0.02$) **Information-giving to clients** ▪ pre-intervention, 40% of women identified as abused received information ▪ post-intervention, 38% of women identified as abused received information, this reduction was not statistically significant ▪ however, information-giving post-intervention did increase over baseline rates when considering the total number of women assessed for DV ($p=0.03$), and for the total number of women seeing an EAP counsellor (n/s)
Robinson, 2003[113]	Authors point out that the WSU and Police Watch initiatives overlapped, and that there were changes in police DV policy during the intervention assessment period The WSU initiative was associated with a number of *statistically significant changes* in cases recorded by the police **Repeat abuse** ▪ pre-WSU women = 58; post-WSU women = 37 ($p<0.05$) **Refusals to make a complaint** ▪ pre-WSU women = 99; post-WSU women = 81 ($p<0.05$) **Concern for children report** ▪ pre-WSU women = 23; post-WSU women = 55 ($p<0.05$) *Other measures also improved, but did not attain statistical significance* **DV complaints** ▪ pre-WSU women = 190; post-WSU women = 211 (n/s) **Arrests made** ▪ pre-WSU women = 48; post-WSU women = 45 (n/s) **Persons charged** ▪ pre-WSU women = 27; post-WSU women = 31 (n/s)

Table 6 Results of System-centred Intervention Studies (continued)

Author(s), Publication year	Outcomes including any multivariate analysis / adjustment for confounders
Non-health care interventions	
Robinson, 2003[113]	The Police Watch initiative was associated with a number of *statistically significant changes* in cases recorded by the police **Repeat abuse** pre-Police Watch women = 56; post-Police Watch women = 32 ($p<0.05$) **Concern for children report** pre-Police Watch women = 28; post-Police Watch women = 59 ($p<0.05$) *Other measures also improved, but did not attain statistical significance* **DV complaints** pre-Police Watch women = 195; post-Police Watch women = 211 (n/s) **Refusals to make a complaint** pre-Police Watch women = 96; post-Police Watch women = 79 (n/s) **Arrests made** pre-Police Watch women = 48; post-Police Watch women = 43 (n/s) **Persons charged** pre-Police Watch women = 28; post-Police Watch women = 31 (n/s)
Robinson, 2004[114]	**Repeat abuse** (no statistical analysis) pre-MARAC, 77% of the women had previous complaints for DV on record with police, the average being 3 complaints pre-MARAC, mean number of days between event triggering MARAC and next event = 106 days, mean number of days between last 7 abusive events = 115 post-MARAC (up to 182 days), 97 (67%) experienced no further incidents of violence or abuse (62% no complaints; 78% no call-outs)

Appendix V: Potential studies excluded after contacting first authors

We contacted the following authors for further information, before excluding them. Note that failure of an author to reply may simply mean that our e-mail/letter did not reach them due to a change of contact details.

Reference	Brief description	Author contact comment
Attala, Weaver, Duckett & Draper, 2000[123]	This study aimed to establish baseline data for future intervention studies.	The only new study by this team is on screening for partner violence within paediatric primary care settings.
Farrell, Clarke & Pease, 1993[124]	Describes the UK Home Office-funded package of measures to prevent repeated abuse in an area of north Liverpool (Merseyside). The primary aims were to provide support for those experiencing domestic violence, to increase the visibility of services and encourage their use, to increase the effectiveness of police response, and to move preventive measures into place rapidly to prevent repeat abuse. There were five main components to the package. 1) Quick response pendant alarms, provided to abused women with injunctions against violent partners or a history of domestic violence from police records. When activated, the alarms connected with the local police station, triggering a priority response from trained police officers. 2) Improved transfer of injunction information from courts to police. 3) Dedicated Domestic Violence Prevention Worker, based at a local community centre and working closely with the police Crime Prevention Office, to provide support and information to abused women, including safety plans and linkage to other agencies. 4) Heightened awareness of domestic violence, with cue cards and other information for police offices, and posters and information locally within the community. 5) An early warning database, running in conjunction with the personal alarms.	No quantitative data were available at the cut-off point of the review for most of the package; a paper on the special Domestic Violence Prevention Worker is included in the review.[107]
Forgey & Colarossi, 2003[125]	Describes curriculum of training in collaborative practice between social workers and lawyers while integrating domestic violence content with the relevant legal regulations and procedures and social work interventions.	Authors say they have evaluated this, but no health outcomes that fit our inclusion criteria.

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Reference	Brief description	Author contact comment
Griffiths, 1999[126]	Reports on the Killingbeck study, primarily a police intervention (but other support agencies also involved) and aimed at women as victims and men as perpetrators. Arrests made where possible. Main intervention built on an incremental model that provides enhanced and escalating police presence/involvement: (1) high-visibility police patrols initially twice weekly over 6 weeks, information for victim, warning letters for perpetrator; (2) if abuse continues, help initiated from neighbours and family (with victim consent), visit by community police officer, perpetrator informed of this via warning letter, (3) if abuse continues, perpetrator sent third warning, victim told about support (including visit by DV officer), police watch, panic button, full cooperation with the Crown Prosecution Service. Reported findings relate to the male perpetrators of abuse (i.e. history of police attendances, measured in terms of numbers of men at each intervention level). During the pre-study period, Level 1 entries were less frequent and Levels 2 and 3 entries more frequent than during the evaluation period. Results showed that early intervention achieved the greatest reduction in repeat attendances.	Reported findings relate to the male perpetrators of abuse and baseline data are not pre-intervention. Contacted author for data on women-centred outcomes. No reply.
Grisurapong, 2002[127]	Screening programme.	Contacted author as mentions an analysis of referrals. No reply.
Hanmer & Griffiths, 2000[128]	Describes several Home-Office funded initiatives.	See individual study reports: the Merseyside projects (see Farrell et al, above), the Killingbeck project (see Griffiths above) and the Islington Domestic Violence Matters project (see Kelly and Humphreys below).
Haque & Clarke, 2002[129]	Basic objectives of the WFHI described, which are screening and detection.	Contacted author to see if any clinical outcomes data available. No reply.
Kelly, 1999[130]	Reports on the Domestic Violence Matters project in Islington, in which civilian workers were placed in police stations to offer women crisis intervention case advocacy and support to help women create safer conditions for themselves and their children, with increased use of resources such as shelters, housing, legal advice and support groups. The number of repeat calls to the police was reduced during the project.	Qualitative evaluation, no controlled comparison quantitative data available.

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Reference	Brief description	Author contact comment
McDonald, 1991[131]	Two pilot sites in Australia were used to develop an integrated approach to violence in families presenting in a marriage/relationship counselling programme. The intervention aimed for the safety of all family members and the cessation of physical violence. Support/counselling groups were provided for abused women, perpetrators of abuse, and children who witnessed abuse. One site also evaluated couples groups intervention. The women's group curriculum included education about domestic violence, self-awareness, safety plans and resource use. Abused women reported significant reductions in levels of psychological distress. This included reductions in intrusive and avoidance symptomatology, and in depression, anxious arousal and dissociation. Data indicated that the largest reductions in psychological distress appear to be made in the six months after completing the course. Qualitative data also collected using in-depth interviews and focus groups with group participants, female partners of men in the groups, and programme staff.	No data supplied on the website, contacted but no reply.
McNutt, Carlson, Rose & Robinson, 2002[132]	Compared a primary care centre in the US providing a multifaceted partner violence intervention with one providing usual care. The intervention included a sticker placed in medical charts listing screening questions, routine partner violence screening by nursing staff, clinician follow-up for women screening positive, and referral to on-site services. The main focus of the evaluation was on screening and documentation, but partner violence brochures were placed in examination rooms and cards with a hotline number in the toilets. In total, 51 brochures and 24 cards were taken per 1000 visits by women to the intervention site, compared with 29 and 21 per 1000 visits to the control site.	Cohort study, and no measure of the proportion of brochures and cards taken specifically by abused women (non-abused may also have taken). But, results suggest passive supply of contact information for self-referral is feasible. The lead author says she is starting a new study in late 2004, with multiple gateways to social worker interventionists, with eight clinics, four providing the interventions, and four usual care.
Nicolaidis, 2002[133]	Describes a method of developing physician education materials using analysis of partner violence victims' experiences and descriptions of their experiences. Interview excerpts representing each of several identified themes from 21 individual interviews with abused women were used to create a 30-minute educational documentary. A written companion guide covered the traditional aspects of partner violence education.	Evaluation of intervention currently being written up, but outcomes do not match our inclusion criteria - considers healthcare worker attitudes, self-reported screening, and what women want depending on the stage in the abuse trajectory.

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Reference	Brief description	Author contact comment
Phillips, 2000[134]	Review article.	This article was used only to obtain further references, but the author was contacted as presented a paper on nurse interventions at a gerontological society meeting; no data provided from this.
Schraiber & d'Oliveira, 2002[135]	Describes CONFAD, a counselling and support intervention in primary healthcare, piloted in a health centre in Sao Paulo, Brazil. CONFAD integrates sexual and domestic violence assistance and hospital and primary care, providing comprehensive care and intersectorial responses for women.	Contacted author to see if CONFAD had been evaluated. Author did not reply.
Thompson, Rivara, Thompson, Barlow, Sugg, Maiuro & Rubanowice, 2000[136]	Describes a 1-year randomised controlled US trial of a training intervention to improve the identification and assistance of domestic violence victims by primary care teams. Based on Precede/Proceed planning model, which focuses on a) changing practitioner predisposing factors - knowledge, attitudes, beliefs, barriers, b) improving enabling factors – environmental and infrastructure processes supporting the intervention, and c) using reinforcing factors such as feedback. Staff trained on 2 half days, extra training for designated leaders, also staff newsletter, clinic education rounds, posters, cue cards, questionnaires, feedback of outcomes. Slightly worse quality of care after intervention, but increased case-finding and documentation. Improved practitioner predisposing factors did not necessarily benefit women in practice. Authors concluded "The intervention was an intense effort and the effects modest, but that enabling factors "are relatively easy to initiate and are proven to increase enquiries about domestic abuse."	Asked for disaggregated outcomes data (referrals aggregated in paper with four other outcomes not relevant to review) and subgroup analysis (their sampled group included men, women and adult children as assailants and men and women as abused). Data promised but not yet materialized.
Waterschoot, 2004[137]	UNIFEM workshops on domestic violence in the Caribbean.	Contacted author to see if the workshops had been evaluated, but their emphasis was on use in the field; they felt that "common sense and humanitarian values" should support the use of the programme. They also said that workshops that include the target groups in design and implementation "tend to be the most effective".

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Reference	Brief description	Author contact comment
Zachary, Schechter, Kaplan & Mulvihill, 2002[138]; Zachary, Mulvihill, Schechter, Burton, Meissner & Kaplan, unpublished[139]	Compares two kinds of multifaceted partner violence intervention programs in academic prenatal care settings, and control care. The interventions were a "full" program with a full time onsite partner violence coordinator, and a "limited" program where access to the coordinator was by telephone or appointments. The role of the onsite project coordinator had features in common with advocates, facilitators, health educators, counsellors, and case managers, depending on setting. Patients were referred to the coordinator by prenatal providers and staff social workers, and by self-referral after prenatal follow-up calls, or using information listed in health education materials. Existence of different gateways to the coordinator considered important to maximize numbers of women accessing services. The coordinator provided services that were primarily aimed at overcoming structural barriers to ending partner violence such as housing, financial concerns, and legal counsel. Follow-up was for 24 months. The coordinator in the full intervention program provided services for 94.4% (34/36) of past year partner violence victims, and 50% (52/104) prenatal patients with lifetime histories of partner violence. The authors concluded that onsite partner violence coordinators may improve access to services for prenatal patients in academic settings, and provide support at the time that help is needed. They considered that many components of partner violence interventions could be easily incorporated into existing systems of care. Their project required start-up support, but minimal ongoing resources, for provider and staff education, protocols with links to community agencies, chart prompts with specific screening questions, and quality improvement efforts.	**2002 paper:** outcomes did not match our inclusion criteria. **Unpublished paper:** Insufficient data for the limited intervention and control groups. Only one (11.1%) victim came forward from the limited intervention site; she was referred to the coordinator. Author could not supply data.

Appendix VI: Potential studies excluded after applying full inclusion criteria

Note: these tables do not include details of all studies that did not meet inclusion criteria, only those studies that initially appeared to be relevant

Author(s) and publication years	Brief details	Reason for exclusion from review
Bergman & Brismar, 1991[140]	Evaluation to see whether intervention would decrease abused women's use of hospital services for somatic or psychiatric care. Intervention comprised emergency department (AED) screening and supportive counselling by a social worker, overnight hospital stay even if not warranted by injuries, counselling after release, referral to social services, offer of legal services to women self-identified as abused. Use of somatic and psychiatric care over 5-year post-intervention period similar in women given intervention, declining it or withdrawing.	Cohort study design.
Berk, Newton & Berk, 1986[141]	Evaluation of shelter stay that suggests women who are already taking control of their lives most likely to benefit, and that shelter stay could encourage retaliation by abusers in the short term for other women.	Observational study.
Bowker & Maurer, 1986[142]	Compares the effectiveness ratings by women of social services/counselling agencies, clergy support, and women's groups.	Observational study.
Campbell, Coben, McLoughlin, Dearwater, Nah, Glass, Lee & Durborow, 2001[143]	Evaluates a system-change model of training to improve the effectiveness of AED responses to domestic violence, by the Family Violence Prevention Fund and the Pennsylvania Coalition Against Domestic Violence. 12 hospitals in Pennsylvania and California randomly selected and randomly assigned to intervention and control (no training) conditions. AED teams (doctor, nurse, social worker) trained by a local domestic violence advocate - two days of didactic information and team planning. The intervention improved staff attitudes and knowledge about abused women, as well as patient information and satisfaction. However, "change in actual clinical practice was more difficult to achieve."	No health outcomes that match our inclusion criteria.
Caputo, 1988[144]	A study of police referrals to and interviews with clients of a practice research demonstration project which made available a range of social, legal and advocacy services in two Chicago police districts, primarily but not exclusively to victims of partner violence.	No control group, no health outcomes.
Carlson, Harris & Holden, 1999[145]	Reports a significant decline in the probability of abuse following protection orders.	Observational study.

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Author(s) and publication years	Brief details	Reason for exclusion from review
Davis, Parks, Kaups, Bennink & Bilello, 2003[146]	Describes an educational programme on partner violence, comprising one-hour didactic lectures focusing on screening and referral to social services, with pre- and post-tests, given to the departments of surgery and emergency medicine. Over 9 months post-intervention, 1550 trauma patients presented, and partner violence was considered likely in 13 and could be confirmed in 14 others.	Most of the assault victims (and victims of partner violence) considered were men, there were no controls, and only post-intervention referral rates are provided.
Davis & Taylor, 1997[147]	Joint law enforcement-social services approach to reduce the incidence of repeat domestic violence. Households reporting domestic incidents within two public housing police service areas in New York were randomly assigned to receive or not receive a 30 minute home visit by a police officer and a social worker, to follow up the initial patrol response. In addition, housing projects in the same area were randomly assigned to receive or not receive public education about domestic violence. Neither intervention reduced domestic violence but both increased the likelihood of reporting new violence to the police; this benefit was found particularly with households with more serious histories of violence who received a home visit. The results suggest the interventions increased confidence in the police.	Only 40% of women were victims of partner domestic violence, and data were not reported separately for these according to whether or not they received home visits (the intervention of relevance for our review).
Dienemann, Trautman, Shahan, Pinnella, Krishnan, Whyne, Bekemeier & Campbell, 1999[148]	An inner-city AED 2-hour mandatory in-service training programme on partner violence for all nursing, security and social work staff, supported by new policy and procedures. Screening and documentation increased over time, but parallel referrals to social workers did not increase.	Referrals were not a study outcome measure; no outcomes met our inclusion criteria.
Dimmitt & Davila, 1995[149]	Evaluation of group psychotherapy for battered women.	Qualitative evaluation only.
Dutton, Mitchell & Haywood, 1996[150]	Describes a programme that considers the hospital emergency department's response as moving beyond acute care of violence victims to involvement with the community effort to end violence. It does this through universal screening, assessment, treatment and other interventions, documentation, and patient and professional education.	Case studies only.

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Author(s) and publication years	Brief details	Reason for exclusion from review
Gadomski, Wolff, Tripp, Lewis & Short, 2001[151]	Evaluation of a rural multifaceted public health professional training and public awareness campaign by domestic violence experts from the New York State Office of the Prevention of Domestic Violence.	Measured health care professionals' knowledge, attitude, beliefs and behaviours (KABB). The KABB domain "making referrals" reported in this paper relates to confidence in making referrals, therefore not a relevant outcome according to our inclusion criteria.
Gelles & Maynard, 1987[152]	Evaluates structural family therapy techniques using a single case study.	Family therapy, case study, no relevant outcomes.
Gutman, Ketterlinus & McLellan, 2003[153]; McLellan, Gutman, Lynch, McKay, Ketterlinus, Morgenstern & Woolis, 2003[154]	Multiservice intervention with case management addressing substance abuse, partner violence, employment and basic needs in substance-abusing women.	Focus on substance abuse with no separate data on partner violence.
Harris & Weber, 2002[155]	Describes a collaboration between a local domestic violence shelter and hospitals in one city in the US, designed to facilitate appropriate referral to crisis counsellors and aftercare for victims of domestic violence who present to hospital emergency departments. As well as on-site counselling, the women were given assistance with filling out protection orders and with making police reports, and many were referred to shelters and/or support groups.	No control data.
Holt, Kernic, Lumley, Wolf & Rivara, 2002[156]	Retrospective evaluation of police-reported reabuse in 2691 adult female residents of Seattle, USA, who reported an incident of male partner violence to the Seattle Police Department between August 1, 1998, and December 31, 1999. Subsequent abuse significantly reduced with permanent protection orders (usually in effect for 12 months), but not with temporary protection orders (usually in effect for 2 weeks) or no protection order.	Cohort study design.

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Author(s) and publication years	Brief details	Reason for exclusion from review
Holt, Kernic, Wolf & Rivara, 2003[157]	Prospective evaluation from the USA, followed up 448 adult female residents of Seattle, USA, who had reported an incident of male intimate partner violence (the "index" incident) to the Seattle Police Department between October 1997 and December 1998. Women were interviewed at baseline, 5 months, and 9 months after the index incident. Women who obtained a civil protection order after the index incident were less likely to suffer subsequent physical and non-physical abuse, especially when the orders were permanent, and maintained throughout follow-up.	Cohort study design.
Johannson & Tutty, 1998[158]	Evaluation of 12-week group therapy by the Calgary YWCA support centre in Canada for couples who had previously completed 24-week separate gender family violence group counselling. Main focus on practical skills to assist couples to integrate skills learned in the gender-specific groups. Inconclusive but authors suggest intervention may be option where physical abuse has ceased and the couple wishes to remain together.	Couples therapy with no separate data for abused women.
Keilitz, Davis, Efkeman, Flango & Hannaford, 1998[159]	US evaluation of civil protection orders using two primary measures of effectiveness: self-reported improvement in quality of life after obtaining the order, and the extent and types of problems related to the protection order reported by the women, including repeated physical or psychological abuse and continued attempts by the abuser to contact the women at work or home.	No comparison data.
Krasnoff & Moscati, 2002[160]	Evaluation of an on-site advocacy intervention with three stages, i) partner violence identified through screening or self-disclosure, ii trained volunteer advocate from agency notified by nurse, and arrived at AED within 30 minutes, conducted a crisis intervention, and encouraged the patient to follow-up with the case manager, and iii) telephone-based counselling by a partner violence case manager over 3-6 weeks to help the client reduce her exposure to further violence. Case management was agreed to by 258 of 528 partner violence victims, and was followed by 127 of the 258 reporting that they no longer believed they were at risk for violence from their abuser.	No control data.

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Author(s) and publication years	Brief details	Reason for exclusion from review
Kurz, 1987[161] Kurz, 1990[162]	Describes medical responses to partner violence in four hospitals in the same large metropolitan area in the US. One of these uses an intervention to improve responses, comprising documentation of the abuse using a file card system, and referral to a physician assistant with an interest in partner violence or to the emergency department social worker. The department director also put partner violence intervention into the official department manual and allowed the physician assistant to train new resident clinicians and interns. In 47% of cases of partner violence at the intervention hospital, the women were given a significant amount of time and attention, and were followed up to check whether they had received support as a minimum. The same level of response was only given to 11% of cases at the other three hospital emergency departments. In 21% of cases at the intervention site, the staff only documented the abuse, with no further action, compared with 49% of cases at the other hospitals. No response at all was made to 32% of cases at the intervention hospital, compared with 40% at the other sites.	**1987 paper**: Ecological study, without proper control. **1990 paper:** Qualitative.
Levin, 1999[163]	Evaluates whether a welfare-to-work program could address effectively the barriers to economic and emotional self-sufficiency presented by poverty and partner violence. Collaborative effort between the Taylor Institute, an applied policy research centre in Chicago, and representatives of local domestic violence and welfare-to-work service providers, and health service planning and evaluation staff.	A description of the process, with no relevant outcomes.
McFarlane, Willson, Lemmey & Malecha, 2000[164]; Willson, McFarlane, Malecha & Lemmey, 2001[165] Willson, McFarlane, Malecha & Lemmey, 2001[166]	This US study considered women attempting to file an assault charge against a violent partner as a result of nurse referral to a special family violence unit (FVU), part of a large police dept. Outcomes for these women (self-report at telephone interview at 3 and 6 month follow-up) were compared with normal care (no filing for assault charge, which was not mandatory in the intervention city at the time). The intervention reduced threats of abuse, actual abuse and danger of being killed.	Intervention was abuser-centred.

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Author(s) and publication years	Brief details	Reason for exclusion from review
Meisel, Chandler & Rienzi, 2003[167]	A survey of US post-welfare reform Temporary Assistance to Needy Families (TANF) recipients eligible for welfare-to-work activities. Included in the reform was the Family Violence Option, granting waivers of welfare-to-work eligibility requirements that might jeopardise the safety of abused women seeking work. 54% of women followed up over a period of 3 years. Estimated need for services and abuse-related PTSD were negatively associated with working at least 32 hours per week. Estimated need for services was associated with working fewer weeks in a year, having a lower wage income, and losing jobs during the year.	Observational study only. No evaluation of the Family Violence Option.
Mertin & Mohr, 2001[168]	Considers shelter residency as the intervention, evaluating 59 women who showed significant reductions in the incidence of PTSD, and levels of anxiety and depression one year after baseline measures taken. Stressed the importance of safety planning and social support as prerequisites for recovery.	Baselines measured shortly after shelter entry, not pre-shelter. Evaluations one year after baselines rather than after shelter exit and not clear how long the women resided in the shelter. So baselines cannot be considered as pre-intervention /early intervention controls, therefore does not meet our inclusion criterion of controlled study design.
Murphy & Pike, 2002[169]; Murphy & Pike, 2003[170]; Murphy & Pike, 2004[171]	Evaluates the Columbus Pilot project, developed to so that separated parents acknowledge the debilitating effects of continuing conflict on their children, and to encourage them to resolve differences over contact and custody without recourse to prolonged litigation. Cases are individually managed through a series of family conferences chaired by a registrar and a Family Court counsellor, which cannot be used as admissible evidence in court, and which encourage disclosures of violence or abuse. Referrals are made as appropriate to therapeutic services and education programs of the Family Court.	No health outcomes that match our inclusion criteria.

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Author(s) and publication years	Brief details	Reason for exclusion from review
Norton & Manson, 1997[172]	Describes a partner violence program located in an urban health centre in India, funded by the Indian Health Service, and providing social service initiatives such as housing, emergency clothing, and transportation assistance. Focuses on the failure of office-based interventions and the value of developing interventions that are sensitive to the needs of the target group.	No quantitative data.
Nosko & Breton, 1997[173]	Evaluation of two support groups for abused women, confirming their usefulness.	Qualitative evaluation, no control data.
O'Leary, Heyman & Neidig, 1999[174]	A comparison of gender-specific and couples approaches in the US.	No relevant separate data for abused women.
Paluzzi, Gaffikin & Nanda, 2000[175]	Describes a nationwide Domestic Violence Education Project by the American College of Nurse Midwives, 1994 to 1998, designed to encourage universal screening for partner violence. Process and outcome evaluations were performed using both quantitative and qualitative analyses. Reports on changes in attitudes with possible implications for clinical practice.	No health outcomes that fit our inclusion criteria.
Rachor, 1995[176]	Evaluates a reality therapy approach for men and women involved in partner violence. Clients are taught that both the abuser and the abused choose their behaviours to meet their needs. 83% of female clients reported that at least three months after completing the program they had experienced no threats of violence or violence by partners.	Not clear how many women were battered, no control data.
Regan, 2004[177]	Reports on the Portsmouth Domestic Violence Intervention Project (EIP), which aimed to reduce repeat victimisation by providing support and information on options to anyone experiencing domestic violence. Evaluated hospital staff training for the project using questionnaires and focus groups, and explored issues arising from implementation of the intervention through project staff focus groups. Structured telephone interviews with multi-agency partners assessed the need for, impact and effectiveness of the Project, and questionnaires or telephone interviews with service users provided data on their use and experience of the Project and other related domestic violence interventions. By the time of the final report, referral to EIP had become routine after disclosure of partner violence. Hospital staff saw EIP as a useful service with too low a profile within hospitals. The Project appears to have successfully reduced repeat visits to AED for domestic violence-related injuries.	No control data.

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Author(s) and publication years	Brief details	Reason for exclusion from review
Reilly, Graham-Jones, Gaulton & Davidson, 2004[178]	Assesses the impact of a UK health advocacy intervention for the homeless on health service utilisation and direct health service costs over a 3-month period. Homeless people were recruited to a non-randomised controlled trial, mostly from women's refuges or Liverpool City Council family hostels. The health advocate proactively registered some homeless adults to an inner city health centre at outreach visits. These adults made significantly less use of health centre resources whilst having more contact with the health advocate than homeless adults who registered at the health centre at a time of need or before the advocacy.	Separate data not reported for the 5190 abused women in study; the outcome measure also did not match our criteria.
Rounsaville, Lifton & Bieber, 1979[179]	Describes 20 weekly 90-minute sessions of a consciousness-raising, problem-oriented group psychotherapy. Assessment included a description of changes in the women and modifications in the treatment during the course of therapy. There was a high drop-out rate but those who stayed in the program benefited from it.	Qualitative study.
Rubin, 1991[180]	Evaluates the effectiveness of an outreach counselling and support group intervention for abused women who are not staying in a shelter. The intervention was provided by social workers and other professionals and was relatively unstructured. No consistent benefits were found in terms of the feelings, thoughts and behaviours of the women (self-reports) or the abuse.	Case studies.
Schlee, Heyman & O'Leary, 1998[181]	Comparison of the effectiveness of group couples treatment for abused women with and without Post Traumatic Stress Disorder (PTSD) who were seeking therapy with their husbands. Each couple was randomly assigned either to a specific type of group conjoint counselling called Physical Aggression Couples Treatment (PACT) or to a similar gender-specific psychoeducational group therapy. After therapy all scores improved in parallel in women with and without PTSD. High attrition.	The evaluation did not compare the two types of treatment, only the treatment outcomes of those women (n = 27) with and without PTSD.
Weisz, Tolman & Bennett, 1998[182]	Evaluation of services provided to 392 battered women, which focuses on microsystem interactions between battered women and battered women's services and legal systems. Considers the relationships between women's receipt of services from a battered women's agency, receipt of protective orders, and completion of prosecution of batterers, and with the women's partners' subsequent arrests and police contacts. Reports that battered women's services or protective orders were more likely to be followed by a completed court case and arrests. These associations were strongest when women received both battered women's services and at least one protective order.	Ecological study.

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Author(s) and publication years	Brief details	Reason for exclusion from review
Wolfe, Wekerle, Scott, Straatman, Grasley & Reitzel-Jaffe, 2003[183]	Evaluates a community-based intervention to help at-risk teens develop healthy, non-abusive relationships with dating partners. Selected teens with histories of child maltreatment and randomly assigned them to a preventive intervention group or a no-treatment control group. The intervention consisted of education about healthy and abusive relationships, conflict resolution and communication skills, and social action activities. This was effective in reducing incidents of physical and emotional abuse and symptoms of emotional distress over-time.	Excluded on basis of age, because data on girls in abusive dating relationships not reported separately, and on basis of intervention type.

Appendix VII: Categories and subcategories of woman-centered interventions used in the appraisal, and their definition

Note: the subcategories are not intended to be exhaustive

MAIN INTERVENTION CATEGORY	SUBCATEGORY	DEFINITION	UNDERLYING THEORY
Advocacy and advice (including safety planning)	Advocacy	Involves the provision of advice, support and information, and liaison with other organisations on behalf of individual women, to negotiate their access to, and use of, housing, legal and financial entitlements and other community resources. The precise activities and services depend on the country and on the aims of the originating organisation to which the advocate is attached, and may be quite narrow in focus, e.g. primarily aimed at obtaining a protection order, in the case of legal advocacy. Crisis advocacy may require a greater focus on shorter term goals such as emergency housing, rather than on longer term needs. Depending on the specific advocacy model, advocates can also provide more or less formal counselling and ongoing support. In some health settings, advocates may also have a role in bringing about system change, catalyzing increased recognition by clinicians of women experiencing abuse. Advocates may be professional, paraprofessional or lay, and may originate from any of a wide range of organizations or programmes. Often they are from voluntary organizations in the community, but accept both self-referrals and clinician referrals. In the US, social workers in community-based organizations may be referred to as advocates.	Incorporates empowerment and tends to be based on feminist and/or ecological principles.
	Safety planning	We use a narrow definition, involving assessment of danger and risk and contextual factors, together with the provision of a safety plan or advice aimed at reducing the opportunities for abusers to abuse the victim. This may include helping the woman to plan an escape route and leave, or providing a route out during a crisis. The process needs to be dialogic rather than prescriptive to be	Based on principles of feminist empowerment and autonomy.

		included in this category; otherwise it is included in the advice subcategory.	
	Advice	The provision of information or advice that does not fit into the other subcategories of the advocacy and advice category. This includes advice on community options when it is not accompanied by facilitated access to these, prescriptive safety planning, and interventions that are labelled as counselling but do not involve any formal therapy techniques.	Varies.
	Support groups	Groups where abused women come together for support. The groups are run by trained facilitators or counsellors and may be based on a structured theoretical framework, but the way they proceed is woman-driven rather than formally structured. Groups with formal psychotherapy are categorized within the psychotherapy category. A support group lets the woman know that she is not alone, and is thought to help her to cope and start working through her emotions and feelings. Some abused women find it easier to disclose to a like group than to family and/or friends.	Varies.
Psychotherapy		This encompasses any counselling that uses formal psychotherapy techniques. In the US, counselling studies often do not fall into this category, but rather constitute the giving of advice or support, and in this case they are included in the advocacy and advice main category. In the UK, psychotherapy as included in this category is usually undertaken by a trained psychologist or psychiatrist, but studies are still included if other trained therapists are used, such as marriage guidance counsellors, or, commonly in the US, social workers.	Varies.
	Cognitive–behavioural (social learning) therapy (CBT)	The definition for this is consistent across countries and settings, and we therefore include in this sub-category all studies that specify that they use it, whether or not they describe the method. CBT is based on the belief that behaviour is learned and so can be unlearned. CBT helps to challenge assumptions, irrational beliefs and automatic negative thinking patterns. It uses skills training (e.g. in communication,	Social learning theory.

		assertiveness, and social skills) and other behavioural techniques. Its main aims in partner violence therapy are usually to reduce self-blame, stigma, depression, and to help the woman to cope within and after a relationship, as well as teaching her how to avoid abusive relationships.	
	Grief counselling and grief resolution therapy	The goals of normal grief counselling and grief-resolution therapy differ. The goal in grief counselling, as we use the term, is to facilitate the tasks of mourning in the recently bereaved in order that the bereavement process will come to a successful termination. In grief resolution therapy the goal is to identify and resolve the conflicts of separation which preclude the completion of mourning tasks in persons whose grief is abnormal in some way, such as absent, delayed, excessive, or prolonged. The separation process in partner violence is akin to this abnormal bereavement process for many women. The methods used in grief resolution therapy include guided reliving, revising and revisiting of events of the loss (in the case of abuse, this means loss, before physical separation, of the person the woman thought she was entering into a relationship with). Initially, the full yearning for the attachment and the emotions associated with the loss are reawakened, then the person is helped to detach from the lost relationship, and finally new choices for the future are reinforced.	Bereavement.
	Feminist-oriented counselling	Any psychotherapy that is based on, and promotes, feminist theory. This situates the problem of partner abuse within patriarchal society. Typically, feminist therapy uses a mixture of crisis counselling, short-term therapy and medium or long-term therapy. Its typical goals are to eliminate violence and counteract its effects on the woman by increasing her self-esteem, general assertiveness, social adjustment, assertiveness towards her partner and adjustment within the relationship.	Feminist theory.
	Crisis intervention therapy	Crisis intervention therapy is: "a process for actively influencing	Various, depends on goal-oriented problem-

		psychosocial functioning during a period of disequilibrium in order to alleviate the immediate impact of disruptive stressful events and to help mobilize the manifest and latent psychological capabilities and social resources of persons directly affected by the crisis".[184] As such, it requires a rapid response, and speedy effectiveness, with only a short course of therapy. It involves the setting of concrete goals and problem solving exercises, and builds on the existing strengths, successes and resources of the client to apply them to these goals.	solving.
Legal/justice		Any intervention that is undertaken in a legal or justice setting or involves legal or justice professionals, and does not fit into any of the preceding categories.	Various.
Other		Any relevant interventions that do not fit into any of the preceding categories.	Various.

Appendix VIII: Theoretical frameworks of the primary woman-centered studies

THEORETICAL FRAMEWORK	EXPLANATION	RELEVANT STUDIES
Feminist or empowerment theory assumed	Considers domestic violence as an expression and consequence of a patriarchal system that supports social and economic inequality between men and women. Underlies interventions that used an empowerment approach with battered women.	*Advocacy* Sullivan pilot [65;66] Sullivan main study[67-71] McFarlane et al (1997,1998, 1999)[73-75] McFarlane et al (2000) [76] McFarlane et al (2002,2004) [77;78]
Feminist or empowerment theory explicitly stated		*Advocacy* Tutty (1996) *Support groups* Tutty et al (1993, 1996)[82;83] *Psychological* Kim and Kim (2000) Rinfret-Raynor and Cantin (1997) Mancoske et al (1994)
Cognitive behavioural	Based on the belief that behaviour is learned and so can be unlearned. Helps the woman to cope within and after a relationship, reducing its negative effects, as well as teaching her how to avoid abusive relationships.	*Psychological* Cox & Stoltenberg (1991)[85] de Laverde (1987)[84] Melendez et al (2003)[93] Kubany (2003) [96] Kubany et al (2004) [97]
Grief resolution	Identifies and resolves the conflicts of separation which preclude the completion of mourning tasks in persons whose grief is abnormal in some way, such as absent, delayed, excessive, or prolonged. The woman is helped to detach from the lost relationship (loss may not involve physical separation), and finally new choices for the future are reinforced.	*Psychological* Mancoske et al (1994)[86]
Multiprocess	Uses a number of theoretical perspectives, e.g. skills training, grief counselling, psychoeducation.	*Psychological* Limandri and May (2002)[91;92]
Ecological theory	Combines factors that operate at the individual, relationship, community and societal levels.	*Advocacy* Sullivan pilot [65;66] Sullivan main study[67-71]
Community	Involving community agencies.	*Advocacy* Muelleman and Feighny (1999)?[79] Bell and Goodman (2001)?[80]
Unknown	Not applicable.	*Psychological* McNamara et al (1997, 1998)[88;89] Howard et al (2003, 2004)[94;95] McKean (2004)[81]

Appendix IX: Theoretical frameworks of the primary system-centered studies

THEORETICAL FRAMEWORK	EXPLANATION	RELEVANT STUDIES
RADAR **Trauma theory**	RADAR is an acronym to remind doctors of the following: 1. Remember to ask routinely about violence. 2. Ask questions about abuse. 3. Document findings. 4. Assess patients' safety. 5. Review options. Let patient know where there is help. Trauma theory-informed services accommodate the vulnerabilities of trauma survivors and allow services to be delivered in a way that will facilitate their participation. Trauma survivors, such as those experiencing partner abuse, will often have problems with their basic sense of who they are, trust in others, participation in society and culture, and body health and integrity. Survivors are often extremely sensitive to the ways in which power and control dynamics are expressed in relationships and so they may have difficult experiences with people in positions of authority and function in an over- or under-controlling fashion.	Harwell[102] (both) Ulbrich and Stockdale[110] (RADAR)
Systems model	Focuses on the person as a complete system, the subparts of which are interrelated physiological, psychological, sociocultural, spiritual, and developmental factors that are open to, and interact with, each other and with their environments. Systems analysis, developed independently of systems theory, applies systems principles to aid a decision-maker with problems of identifying, reconstructing, optimizing, and controlling a system, while taking into account multiple objectives, constraints and resources.	McCaw[108]
Feminist model	Considers domestic violence as an expression and consequence of a patriarchal system that supports social and economic inequality between men and women. Underlies interventions that used an empowerment approach with battered women.	Shepard et al[105] Falk et al[112] Ramsden and Bonner[109] Robinson (2003) [113] Robinson (2004) [114]
Multidisciplinary or integrated	Involving a number of disciplines in the same organisation.	Muňoz Cobos et al[98]
Interagency or integrated	Involving a number of organisations or agencies.	Short et al[111] Fanslow[103;104] Watson and Egan[101] Farrell and Buckley? [107]
Unknown	Not applicable.	Wiist and McFarlane[106]

Appendix X: Assessment of execution of individual studies

Author(s), Publication year	**RCTs: adequate randomization Other designs: consideration of potential confounders (if no consideration of any confounders, score as poor)**	**Maintenance of comparable groups (includes crossovers, adherence, contamination) (if baselines not matched, score paper as poor, if contamination only, score as fair)**	**No important differential loss to follow-up or overall high loss to follow-up (>20%)**	**Measurements: equal, reliable, and valid (if measurements so poor as to be unacceptable, score study as poor)**	**Clear definition of interventions (individualised interventions allowed if within a structured format)**	**All important outcomes considered or good match of outcomes to goals**	**RCT: intention-to-treat analysis Other designs: adjustment for potential confounders**	**Quality rating (see Appendix III)**	**Statistics**
Advocacy and advice									
Sullivan, 1991; Sullivan & Davidson, 1999 *(first study)*	Yes	Yes	Yes 83% int, 100% controls	Yes	Yes	Yes (but fewer than other Sullivan papers)	No	Fair Greatest	Raw data and effect size for EOR not given Conflict between standardised means and t value No ITT analysis, only considered completers of 3+ weeks

Sullivan et al, 1992; Sullivan et al, 1994; Tan et al, 1995; Sullivan & Bybee, 1999 *(second study)*	Yes	Yes	Yes	Yes	Yes	Yes	No	Fair Greatest	No ITT analysis, only considered completers of 3+ weeks No effect size Rounding of p value Clinical significance uncertain *Tan and Basta:* Inappropriate use of Chi square (same women measured over time) and repeated measures test (no matching of women over time) *Other papers:* Generally correct use of tests. Although corrected for baseline values, effect sizes needed, to correct for improvements in control group

Sullivan & Rumptz, 1994 *(second study)*	Sub-analysis of above study								No effect size No ITT analysis, only considered completers of 3+ weeks Report that p=0.07 is statistically significant (normal cut off is p<0.05)
Tutty, 1996	No	Yes	No	No	Yes	No	No	Poor Moderate	No ITT analysis Was the t test paired? No effect size
McFarlane et al, 1997; McFarlane et al, 1998; Parker et al, 1999 *(first study)*	Yes	Yes	Yes	No	Yes	No	No	Poor Greatest	*1997 paper:* correct use of tests, no effect size *1998 paper:* ANOVA/F test not suitable for binary results, no effect size *1999 paper:* Appropriate testing of null hypothesis, adjusted for baseline, used tests correctly, with sensible covariates. But no estimate of difference between intervention

									and control and no SD
McFarlane et al, 2000	Yes	Yes	Yes	No	Yes	No	No	Poor Greatest	No no-treatment control
McFarlane et al, 2002; McFarlane et al, 2004 *(third study)*	Yes	No	Yes	No	Yes	No	Yes	Poor Greatest	No ITT analysis Correct use of tests No effect size
Muelleman & Feighny, 1999	No	Yes	No	Yes	Yes	Yes	Yes	Poor Moderate	No ITT analysis Poor matching of samples (the controls include women who refused counselling), no analysis of control group results, plot Kaplan Meier graph but do not use it appropriately or calculate p values, McNemar's test should have been used instead of Chi square
McKean, 2004	No	No	No	No	No	No	No	Poor Moderate	No statistics
Bell & Goodman, 2001	Yes	Yes	No	Yes	Yes	Yes (but no legal outcomes)	Yes	Fair Greatest	No ITT analysis What is 1-way repeated measures ANOVA? Wrong use of ANOVA

									anyway No raw data
Advocacy total Yes out of 8	5	6	4	4	7	4	3	-	-
Support groups									
Tutty et al, 1993; Tutty et al, 1996	No	Yes	No	No	No	No	No	Poor Moderate	No ITT analysis Was paired t test used? No degrees of freedom for ANOVA, no effect size No reference to baseline, no ITT despite high attrition
Psychological									
de Laverde, 1987	No	No	Yes	Yes	Yes	Yes	No	Poor Greatest	Raw data and effect sizes not given No ITT analysis Report that $p<0.5$ is statistically significant
Cox & Stoltenberg, 1991	No	No	No	No	Yes	Yes	No	Poor Greatest	No ITT analysis, only on women completing Highly underpowered, inappropriate tests used, no effect size

Mancoske, Standifer, Cauley, 1994	Yes	Yes	No	Yes	No	No	No	Poor Greatest	ITT analysis as no attrition Suitable use of test, no effect size
Rinfret-Raynor & Cantin, 1997	Yes	No	No	Yes	No	Yes	Yes	Poor Greatest	No ITT analysis Adjusted for baseline, suitable use of tests, no effect size
McNamara et al, 1997; McNamara et al, 1998	Yes	Yes	No	Yes	No	Yes	Yes	Fair Least	No ITT analysis Suitable tests used, no effect size
Kim & Kim, 2001	Yes	Yes	No	Yes	Yes	No	No	Fair Greatest	No ITT analysis, only on women completing No effect size (Clear there is little effect anyway)
Limandri & May, 2002 Limandri & May, 2004	Yes	No	Yes	Yes	Yes	Yes	Yes	Poor Greatest	Insufficient information available
Melendez, Hoffman, Exner, Leu, Ehrhardt, 2003	No	Yes	Yes	No	Yes	Yes	Yes	Poor Greatest	ITT analysis Good use of statistics, high rating
Howard, Riger, et al, 2003; Bennett, Riger, Schewe, Howard, Wasco, 2004	No	N/k	N/k	No	No	No	No	Poor Least	No ITT analysis (only analyses data on women who provided pre and post counselling data); generally suitable tests,

									corrected for baseline, difference between the groups not estimated, looks very small and possibly not clinically significant
Kubany, Hill, Owens, 2003 (first study)	Yes	Yes	No	Yes	Yes	Yes	Yes	Fair Greatest	ITT analysis, and per protocol Tests did not match null hypothesis, use own effect size calculation, no estimate of difference in effect size between groups, rounding of p values Despite all this, clear evidence of strong effect
Kubany, Hill, Owens, 2004 (second study)	Yes	Yes	No	Yes	Yes	Yes	Yes	Fair Greatest	ITT analysis, and per protocol Tests did not match null hypothesis, use own effect size calculation, no estimate of difference in

									effect size between groups; despite all this, clear evidence of strong effect
Psychological total Yes out of 11	7	4	7	8	7	7	6	-	-
System-centered – health care with structured training									
Harwell, Casten, Armstrong, Dempsey, Coons, Davis *et al,* 1998	No	Yes	n/a	No	Yes	No	No (only age)	Poor Moderate	Correct paired analysis not used No effect size
Fanslow, Norton, Robinson & Spinola, 1998; Fanslow, Norton & Robinson, 1999	Yes	Yes	n/a	No	Yes	No	No	Poor Moderate	No test comparison of intervention and control site No effect size Insufficient data for controls
Shepard, Elliott, Falk & Regal, 1999	No	Yes	n/a	Yes	No	No	No	Poor Moderate	No effect size
Wiist & McFarlane, 1999	No	No	Yes	No	No	No	No	Poor Greatest	No effect size
McCaw, Berman, Syme & Hunkeler, 2001	No	Yes (historical control)	No	Yes	Yes	No	No	Poor Moderate	No effect size
Ramsden & Bonner, 2002	Yes	Yes	n/k	Yes	No	No	No	Poor Moderate	No statistics

Ulbrich & Stockdale, 2002	No	No	Yes	No	Yes	No	No	Poor Moderate	No statistics
Short, Hadley & Bates, 2002	No	Yes	n/a	Yes	No	No	No	Poor Greatest	No effect size
Watson & Egan, 2003	No	Yes	No	No	No	Yes	No	Poor Greatest	No statistics
Heath care training total yes out of 9	2	6	2/3	4	4	1	0	-	-
System-centered – health care without structured training									
Muňoz Cobos, Martín Carretero, Vivancos Escobar, Blanca Barba, Rodríguez Carrión & Ruiz Ramos, 2001	No	Yes	Yes	Yes	Yes	Yes	No	Poor Moderate	No effect size
System-centered – non-health care									
Farrell & Buckley, 1999	No	No (+ contamination)	Yes	Yes	No	No	No	Poor Greatest	No statistics
Falk, Shepard & Elliott, 2002	No	No	n/a	No	No	Yes (only one to consider abuse!)	Yes (age only)	Poor Moderate	No effect size
Robinson (2003) x 2	Yes	Yes	No	Yes	Yes	Yes	No	Fair Moderate	Statistics method not described
Robinson (2004)	Yes	Yes	n/k	Yes	Yes	Yes	No	Fair Least	No statistics
Non-health care total yes	3	3	1	4	3	4	1	-	-

Appendix XI: Pre-consultation with members of the National Domestic Violence and Health Research Forum and the National Domestic Violence and Health Practitioners Forum

Prior to commencement of the review process, members of the National Domestic Violence and Health Research Forum and the National Domestic Violence and Health Practitioners Forum were emailed the research protocol and asked to comment on two main issues:

- the scope of the review and the proposed methods
- what additional outcome measures to those listed would be of relevance to abused women

In total, seven emailed responses were received.

RESPONDENT	COMMENT
Scope of the review	
Academic researcher	Approaching a systemic review through controlled studies does leave unconsidered non-controlled studies and research. I think, as you mention, that it is crucial that this is demonstrated within the context of the review. There are vast areas of research that this approach will not capture. I would very much hope that this type of review, whilst extremely useful in measuring the effectiveness of specific and limited interventions, does not result in a shift in funding from other un-measurable interventions which we know from years of working directly with this group of women are important. Funders need to consider the limits of this type of methodological approach, alongside its obvious benefits.
Public Health Medical Consultant	I think this will be an excellent piece of work to carry out.
Public Health Medical Consultant	There is an issue about controlling for interventions etc occurring outwith the health environment.
Director of Dental Public Health	Intervention should be the responsibility of every health discipline We still need to know if this policy is accepted by individual health disciplines. Is it a common trend that health professionals find it difficult to ask questions about potential domestic abuse? Which health disciplines have successfully asked questions? Which health disciplines have successfully involved domestic violence in training? How are health professionals kept up-to-date on new and emerging domestic violence information?
PhD student	Having looked at the literature I feel that it would be really difficult to find any evidence within the criteria set. It is likely that the types of studies and outcomes looked for do not fit with the ethos of those agencies supporting women. You might need to think about other forms of evaluating interventions and inclusion criteria. It would be good to do a critique on the types of evidence that is available on how outcomes are measured. There needs to be more work done on what is and what is not effective.
Additional outcomes	
Refuge worker	Please include an outcome measure related to sexual health as many clients are particularly vulnerable and most have neglected this area of their health.
Domestic Violence & Health Liaison Officer	One of the things I thought you might consider in the types of outcome measures, was self harming linked to drug and alcohol abuse, as I know that many of our residents self harm in a variety of ways.

Additionally, the proposed review was presented to 29 members attending a meeting of the National Domestic Violence and Health Research Forum. The comments of the members were favourable to the extent that they were pleased that any work was being funded to help women being abused by their partners or ex-partners. However, some fears also were raised about the systematic review being limited to controlled interventions. As pointed out by a number of the members, research being carried out by non-academic groups is often under-funded with little or no resources available to collect baseline or control group data. It was felt, therefore, that much of the small-scale work that has been carried out to help abused women would not be considered in the review – and thus that any findings would not reflect the valuable work that is being conducted. There were no suggestions for further outcome measures.

Appendix XII: Stakeholder comments on preliminary report

COMMENT	RESPONSE
The review and its scope	
Should include qualitative research studies, especially those on help seeking which include victim/survivor retrospective views on what interventions have been helpful/unhelpful, with a thematic review of this material. Including this retrospective material could also give a longer view of the value of advocacy, counselling and therapy as interventions. Important opportunities have been lost to use qualitative studies, for example a study based on qualitative semi-structured interviews (which will often be referred to as a qualitative study), is amenable to forms of analysis that can result in quantitative results and statistical testing (if you want a concrete example, this is one of the ways we used the qualitative interviews we conducted in our study for the Home Office, so that we were able to make explicit comparisons between groups of women who had and who had not received particular types of service).	We agree that qualitative research complements quantitative studies and can inform a health service response to partner abuse. The focus of this review was quantitative evaluations of experimental studies. We have not excluded mixed method studies, as long as they fulfilled our inclusion criteria. We are also carrying out a review of qualitative studies of women's expectations and experiences of health care providers and hope there will be other systematic reviews of the qualitative literature in the future.
I am still not clear here whether in relation to areas like physical health and psychosocial health, you will include only studies that use validated instruments or not. Concrete example again provided by our Home Office study where changes in health status and quality of life for women were measured by systematically coding qualitative interviews in which women narrated their experiences in detail (rather than in from responses to direct questions about health etc.)	We have not excluded studies that used un-validated outcome measures, as long as the study design fulfilled our inclusion criteria.
It is a concern that so few of the articles discussed consider the impact of interventions beyond 10 weeks. There is also the possibility that people will reassess the value of an intervention as time progresses. Separating from a partner takes ` whether the partner is abusive or non-abusive. Also, one would not expect many immediate improvements in physical or mental health as a result of such interventions: this often takes time. The fact that there were *any* measurable improvements (for example after 8 counselling sessions) is therefore noteworthy; and further improvements might well follow in due course, particularly if the counselling had been able to continue beyond the 8 weeks. Not sure that there aren't other possible interpretations here, relating to the length of time before effects of interventions show (and the finding just discussed about the longer-term follow-up lends some support to this view), to express this very colloquially (but drawing on some quotes from women we interviewed) it may be a case of getting worse before it gets better – longer term follow-up studies imperative…… I'd add a specific recommendation re need for long term follow-up in studies, the length of time that it takes women to re-establish their lives is measured typically in years rather than	Failure to sustain effects may also be due to need to continue with the intervention.

months. I'd also consider mentioning the value of qualitative research here – how about a different sort of design based on retrospectively analyzing qualitative life histories of women to identify health benefits over the longer time scale Follow-up periods need to be much longer than 6 months or a year: ideally, a longitudinal study looking at the mental and physical health and well-being of women over a period of 5 - 10 years or more, and including their experiences of abuse (if any) and the interventions they received would provide some of the answers required.	
Add something on nature of reinforcement of training required if possible.	Yes.
Surprised not to see Humphreys and Thiara included – but suspect the reason relates to the specificity of inclusion criteria.	Correct.
How are 'quantitative' studies being defined in this review? Some 'qualitative' studies include relatively large numbers of participants whereas some of the studies discussed in the review have under 40 participants. Researchers from some disciplines also often employ quantitative methods of analysis to interpret qualitative research.	We have not excluded studies that used un-validated outcome measures, as long as the study design fulfilled our inclusion criteria.
There was a huge fall out from the literature search of potential sources from 8,000 down to the papers included in the study. Was the fall out purely due to failure to meet criteria or because the search parameters were necessarily wide and consequently turned up articles that were irrelevant?	Because the search parameters were necessarily wide and consequently turned up articles that were irrelevant.
Research in the UK health care setting by e.g. Bacchus and Mezey seems to me to be relevant but is not included.	None fitted our criteria.
A table could be included in the appendix to show on what basis (according to which of the 5 criteria) papers were excluded. This fall out is interesting in itself as a possible indication of the state of the literature.	We have included this.
None of the articles seemed to consider whether or not worthwhile interventions could include just listening to a victim/survivor and making information available. There are also other desired aims than "reduction or elimination of abuse", or "improvement of the [woman's] physical or psychological health"; e.g. simply providing information, and/or making it clear there *are* options available (if/when women want to take them up – which may be in several years time, or never), or even making a woman aware that she is not only woman who is abused, can be enormously beneficial, though these effects not easily measurable.	We have considered information giving as a brief intervention in this review. We do not agree that giving of information is a robust outcome measure in itself for assessing the effectiveness of interventions for women experiencing abuse.
The general finding that some advocacy and some counselling in certain settings can fulfil at least one of the criteria is encouraging. However there needs to be more clarity about what researchers mean by 'advocacy' and what women see as being 'good' or 'bad' advocacy. The US bias in the research literature will influence views on advocacy in the articles. What exactly does "advocacy" mean? – what does it consist of, how is it done? (I suggest that responses – or "outcomes" - are likely to be very dependent on the nature and quality of advocacy provided.)	We have defined advocacy and considered some differences between models, and effects on outcomes.
The articles reviewed do not consider professionals' views about what training and support is needed to enable them to	They did not fit our criteria, but we have mentioned which

feel confident in their interactions with victims/survivors. Similarly service users' views on good and poor quality interactions with health care professionals are relevant but do not seem to be included in the articles.	primary studies also collected feedback.
Is referral necessarily always an indicator of a successful outcome?	We have considered this.
Pilot projects could be set up to assess the advantages/disadvantages of different approaches to training and referral support in different health care contexts. This would need proper allocation of resources.	Interesting idea…but would have to be clear about design of the assessment and what outcomes would be measured.
Where is the value in a review where "outcomes" are "measured" in ways which are not always appropriate (or where the appropriateness of otherwise cannot be judged, as insufficient information is given)?	The quality of the primary studies (including the appropriateness of outcome measures) is an intrinsic limitation of all reviews i.e. there is no method of improving the quality of studies once they have been done! The research recommendations of a review can address the methodological weaknesses highlighted.
How was "quality of life" measured? It is debatable whether this *can* be measured in any reliable way, and certainly any meaningful assessment *must* include qualitative and subjective material. If the crucial criteria were "emotional attachment to assailant" and "sense of personal control over their lives", how were *these* measured?	Different primary studies measured this in different ways. There is a large literature on quality of life measurement and many researchers would disagree with the assertion that any meaningful assessment must include qualitative material. No one would argue that QoL is objective; by definition it is subjective, but this does not mean that it cannot be measured.
What are "safety promoting behaviours"? Who assesses whether or not these behaviours promote safety?	These are defined in the report. The primary papers that considered these also discuss promotion of safety itself.
What kinds of counselling are we talking about? It seems that the studies varied, but the quality and type of counselling is likely to influence the results; and 8 sessions may be far too few for women who have experienced many years of abuse.	We have addressed this in the report, defining counselling and also considering its duration.
You refer to "potential publication bias" as none of the studies failed to find some benefit from the interventions; but maybe this can be explained by saying that *any* intervention is likely to have benefits (provided of course that safety requirements are met) since it gives women space to talk, the opportunity to be listened to and to have their experiences of abuse taken seriously.	By chance alone, small studies may show an absence of an effect or even a negative effect. If there are no negative studies, it suggests that there has been either bias in the conducting of the studies or publication bias resulting in negative studies not being published.
Training interventions: what does training consist of? How long for, training in what, and by which methods?	This is described in the tables and narrative text.
And surely a more appropriate evaluation of a training intervention is to what extent staff who have been trained are carrying out the procedures in which they have been trained?	We agree, but are constrained by what is in the primary studies.

It is right that "referral rates are not usually a primary outcome measure in training studies" since this can only be a secondary or tertiary outcome.	
What does "refer" mean in this context? Give information? Make a call on their behalf? Give information and then check that woman has acted on it?) It is not surprising that referral rates remained low, despite intervention (though this does depend in part on the definition of "referral" (see above)). Women often do not want to take up a referral option immediately or on the first occasion it is offered; but that does not mean that the intervention had no value – far from it. (This is but one of the problems on relying exclusively on "measurable" and quantitative data.)	We discuss the usefulness of referrals as an outcome measure.
What does reduction or cessation of abuse mean in practice? and how was it measured? Presumably this *was* (at least in part) by asking the women themselves? Did some of the studies only include physical abuse? And how was the frequency of abusive incidents (and therefore reduction) measured before and after the intervention being evaluated? Was consideration given to changes in nature of abuse (e.g. from physical to emotional)? And - given the relatively short follow-up period for most of these studies, and the fact that some of the women might have experienced abuse only sporadically, and/or on a few occasions - how can one be sure that any apparent reduction/cessation would be maintained in the long-term? (Even if the relationship has ended, further abuse - even after several years - cannot be ruled out.)	This goes back to issues with outcome measures and length of follow-up, both of which should be given more consideration, with more standardisation in use.
Why should one expect - and is it right to expect? - that interventions directed to the woman victim/survivor would have any effect on changing the behaviour of the perpetrator of abuse? Yet by focussing on ending/reducing abuse, this is what is implied. Perhaps the wrong thing is being measured here?	This review only considers interventions directed at the women, but other reviews have considered perpetrator interventions. It is likely that a combination of approaches will be most effective, but realistically, unless a perpetrator is arrested, s/he may not always accept intervention.
A broader range of abuse type and severity to be considered would also assist, but perhaps the development of ethical guidelines (standardised, agreed upon by research group, for example) in relation to these areas would also be helpful.	We agree that current evaluations mainly consider a limited range of women in terms of abuse type and severity.
Although I am aware that the focus here is health and the reasons for this, I also think that attention needs to be given to the social care arena. Maybe reference could be made to the need for research to cover this area also, particularly given that many advocacy projects and training programmes are located/originated within social care rather health settings.	We did not exclude evaluations of interventions outside the health sector, as long as health outcomes were measured.
The piece of research around feminist/empowerment counselling and grief-resolution approaches (Mancoske et al) needs to be further explored. Not aware of any attempts to replicate this, certainly not in UK context, so to explore the notion of different strategies at different stages would be very useful.	This is a very poor study.
Is it possible to say anything about the different theoretical	In the main report.

bases of the counselling provided? – I realize it is in the tables, but an overall summary would be helpful.	
The Mendelez safer sex study seems so distinct from the other forms of counselling/therapy intervention, with an aim of modifying behaviour rather than improving psychological wellbeing/mental health, that I think it should be treated in a separate part of this section, or even in another section.	We considered this.
Ethical considerations: Is it ethical to withhold a potentially helpful intervention from a woman on the grounds that she has been randomly allocated to a control group? Were women asked if they wanted to take part in the study, and told that if they agreed they would be allocated randomly to one of two groups, and that the control group would not receive additional support? If they were *not* told this, it is ethically dubious. If they *were* told, then simply the act of telling them is likely to raise awareness and lead to "improved outcomes" even in the control group.	Yes it is ethical, if the researchers (and the ethics committee) judge that there is "equipoise" between the intervention and the control (often usual care) state. We agree that fully informed consent needs to be sought if participants are individually recruited. Unfortunately there is not enough detail in most of the papers to judge if this was the case.
Re harmful effects: an interesting one this – since it is methodologically challenging (to me at least) to see how this can be done adequately, I'd welcome a fuller discussion here, I wonder also if it would be helpful to look at the studies in terms of asking the question – would the study design have made it likely that any harm caused by the intervention would have come to light (in the absence of it being specifically sought) – and, if possible it would be good to have a discussion about this in the discussion section.	We agree that the adverse effects of interventions, outside the measured outcomes, cannot be detected unless there is a system for recording them. None of the studies had such a system in place. If these adverse events are relatively uncommon it is more likely that they will be detected in routine monitoring of interventions in the medium term, but this too would require a reporting system (analogous to the yellow card reporting system for drug prescribing).
Any future research needs to include both quantitative and qualitative elements, and to include assessments - in their own words, as well as any standardised measures which might be considered appropriate - from both survivors and staff of the benefits and shortcomings associated with the piloted interventions.	We cannot agree with such blanket injunction and welcome any research method in the area of partner abuse prevention that helps answer relevant questions.
The narrow and somewhat mistaken view of what would constitute desirable "outcomes" needs to be broadened to incorporate what survivors themselves want; and if this is not always "measurable", this should be accepted.	We agree that outcomes should reflect the priorities of participants.
In order to be useful for the UK context, such research must take account of the specific characteristics of service provision in both the statutory and voluntary sectors (including NHS health care provision, and refuge, outreach and other domestic violence services) and the legal, housing, welfare benefits and other options available	We agree that the context of interventions needs to be characterized and caution exercised in extrapolating to different contexts.
Research should also build on the abundant knowledge of survivors and practitioners about what interventions are appreciated, what safety measures need to be put in place, what training is required, and how to sustain it, and the additional resources and service provision needed.	Agreed that survivors and practitioners should be closely involved in future research.

The health care (or other) organisation should develop a specific Domestic Violence Policy together with appropriate protocols/guidelines which specify how any proposed interventions should be carried out to ensure the safety of women and children, as well as of staff.	We agree, although this does not emerge directly from the reviewed papers.
Appropriate, adequate and on-going training in domestic violence issues, and in the procedures to be followed, should be established and be mandatory before any proposed intervention is initiated. Training programmes need to equip health care professionals to ask questions and to respond in ways that are sensitive to the women's needs. This relates to screening/detection/assessment tools as well as to the management of situations. Training in assisting with safety planning with women appears to be an essential element of this.	Agree that training is a pre-requisite.
Routine questioning of all women attending A&E departments may also help with detection. There was some early research in '80s about the value of training programmes for A&E staff; results were promising (especially viz. follow-up). This could perhaps be replicated or up-dated, particularly given recent proposals to routinely ask questions at ante-natal sessions. Maybe inclusion of other women-only clinics or within STD clinic settings would be helpful (this suggestion is also a plea for more UK research into this area as well!) I think that adequate training and routine screening by health professionals would assist in detection of abuse. The key is partly in the quality of the training programmes and also ensuring that participants are given up-dates/refresher courses every so often etc. However, if a woman does not accept that she is being abused then intervention may be very limited. An educational approach to inform the woman that abuse does happen to some women, that there are a number of actions that can be taken to stop or prevent abuse, around safety planning or where to go/who to contact in future for further information/discussion/assistance may be all that can be achieved, but training needs to be given in how to provide this type of information/advice. Research into effectiveness of this type of intervention and of training in this, limited although it may be, is also very necessary.	We did not tackle methods of detection in this review.
Agreements	
I agree that the impact of interventions in different contexts requires further research and findings from these papers are tentative.	
I also agree that research in the UK context especially in the health care setting is needed and this should be properly funded. The recommendations made are quite broad and wide-ranging, but reflect the current state of research in this area. It is essential that more research takes place in the UK, particularly, for example, in the area of testing interventions in a variety of health care settings. A specific funding stream in relation to this area would be beneficial.	
Agreed the review suggests advocacy and help with safety planning in certain contexts showed some beneficial impacts. The evidence suggests that there is potential benefit in continuing to develop and evaluate advocacy and interventions appropriate to health care contexts where women disclose intimate partner abuse.	
I agree with the recommendations that training and in-house or clear referral pathways would be	

beneficial. Evaluation of multi-agency/inter-agency training programmes and their effectiveness in the UK context would also be beneficial, in particular given the development of these in recent years.
Research also needs to be conducted in a variety of settings (urban, suburban, rural) and with a variety of ethnic groups, with women of all ages, and with disabled women. There should be no presumption that what appears to work in one setting/country can be transposed to a completely different social, legal and political setting. Nor should it be assumed that "what works" for one specific group of women will necessarily be as effective with older women or those of a different ethnicity or with specific additional and/or complex needs. Further research on subgroups is essential. This must be as inclusive as possible and include, for example, older women, women who are asylum-seeking or refugees as well as different types of disabilities. Mental health and domestic violence appears to be very under-researched, for instance, especially given research findings concerning mental health difficulties that develop due to earlier or ongoing situations of abuse and violence.
I agree in principle with the first three recommendations made in this Report (a dedicated in-house staff member responsible for training; training focusing on health care responses; and provision of a support service or clear referral pathway to outside agency), though the term "management" [of women experiencing intimate partner abuse] should be changed: I would prefer wording such as: "training programmes need to focus on the responses of health care professionals to women experiencing domestic violence, rather than simply on enabling disclosure." Discussion of what "referral" means, and what kinds of referrals are helpful is a necessary preliminary here. There also needs to be more emphasis on safety at the outset.