



Intimate partner abuse and suicidality: A systematic review

J. McLaughlin*, R.E. O'Carroll, R.C. O'Connor

University of Stirling, Suicidal Behaviour Research Laboratory, School of Natural Sciences, University of Stirling, Stirling, FK9 4LA, UK

HIGHLIGHTS

- ▶ 37 articles were reviewed, giving a comprehensive understanding of this topic
- ▶ Found a strong association between Intimate Partner Abuse and suicidality
- ▶ Factors leading to increased risk of suicidality in this group were identified

ARTICLE INFO

Article history:

Received 20 July 2011
 Received in revised form 2 July 2012
 Accepted 25 August 2012
 Available online 6 September 2012

Keywords:

Intimate partner abuse
 Suicidal ideation
 Suicidality
 Review

ABSTRACT

Research has demonstrated an association between intimate partner abuse and suicidality, presenting a serious mental health issue. However, studies have differed widely in the samples and methods employed, and in the depth of the investigation. Given the level of heterogeneity in the literature, this systematic review examines, for the first time, the nature of the relationship between intimate partner abuse and suicidality. The three main psychological and medical databases (PsychInfo 1887–March 2011; Medline, 1966–March 2011; Web of Knowledge 1981–March 2011) were searched. Thirty-seven papers on the topic of intimate partner abuse and suicidality were found. With only one exception, all of the studies found a strong and consistent association between intimate partner abuse and suicidality. Significantly, this relationship held irrespective of study design, sample and measurement of abuse and suicidality, thus demonstrating a consistently strong relationship between intimate partner abuse and suicidality. This review highlights that intimate partner abuse is a significant risk factor for suicidal thoughts and behaviours, which has important clinical implications.

© 2012 Elsevier Ltd. All rights reserved.

Contents

1.	Introduction	678
2.	Method	678
2.1.	Selection of studies	678
3.	Results	679
3.1.	Cross-sectional studies	679
3.2.	Strength of the relationship	679
3.3.	Differing impact of physical vs. psychological abuse	679
3.4.	Mediators and moderators of the relationship between IPA and suicidality	679
3.5.	Case-control studies	679
3.6.	Strength of the relationship	683
3.7.	Differing impact of physical vs. psychological abuse	683
3.8.	Mediators and moderators of the relationship between IPA and suicidality	683
3.9.	Longitudinal/prospective studies	683
3.10.	Strength of the relationship	683
3.11.	Differing impact of physical vs. psychological abuse	685
3.12.	Mediators and moderators of the relationship between IPA and suicidality	685
4.	Discussion	685
4.1.	Methodological considerations	685
4.2.	Future research	687
4.3.	Clinical implications	687

* Corresponding author. Tel.: +44 1786 466853; fax: +44 1786 467641.
 E-mail address: jennifer.mclaughlin@stir.ac.uk (J. McLaughlin).

5. Conclusion	688
Declaration of interest	688
Acknowledgements	688
References	688

1. Introduction

Intimate partner abuse (IPA)¹ can be defined as any “incident of threatening behaviour, violence or abuse (psychological, physical, sexual, financial or emotional) between adults who are or have been intimate partners, regardless of gender or sexuality” (Department of Health, 2000). This definition communicates the multifaceted nature of intimate partner abuse, illustrating the challenges and difficulties of conducting research in this area. However, it is worth noting that this is a relatively recent definition, and much early research in this area was carried out with the assumptions that intimate partner abuse was synonymous with only physical abuse, with female victims and male perpetrators (e.g. Back, Post, & D’Arcy, 1982). Although knowledge and understanding of intimate partner abuse has progressed significantly, the complexity of intimate partner abuse often results in researchers selecting different aspects to focus on.

IPA is a widespread issue, with 1 in 4 women experiencing IPA over their lifetimes and between 6 and 10% of women suffering IPA in any given year (Council of Europe, 2002). It has further been shown that among some “high risk” samples, such as psychiatric, clinical, and student populations, the prevalence rates are higher still, with 1 in 3 women reporting that they are currently experiencing IPA, or they have experienced it in the past (Sansone, Chu, & Wiederman, 2007a). IPA is recognised as being a major public health problem. Screening for IPA in healthcare settings is endorsed by numerous health professional organisations in the United States (Waalén, Goodwin, Spitz, Petersen, & Saltzman, 2000), and although there is not currently a screening policy in the UK, the Department of Health (2000) recommends that health professionals should consider routine enquiry of female patients for a history of IPA.

Researchers have highlighted the varied and often severe consequences of IPA. Studies have shown relationships between IPA and physical injuries, disabilities, homicide, sexual assaults, complications of pregnancy, alcohol and drug abuse, economic losses, employment status, depression, and suicide (Abbott, Johnson, & Koziol-McLain, 1995; Campbell, Kub, & Rose, 1996; Ellsberg, Jansen, Heise, Watts, & Garcia-Moreno, 2008; Tolman & Wang, 2005; Waller, Hohenhaus, & Shah, 1996). Researchers have increasingly found that victims of IPA are at risk of a variety of psychological problems, finding particularly high rates of post-traumatic stress disorder (Golding, 1999) and also of depression (Gleason, 1993). Some samples show clinically significant levels of depression (Cascardi & O’Leary, 1992) whilst others have found accompanying suicidal ideation and suicide attempts (Bergman & Brismar, 1991).

A number of studies have demonstrated an association between IPA victimisation and suicidality, which is defined here as suicidal ideation and/or suicidal behaviour. People who experience IPA are more likely to attempt suicide than those without such history, with an estimated 35% to 40% making a suicide attempt at some point during or after the termination of an abusive relationship (Reviere et al., 2007). Indeed, a number of studies demonstrate a higher prevalence of suicide attempts among those with histories of IPA compared to those with no such history (Seedat, Stein, & Forde, 2005). Additionally, 20% of people who have experienced IPA make multiple suicide

attempts compared to 8% of people with no history of abuse (Stark & Flitcraft, 1995).

However, despite this awareness of an association, it is a largely under-researched area, and among the existing research there is a large degree of variability in the focus and methods employed, making direct comparisons problematic. Some literature reviews have highlighted a relationship between IPA and suicidality, such as Golding (1999) meta-analytic review of IPA as a risk factor for mental disorders, and Martin, Macy, Sullivan, and Magee (2007) review of the role of IPA in pregnancy-associated violent deaths. However, no systematic review has been carried out which concentrates solely on the relationship between IPA and suicidality. Given the diversity of research in this area, the clear clinical implications, and the importance of advancing knowledge and understanding in this area, a review that focuses on this relationship is overdue. Therefore, this systematic review was carried out in order to determine and clarify the relationship between IPA and suicidality.

2. Method

2.1. Selection of studies

A literature review of the three main psychological and medical databases was conducted: Psychinfo (1887–March 2011), Medline (1966–March 2011), and Web of Knowledge (1981–March 2011). Key word searches using the following terms were employed: (i) suicid* and domestic or partner and violen* or abuse; (ii) self-harm and domestic or partner and violen* or abuse; (iii) self-injur* and domestic or partner and violen* or abuse; (iv) parasuicid* and domestic or partner and violen* or abuse; (v) self-cut* and domestic or partner and violen* or abuse. These searches generated a total of 664 studies.

The abstracts of all studies generated by this search were read in order to select appropriate studies that met the following inclusion criteria:

- (i) Only original and published journal articles were included in the analyses;
- (ii) A measure of intimate partner abuse was used;
- (iii) Suicidal ideation and/or suicidal behaviours were recorded;
- (iv) The relationship between intimate partner abuse and suicidality was recorded;
- (v) The article was written in English.

The reference sections of all selected articles were hand searched and followed up to ensure that no relevant studies were missed. This process yielded 37 published empirical papers which are presented in the proceeding sections, following O’Connor (2007): (i) cross-sectional studies investigating the relationship between intimate partner abuse and suicidality; (ii) case-control studies comparing groups of individuals with experience of intimate partner abuse with controls or comparing groups of individuals with suicidal ideation/behaviour with controls; and (iii) longitudinal (prospective) studies of intimate partner abuse and suicidality. In addition it was useful to review what these studies have been able to contribute to our knowledge and understanding on some key research questions in this area. Therefore, sub-sections are presented within the results for each of the three study methods which summarise the evidence relating to three key areas; (i) the strength of the relationship between IPA and suicidality; (ii) the differing impact

¹ IPA = intimate partner abuse. Although abuse is the definition used in the UK, it is important to note that when discussing intimate partner abuse in a clinical context, it is often defined as intimate partner violence or IPV.

on the victim of physical vs. psychological abuse; and (iii) potential mediators and moderators of the relationship between IPA and suicidality.

Given the large variety of study designs, it was not feasible to conduct a meta-analysis, and therefore a narrative systematic review was conducted.

3. Results

3.1. Cross-sectional studies

The majority of the studies ($n=23$) were cross-sectional (see Table 1). Thirteen of these studies were conducted with general population samples, with two of these studies recruiting participants from IPA shelters (Weaver et al., 2007; Wingood et al., 2000). All of these studies were conducted out with the UK, with the majority ($n=7$) being carried out in the USA. Only two of these studies utilised a sample including both sexes (Afifi et al., 2009; Calder et al., 2010), with the others using female only samples. With regard to the measures of IPA used, a variety of different measures were employed. The definitions of IPA that are employed by the researchers have a significant impact on the measures that are used, and often influence which aspects of IPA are focused on. These studies varied in which aspects of IPA were measured, with the majority of studies focused solely on the physical aspects of abuse, whilst only three studies (Ishida et al., 2010; Vachher & Sharma, 2010; Vitanza et al., 1995) also included psychological abuse. The measures of suicidality used were also varied, and often limited, with many studies using a single item to assess either suicidal ideation or suicide attempts, and only three studies including a more detailed measure of suicidality (Ellsberg et al., 2008; Golding, 1999; Naved & Akhtar, 2008). Measures of both IPA and suicidality also varied largely with regards to the time period being investigated, with some studies measuring recent exposure between one week and one year, and some measuring lifetime exposure, whilst others enquired as to current and lifetime experiences. However, despite these differences, all studies demonstrated a relationship between IPA and suicidality, with eight studies finding an association between IPA and suicidal ideation, three demonstrating an association between IPA and suicide attempts (Seedat et al., 2005; Vitanza et al., 1995; Vitanza et al., 1995), and two which demonstrated an association between IPA and both suicidal ideation and suicide attempts (Haarr, 2010; Vachher & Sharma, 2010). Additional findings of particular interest included results demonstrating a dose-response effect between the severity of abuse experienced and suicidality (Naved & Akhtar, 2008; Vitanza et al., 1995; Wingood et al., 2000). Renner and Markward (2009) reported that suicidal ideation was associated with a short duration (under 1 year) of IPA, as opposed to a longer duration as predicted. This is particularly interesting, as previous research has suggested that prolonged trauma where the individual feels under the control of the perpetrator contributes significantly to increased suicidal ideation (Herman, 1992). We would therefore expect individuals exposed to IPA over a longer period of time to exhibit higher suicidal ideation than those exposed for a shorter duration.

The cross-sectional studies also included those conducted with clinical samples ($n=10$). The majority ($n=4$) of the latter recruited samples from emergency departments of hospitals, whilst the others recruited from psychiatric inpatients ($n=2$), HIV clinics ($n=2$), antenatal clinics ($n=1$) or general medical practices ($n=1$). The majority of these studies were conducted within the USA, with only three studies being carried out in other countries (Asad et al., 2010; Boyle & Todd, 2003; Siemienuk et al., 2010). As with the general population studies, the majority were carried out with all female samples, with one study using an all male sample (Pantalone et al., 2010) and only three studies using men and women (Boyle & Todd, 2003; Heru et al., 2006; Siemienuk et al., 2010). As opposed to the general population studies, the majority ($n=8$) of clinical studies included

measures of psychological abuse as well as the physical aspects of abuse, however, there was substantial variation with regards to the measures employed. Additionally, only one study (Heru et al., 2006) investigated both IPA victimisation and perpetration. The extensive heterogeneity of measures employed was extended to the selection of the suicidality measures. Whilst some studies made use of more detailed measures such as the Beck Scale for Suicide Ideation (BSI; Beck & Steer, 1991) or the Self Harm Inventory (SHI; Sansone et al., 1998), others established suicidality by presentation at hospital emergency departments following self-injury or a suicide attempt, or by relying on self-report, or details from the participants' medical history. Once again, there was variation in the time periods covered by the measures, with some studies investigating experiences over the lifetime, and others focusing on more recent experiences.

Despite these differences, all studies demonstrated a relationship between IPA and suicidality, finding associations between IPA and suicide attempts ($n=3$), suicidal ideation ($n=2$) and self-harm ($n=2$). Other findings of interest included results demonstrating that abused women were significantly more likely than non-abused women to be pregnant at the time of the suicide attempt (Stark & Flitcraft, 1995). Also, Heru et al. (2006) demonstrated a high rate (90%) of IPA among suicidal psychiatric inpatients, and further showed no significant differences in males and females for either perpetration or victimisation. However, Siemienuk et al. (2010) found that females were more likely than males to have experienced IPA, and that within the male population, gay and bisexual men were twice as likely to have experienced IPA compared to heterosexual men. These findings are particularly interesting as there is a dearth of research examining sex differences in IPA in general, and in the relationship between IPA victimisation and suicidality, with a tendency to focus on all female samples.

3.2. Strength of the relationship

All of the studies reviewed found an association between IPA and suicidality. The majority of cross-sectional studies did not investigate the strength of the relationship between IPA and suicidality. However, two of these studies (Leiner et al., 2008; Pantalone et al., 2010) presented correlational results which would suggest a small effect size.

3.3. Differing impact of physical vs. psychological abuse

Of the cross-sectional studies, only one study (Pantalone et al., 2010) investigated the impacts of psychological, physical and sexual abuse, finding a positive correlation between physical abuse and suicidal ideation.

3.4. Mediators and moderators of the relationship between IPA and suicidality

Only one of the cross-sectional studies investigated potential mediators or moderators of the relationship between IPA and suicidality. Weaver et al. (2007) found that the presence of PTSD and of depression mediated the relationship between sexual abuse and suicidal ideation.

In summary, it is clear that one of the key issues present across the cross-sectional studies is a lack of consistency in the measures used. However, irrespective of the substantial heterogeneity in the methods and samples employed, all of the cross-sectional studies in this review reported an association between IPA and suicidality, illustrating the strength of this association.

3.5. Case-control studies

Nine of the studies under review were case-control studies (see Table 2). The majority ($n=7$) of these were carried out with clinical

Table 1
Cross-sectional studies of intimate partner abuse and suicidality.

Population						
Study country	Source	Gender and age (years)	Intimate partner abuse	Suicidality	Results	
General population (N = 13)						
Vitanza, Vogel, and Marshall (1995)	USA	93 in long-term “bad” or “stressful” relationships	All female	Screening instrument for psychological abuse. SVAWS (Marshall, 1992) threats, acts and sexual aggression subscales.	Self-report number of suicide attempts	Severe violence group showed higher prevalence of suicide attempts (chi-square = 8.04, $p < .02$). Attempted suicide partially explained by private self-consciousness. In severe violence group, cognitive failure helped explain attempted suicide.
Wingood, DiClemente, and Raj (2000)	USA	203, recruited from IPA shelters	All female Mean age 32.1 years	Sexual and physical abuse during 60 days before entering shelter.	Diagnostic Interview Schedule, Version II	Women who had experienced both physical and sexual abuse were more likely to have attempted suicide compared to women experiencing physical abuse (AOR = 1.8, 95% CI = 1.0–3.4).
Seedat et al. (2005)	USA	637 from the Memphis Area Study	All female Abused mean age 37.9 (SD 10.4) Non-Abused mean age 40.3 (SD 14.6)	1 Screening question and F/U questions. Focus on physical abuse.	Self-report lifetime suicide attempts.	23% of abused group reported a suicide attempt compared to 3% in non-abused group (OR = 4.07, $p < .0001$). No significant association between suicide attempts and PTSD diagnosis.
Weaver et al. (2007)	USA	50, recruited from IPA shelter	All female Mean age 31 (SD 9.4)	PASPH (Hudson, 1990) measures physical and sexual abuse	Intensity of suicidal ideation in past week assessed by asking about “thoughts about wanting to die”	58% experienced intimate partner rape which was significantly associated with suicidal ideation ($X^2 = 6.27$, $p < .05$). PTSD ($R = .00$) and depressive symptoms mediated the relationship between intimate partner rape and suicidal ideation
Affi et al. (2009)	USA	2,254 from US National Comorbidity Survey Replication (NCS-R) data.	1116 (M), 1138 (F) 18–60+ years	Items taken from physical assault items of the CTS.	Self-report thoughts about committing suicide, and suicide attempts over the past year	Relationship between IPA and poor mental health outcomes differs according to sex. Females with experience of IPA demonstrate a wider range of poor mental health outcomes, including suicidal ideation, (AOR = 2.15, 95% CI = .48–9.59) than male victims.
Ellsberg et al. (2008)	Multi-Country Study	24,097 from WHO multi-country study on women's health and domestic violence.	All female 15–49 years	Self-report experiences of physically and sexually violent acts by a current or former male partner.	SRQ-20 - screens for emotional distress. Self-report suicidal thoughts in previous 4 weeks. Self-report lifetime suicidal thoughts and attempts.	IPA group reported significantly more emotional distress, suicidal thoughts (OR = 2.9, 95% CI = 2.7–3.2) and suicide attempts (OR = 3.8, 95% CI = 3.3–4.5) than non-abused group.
Naved and Akhtar (2008)	Bangladesh	2,702 from WHO multi-country study on women's health and domestic violence conducted in Bangladesh.	All female 15–49 years	Self-report experiences of physically and sexually violent acts by a current or former male partner.	SRQ-20. Self-report suicidal thoughts in previous 4 weeks. Self-report lifetime suicidal thoughts and attempts.	Suicidal ideation twice as likely among rural women, and 3 times more likely among urban women, reporting emotional violence in past year. Suicidal ideation in the past 4 weeks was 4 times more likely among rural women, and twice as likely among urban women, reporting severe physical abuse over past year. Dose-response effect observed in suicidal ideation over past 4 weeks—increase in number of forms of violence experienced associated with increase in suicidal ideation. With 1% of women exposed to no violence reporting suicidal ideation, increasing to 4%–5% of those exposed to 2 forms of violence, and 15–16% with exposure to 4 forms of violence.
Renner and Markward (2009)	USA	95 recruited from IPA shelter	All female 18–50+ years.	Self report lifetime physical abuse.	Self-report lifetime suicidal ideation	Suicidal ideation was associated with a shorter duration of IPA (under 1 year) ($X^2 = 3.87$, $p < .05$)
Vung, Ostergren, and Krantz (2009)	Vietnam	883 recruited from a demographic surveillance site in Bavi District. Participants married or in a stable relationship.	All female 17–60 years	Women's Health and Life Experiences Questionnaire (WHO, 2000). Measured physical and sexual violence over past year.	Self-report suicidal thoughts.	IPA in past year increased risk of suicidal ideation (OR = 2.8, 95% CI = 1.04–7.3).

Calder, McVean, and Yang (2010) USA	4081 from Washington state (2002) Behavioral Risk Factor Surveillance System data	1692 (M) 2389 (F). 18–55+ years	Self report physical (last 12 months) and sexual abuse (since age 18)	Self report suicidal thoughts in past 12 months	History of physical (OR=27.30, 95% CI= 11.64–64.01) and sexual abuse (OR=5.87, 95% CI= 3.24–10.63) related to current suicidal ideation.
Haarr (2010) Tajikistan	400 married women of childbearing and rearing ages in Tajikistan	All female 17–49 years	Self report physical and sexual abuse by husband (ever, and last 12 months)	Self report lifetime thoughts and attempts	Those with experience of marital violence were more likely to have experienced suicidal thoughts and attempts. Women who had also told someone about the abuse were at highest risk.
Ishida, Stupp, Melian, Serbanescu, and Goodwin (2010) Paraguay	6540 from the 2008 Paraguayan National Survey of Demography and Sexual and Reproductive Health	All female 15–44 years	Self report emotional physical and sexual abuse over lifetime and in last 12 months. Based on CTS items.	Self report suicidal thoughts, single question from SRQ-20.	IPA associated with increased suicidal ideation. Those experiencing recent physical abuse are at greatest risk.
Vachher and Sharma (2010) India	350 from Raj Nagar-I, urban locality in west Delhi	All female 15–49 years	Self report physical, sexual and emotional abuse. Questions from WHO multi-country study on women's health and DV	Self report thoughts and attempts over lifetime and past month, based on SRQ-20.	Those with experience of IPA more likely to report mental ill health (OR = 2.9, 95% CI = 1.4–6.0) and suicidality (current ideation = $\chi^2 = 12.8, p < .001$; suicide attempts = $\chi^2 = 10.7, p < .001$)
Clinical Population (N = 9)					
McCauley et al. (1995) USA	1,952 recruited from medical practices	All female 18–46+ years	2 Questions from the Abuse Assessment Screen (MacFarlane, Parker, Socken, & Bullock, 1992) to assess physical and sexual abuse.	Medical history	Participants with current experience of IPA were more likely to have attempted suicide (PR = 4.3, 95% CI = 2.8–6.5). IPA also associated with multiple somatic symptoms and emotional distress ($p < .001$). Mention of marital conflict the single best predictor of a history of at-risk trauma ($p < .001$). Black women who attempted suicide were significantly more likely than Caucasians to have a history of IPA ($p < .001$). Abused women were also significantly more likely than non-abused women to be pregnant when they attempted suicide ($p < .001$).
Stark and Flitcraft (1995) USA	176 recruited from ED	All female 16–69 years, mean age 30 years	Medical records. Classified as abused if participant attended the hospital with at least one abusive injury during the sample year. Adult Trauma History Screen used to determine probability of abuse.	Attended ED as attempted suicide or self-inflicted injuries. Timing, nature and frequency of suicidal behaviour recorded.	Significant association between reported IPA and self-harm in females (OR = 75.4, 95% CI = 13.1–433.7).
Boyle and Todd (2003) UK	256 recruited from ED	Mean age (M) 38.5 years, (F) 47.6	Physical and non-physical abuse, current and lifetime	Self-report deliberate self-harm	Attempters reported significantly higher scores on all BDI-II items than non-attempters ($F = 7.08, p < .001$). Risk of attempting suicide could be predicted correctly 78% of the time This is the first systematic review of the relationship between intimate partner abuse and suicidality based on scores on 4 items: sadness, self-dislike, suicidal thoughts, and feelings of worthlessness.
Houry, Kaslow, and Thompson (2005) USA	200 African Americans with experiences of IPA, recruited from medical or psychiatric ED	All female Mean age 32 (SD 9.7)	Modified UVPSP measures physical and emotional abuse.	Presented to ED following a suicide attempt. Participants presenting for other reasons were asked if they had ever attempted suicide. BDI-II.	Over 90% of suicidal inpatients reported IPA perpetration and victimisation in the past year, most reporting severe IPA. No significant differences between sexes on any CTS2 subscale for perpetration or victimisation. Poor family functioning predicted physical violence victimisation in both sexes (M: $\beta = 0.38, p < .05$; F: $\beta = 0.40, p < .01$).
Heru, Stuart, Rainey, Eyre, and Recupero (2006) USA	110 psychiatric inpatients with suicidal ideation/behaviour.	44 (M), 66 (F). Mean age (M) 42.5 (SD 10.7), (F) 40.9 (SD 9.7)	CTS2	BSI (Beck & Steer, 1991)	
Sansone, Chu, and Wiederman (2007b) USA	113 psychiatric inpatients	All female Mean age 35.98 (SD 10.43)	SVAWS, threats and acts subscales used.	SHI (Sansone, Wiederman, & Sansone, 1998)	Significant positive correlations between the SHI bodily self harm subscale and the SVAWS Acts ($r = .21, p < .04$) and Threats ($r = .20, p < .05$) subscales, as well as SVAWS total score ($r = .21, p < .04$)
Leiner, Compton, Houry, and Kaslow (2008) USA	323 African American ED patients with experience of IPA	All female Mean age 3.9 (SD 11)	UVPSP (Dutton, Mitchell, & Haywood, 1996). WEB (Smith, Earp, & DeVellis, 1995)	BSI	Association found between IPA and suicidal ideation ($r = .31, p < .001$). Abused women with elevated depressive symptoms demonstrated higher levels of suicidal thinking. PTSD not directly related to suicidal ideation but the relationship is mediated by depression.

Table 1 (continued)

Study country	Source	Gender and age (years)	Intimate partner abuse	Suicidality	Results
Pantalone, Hessler, and Simoni (2010) USA	178 HIV outpatients in medical care	All male Mean age 44.1 years	Physical, sexual and psychological abuse. Revised CTS. Current and previous relationships in the last year.	Frequency of suicidal ideation measured by Passive Suicidal Behaviour subscale of the Harkavy Asnis Suicide Survey (Harkavy Friedman & Asnis, 1989)	Final model demonstrated acceptable fit, and accounted for mental health problems. There was also a positive correlation between physical abuse and suicidal ideation ($r = .23, p < .01$).
Stemieniuk, Krentz, Gish, and Gill (2010) Canada	1053 from outpatient clinic for HIV	659 (M) 194 (F) <30 to >45 years	Screening question. Then asked to identify the type of abuse and when the abuse occurred. Also asked about safety concerns.	Suicidal ideation from medical history	IPA associated with suicidal ideation ($p < .0001$)

Notes: SVAWS = severity of violence against women scale; CTS = Conflicts Tactics Scale; F/U = follow-up; PASHP = Partner Abuse Scale; Physical; SRO-20 = Self-Reporting Questionnaire; ED = emergency department; IPA = intimate partner abuse; BDI-II = Beck Depression Inventory; CTSD = Revised Conflicts Tactics Scale; BSSI = Beck Scale for Suicide Ideation; SHI = Self-Harm Inventory; UVSP = George Washington University Violence Prevention Screening Protocol; WEB = Women's Experience with Battering Scale; PTSD = Post-Traumatic Stress Disorder; OR = odds ratio; AOR = adjusted odds ratio; PR = prevalence ratio; DV = domestic violence.

samples, all of which were conducted in the USA. Five of these recruited participants from hospitals, whilst two recruited from a psychiatric inpatient sample (Back et al., 1982; Sansone et al., 2007a). All of the studies recruiting from hospitals compared females presenting to the hospital following a non-fatal suicide attempt, to those who had no history of suicidal behaviour and were presenting for medical care. Two of these studies additionally specified that both groups had a history of IPA within the previous year (Kaslow et al., 2002; Reviere et al., 2007). It is also worth noting that four of these five studies used an all African American sample (Kaslow et al., 1998; Kaslow et al., 2000; Kaslow et al., 2002; Thompson et al., 1999).

Of the two studies with a psychiatric inpatient sample, one compared groups with and without experience of physical abuse (Back et al., 1982), whilst the other compared groups with and without a history of suicide attempts (Sansone et al., 2007a). The majority of clinical studies measured both physical and non-physical abuse, with only one study measuring physical abuse alone (Back et al., 1982). Within these studies there was also greater consistency with regards to the measure of IPA used, with the majority ($n = 5$) utilising the Index of Spouse Abuse (ISA; Hudson & McIntosh, 1981). This is an appropriate measure as it has excellent internal consistency reliability, good discriminant validity for the subscales, and excellent construct and factorial validity with the samples used in these studies (Hudson & McIntosh, 1981).

All of the hospital-based studies measured suicidality by presentation to the hospital with a non-fatal suicide attempt, with one study (Kaslow et al., 2002) additionally using a Risk-Rescue Ratio (Weissman & Worden, 1972) to assess suicide attempt lethality. The Risk-Rescue rating is a 10-item scale that yields a risk-rescue ratio score equivalent to a lethality rating. Questions assess both the level of risk and the probability of rescue involved in the attempt. These scores are transformed into a risk-rescue ratio, with higher scores indicating more lethal attempts. Of the remaining two studies, one measured suicidality by investigating the patients' medical records (Back et al., 1982) and the other by using a self-report measure of suicide attempts (Sansone et al., 2007a).

Four of the clinical studies demonstrated an association between IPA and suicide attempts, with an additional two studies demonstrating risk and protective factors for suicidal behaviours in an IPA sample. Only one study (Back et al., 1982) did not find supporting evidence for a relationship between IPA and suicidality. In this study, a significantly higher prevalence of suicide attempts was found in participants with a history of physical abuse. However, this case group was also significantly younger than the control group, and when participants were matched for age, this association became non-significant. Back et al. (1982) concluded that age was a stronger risk factor in this sample than experience of physical abuse.

The findings of the clinical studies were also particularly interesting as some investigated the relationship between IPA and suicidality in greater depth. The findings of such studies were highly consistent, demonstrating that psychological distress, hopelessness, substance use, coping skills and social support are key factors involved in the relationship between IPA and suicide attempts (Kaslow et al., 1998; Kaslow et al., 2002; Reviere et al., 2007). Additionally non-physical partner abuse may play an important role in this relationship (Kaslow et al., 1998; Thompson et al., 1999).

The case-control studies also included two studies conducted with general population samples. Both of these studies recruited participants from IPA shelters, and utilised control groups with no history of abuse. Both studies consisted of all female samples. One study was conducted in the UK (Scottgliba et al., 1995), and the other in Spain (Pico-Alfonso et al., 2006). Neither used an established measure of IPA, but both obtained detailed information through interviews with the participants. However, Scottgliba et al. (1995) focused on physical aspects of abuse, whilst Pico-Alfonso et al. (2006) used two

groups, one with experience of physical and psychological abuse, and the other with experience of psychological abuse alone. The measures of suicidality used also differed. Scottgliba et al. (1995) assessed this by reviewing participants' medical and psychiatric history as well as administering the Beck Depression Inventory (BDI), whilst Pico-Alfonso et al. (2006) used a self-report measure of participants' lifetime incidence of thoughts and attempts of suicide. Both studies found higher rates of suicidal ideation in the case groups, with Pico-Alfonso et al. (2006) additionally showing that within IPA relationships, sexual abuse increases the risk of suicide attempts when it is concomitant with both physical and psychological abuse.

3.6. Strength of the relationship

All except one of the studies reviewed found an association between IPA and suicidality. The majority of case-control studies did not investigate the strength of the relationship between IPA and suicidality. However, Kaslow et al. (1998) found a small effect size ($d = -.42$) of physical abuse on suicide attempts and a medium effect size ($d = -.61$) of non-physical abuse on suicide attempts. Sansone et al. (2007a) also demonstrated a small effect size ($d = -.43$) between IPA and suicide attempts.

3.7. Differing impact of physical vs. psychological abuse

Of the case-control studies reviewed, two investigated the differing impact of physical and psychological abuse. Pico-Alfonso et al. (2006) found that sexual abuse increased suicidality when it was experienced concomitantly with both physical and psychological abuse. Kaslow et al. (1998) demonstrated that the presence of non-physical abuse predicted suicide attempts.

3.8. Mediators and moderators of the relationship between IPA and suicidality

Only two of the case-control studies investigated potential mediators or moderators of the relationship between IPA and suicidality. Kaslow et al. (1998) found that the relationship was mediated by psychological distress, hopelessness, and drug use, and was moderated by social support. Thompson et al. (1999) found that PTSD mediates the relationship between IPA and suicidality.

Overall, the case-control studies in this review provided a more in-depth investigation of the relationship between IPA and suicidality, highlighting risk and protective factors, as well as potential mediating and moderating variables, with a large degree of consistency. Once again, in spite of substantial differences in study methods, the majority of these studies consistently established an association between IPA and suicidality.

3.9. Longitudinal/prospective studies

Five of the studies under review were longitudinal/prospective studies (see Table 3). Three of these were carried out with a general population sample, one of which was conducted in the USA (Parsons & Harper, 1999), with the others conducted in India (Chowdhary & Patel, 2008), and in Spain (Blasco-Ros et al., 2010). All three studies used all female samples. Parsons and Harper (1999) conducted a follow-up investigation of injury-related maternal deaths over a two-year period. Deaths were classified according to mechanism and intent, and questionnaires were sent to the medical examiner and obstetric provider to enquire about their knowledge of IPA in each case. Chowdhary and Patel (2008) assessed participants at baseline, with a six and twelve month follow-up. Self-report information was obtained regarding lifetime and recent (past 3 months) exposure to IPA, and the Revised Clinical Interview Schedule (CIS-R; Lewis et al., 1992) was used to assess suicidal behaviour. Blasco-Ros et al. (2010)

used a follow up period of 3 years, comparing those with no experience of IPA, those with experience of psychological abuse, and those with experience of both physical and psychological abuse. Detailed information was taken about the pattern of IPA over time, and suicidality was measured by enquiring about the incidence of suicidal thoughts and suicide attempts over the lifetime, as well as over the follow up period.

All studies yielded important findings. Parsons and Harper (1999) was the only study in this review that was able to provide prevalence data on completed suicides, finding that of twenty-one women known to have experienced IPA, two died by suicide. Chowdhary and Patel (2008) found that both their cross-sectional and longitudinal data demonstrated that IPA was an independent risk factor for suicide attempts. Blasco-Ros et al. (2010) found an association between IPA and suicidal thoughts and attempts. Another interesting finding from this study was that those with experience of both physical and psychological abuse showed a recovery in their mental health status over time, with a decrease in anxiety, depressive, and PTSD symptoms. However those with experience of psychological abuse alone showed no such recovery. These authors also found that cessation of physical abuse and perceived social support contributed to mental health recovery. Therefore, it may be that those experiencing both physical and psychological abuse are more likely to end the relationship, and the end of the abuse, along with the support they perceive they have in that process, leads to an improvement in their mental health. However, those experiencing psychological abuse alone may be more likely to continue the relationship, and have continued exposure to the abuse. These findings also lend support to other research in this area which shows that different aspects of IPA have differential effects (e.g. Kaslow et al., 1998; Pico-Alfonso et al., 2006; Thompson et al., 1999).

The longitudinal/prospective analysis also included two studies conducted with clinical samples. Both of these studies recruited participants from individuals presenting at hospital emergency departments as a result of IPA. Both studies also employed two control groups. Bergman and Brismar (1991) used women selected through the population register and also women who had presented at the hospital following a suicide attempt, for their control groups. Boyle et al. (2006) used two controls for each case, one matched for age, month and year of presentation, and one additionally matched for postcode sector to help control for the effects of socio-economic deprivation. Whilst Bergman and Brismar (1991) used an all female sample, Boyle et al. (2006) reported both males and females. One study was conducted in the UK (Boyle et al., 2006), and the other in Sweden (Bergman & Brismar, 1991). With regard to the measures of IPA used, both studies used presentation at hospital with injuries resulting from IPA, and therefore assessed physical abuse only. Bergman and Brismar (1991) measured IPA and suicidality by investigating medical records for ten years prior to recruitment, and six years following recruitment. Boyle et al. (2006) assessed suicidality by presentation to an emergency department as a result of self-harm over a follow-up period of eight years. Both studies found an association between IPA and suicidality, with Bergman and Brismar (1991) further suggesting that this relationship may be mediated by substance use. These studies also supported the findings of some of the cross-sectional general population studies (Naved & Akhtar, 2008; Vitanza et al., 1995; Wingood et al., 2000) which suggested a possible dose-response effect between IPA and suicidality. Boyle et al. (2006) found a moderate positive correlation between the number of episodes of self-harm, and the number of presentations at emergency departments as a result of IPA.

3.10. Strength of the relationship

All of the studies reviewed found an association between IPA and suicidality. The majority of longitudinal studies did not investigate the strength of the relationship between IPA and suicidality. However

Table 2
Case-control studies of intimate partner abuse and suicidality.

Population					
Study country	Cases	Controls	Intimate partner abuse	Suicide risk	Results
General	population ($N=2$)				
Scottgliba, Minne, and Mezey (1995) UK	15 recruited from IPA refuge. Mean age 33.4	15 Non-abused recruited from GP Clinic. Matched for age and status.	Detailed information taken about nature and extent of physical abuse, and participant responses to the abuse.	Medical and psychiatric history. BDI	Case group showed higher rates of suicidal ideation ($p=.01$)
Pico-Alfonso et al. (2006) Spain	75 Physically/psychologically abused, 55 psychologically abused. Recruited from IPA centres	52 non-abused recruited from women's clubs	Detailed information about the incidence of types of abuse	Self-report lifetime incidence of thoughts and attempts of suicide	Both case groups had higher incidence and severity of suicidal thoughts than controls ($X^2=33.9, p<.001$). Sexual violence associated with higher incidence of suicide attempts in the physically/psychologically abused group. Incidence of suicidal thoughts higher in physically/psychologically abused women with depressive symptoms or comorbidity with PTSD. Therefore, sexual violence increases the risk of suicide attempts only when it's concomitant with physical/psychological abuse ($X^2=3.7, p<.05$).
Clinical	population ($N=7$)				
Back et al. (1982) USA	30 Female psychiatric inpatients with history of physical abuse. Mean age 30.5	61 Female psychiatric inpatients reporting no history of physical abuse. Mean age 39.5	History of physical abuse documented in patients charts	History of suicide attempts documented in patients charts	Significantly higher prevalence of suicide attempts in the case group. When participants matched on age, this finding became to non-significant.
Kaslow et al. (1998) USA	148 African American females presenting to hospital following a non-fatal suicide attempt. Age range for whole sample – 18–64.	137 African American females presenting to hospital for medical problems with no history of suicidal behaviour	ISA (Hudson & McIntosh, 1981). Measures physical and non-physical abuse.	Presenting to hospital as a result of a non-fatal suicide attempt	Higher rates of physical and non-physical partner abuse among case group ($F=11.55, p<.001$). The IPA-suicidal behaviour link was mediated by psychological distress, hopelessness and drug use, and moderated by social support. Non-physical partner abuse accounted for unique variance in the prediction of suicide attempt status.
Thompson et al. (1999) USA	119 Low-income females presenting to hospital following a non-fatal suicide attempt. Age range for whole sample – 18–64.	85 Low-income females presenting to hospital for medical problems with no history of suicidal behaviour	ISA	Presenting to hospital as a result of a self-injurious act requiring medical attention.	Case group 3 times more likely to have experienced physical and non-physical partner abuse, and to have PTSD. Physical partner abuse associated with an increased risk for PTSD. PTSD mediated the link between physical partner abuse and suicidality.
Kaslow et al. (2000) USA	148 African American females presenting to hospital following a non-fatal suicide attempt. Age range for whole sample – 18–64.	137 African American females presenting to hospital for medical problems with no history of suicidal behaviour	ISA	Presenting to hospital as a result of a non-fatal suicide attempt	IPA found to be a risk factor for suicide attempts (physical abuse: $COR=2.5$; nonphysical abuse: $COR=2.8, p<.05$)
Kaslow et al. (2002) USA	100 African American females, presenting to hospital following a non-fatal suicide attempt, who had experienced IPA within the preceding year. Age range for whole sample – 18–59.	100 African American females presenting to hospital for medical problems with no history of suicidal behaviour, who had experienced IPA within the preceding year.	UVPSP ISA	Presenting to hospital as a result of a non-fatal suicide attempt. Risk-Rescue Ratio (Weissman & Worden, 1972) to measure suicide attempt lethality.	Risk factors—numerous/severe negative life events, history of child maltreatment, high psychological distress and depression, hopelessness about the future, and alcohol and drug problems, all associated with attempter status. Protective factors—hopefulness, self-efficacy, coping skills, social support, and effectiveness in obtaining material resources, associated with non-attempter status.
	100 African American females presenting to hospital following a	100 African American females presenting to hospital for medical problems with no history of	UVPSP ISA	Presenting to hospital as a result of a non-fatal suicide attempt	Non-attempters showed greater general coping, more efficacious behaviour strategies in response to IPA, more

Reviere et al. (2007) USA	non-fatal suicide attempt, who had experienced IPA within the preceding year. Further 20 for qualitative analysis.	suicidal behaviour, who had experienced IPA within the preceding year. Further 20 for qualitative analysis.	effective use of resources, greater use of social support and less substance use than attempters ($p < .001$)
Sansone et al. (2007a) USA	73 Female psychiatric inpatients with a history of suicide attempts	34 Female psychiatric inpatients with no history of suicide attempts	Compared to control group, women with a history of suicide attempts had significantly higher scores on the SVAWS ($F = 4.24, p < .05$)

Notes: GP = general practitioner; ISA = Index of Spouse Abuse; UST = Universal Screening Tool for Domestic Violence; SVAWS = severity of violence against women scale; IPA = intimate partner abuse; BDI = Beck Depression Inventory; UVFSP = George Washington University Universal Violence Prevention Screening Protocol; PTSD = Post-Traumatic Stress Disorder; COR = crude odds ratio.

one study (Boyle et al., 2006) conducted a correlational analysis, suggesting a small effect size between the number of incidents of self-harm and the number of domestic assaults experienced.

3.11. Differing impact of physical vs. psychological abuse

Of the longitudinal studies reviewed, one investigated the differing impact of physical and psychological abuse. Blasco-Ros et al. (2010) found that those who had experienced both physical and psychological abuse showed a recovery over time in their mental health, with a decrease in anxiety, depression and PTSD. However, no such recovery was found for those who had experienced only psychological abuse.

3.12. Mediators and moderators of the relationship between IPA and suicidality

Only one of the longitudinal studies investigated potential mediators or moderators of the relationship between IPA and suicidality (Bergman & Brismar, 1991), finding that the relationship was mediated by substance use.

In summary, although the majority of these longitudinal/prospective studies were limited by their focus on physical measures of IPA and suicidality, taken together, they yield a consistent association between IPA and suicidality.

4. Discussion

With only one exception (Back et al., 1982), all of the studies found an association between IPA and suicidality. Importantly, this relationship held irrespective of method, sample and measurement of IPA and suicidality. Consequently, the degree of consistency in findings across these studies confirms a strong relationship between IPA and suicidality.

All of the studies made a significant contribution to our understanding of the relationship between IPA and suicidality. Some key findings had particular clinical relevance. A dose-response effect between IPA severity and suicide risk was established (e.g. Naved & Akhtar, 2008; Vitanza et al., 1995; Wingood et al., 2000), with more severe IPA being related to higher suicide risk, highlighting that in addition to screening for the presence of IPA, it is clinically relevant to also assess the severity of the abuse experienced.

It is also relevant to consider the types of abuse experienced. A number of studies demonstrated that specific aspects of abuse had differential effects (e.g. Blasco-Ros et al., 2010; Kaslow et al., 1998; Pico-Alfonso et al., 2006; Thompson et al., 1999) on suicidality and on mental health. This highlights the importance of considering all aspects of IPA.

Stark and Flitcraft's (1995) findings that abused women were significantly more likely than non-abused women to be pregnant at the time of the suicide attempt, highlights a group at increased risk. Indeed, whilst females are not routinely screened in healthcare settings for IPA in the UK, a screening programme does exist for pregnant women. Additionally, studies which included male samples (e.g. Heru et al., 2006; Siemieniuk et al., 2010) found that IPA is an issue with clinical relevance for males as well as females. Therefore, the existing research in this area highlights the importance of screening for IPA and identifying those at greatest risk, regardless of their gender or sexuality. IPA should be considered as one stressor (potentially of many) which contributes to feelings of defeat and entrapment, thereby increasing suicide risk (O'Connor, 2011).

4.1. Methodological considerations

Taken individually, and collectively, the studies reviewed had a number of limitations. The first area of concern is with the samples used. The majority of studies ($n = 30$) used all female samples, contributing to a dearth of literature relating to male victims of IPA. One study

Table 3
Longitudinal/prospective studies of intimate partner abuse and suicidality.

Population	Study country	Source and follow-up	Gender and age	Intimate partner abuse	Suicidality	Results
General population (N=3)						
Parsons and Harper (1999) USA		41 F/U investigations of death certificates of injury related maternal deaths from 1992–1994	All female	Questionnaire sent to medical examiner and obstetric provider asking about knowledge of physical, emotional or sexual abuse by an intimate partner.	Deaths classified by mechanism and intent.	21 Women (51.2%) known to have, or suspected of having been abused, 2 of whom committed suicide. Overall, 14 (34.1%) deaths were known or suspected to have experienced IPA. 8 Women were killed by an intimate partner.
Chowdhary and Patel (2008) India		1750 Married females taking part in a study of common health problems conducted between 2001 and 2004. F/U at 6 and 12 months (n=1563)	All female Age range 18–50.	Asked about lifetime and recent (past 3 months) exposure to verbal, physical and sexual violence by a spouse.	CIS-R (Lewis, Pelosi, Araya, & Dunn, 1992)	Lifetime IPA reported by 290 (16.6%), and recent exposure to abuse by 230 (13%). Cross-sectional and longitudinal data showed an association between IPA and attempted suicide (OR= between 2.93 to 7.21) finding it to be an independent risk factor for suicide attempts. Incidence of thoughts and attempts over lifetime and during the follow up period
Blasco-Ros, Sánchez-Lorente, and Martínez (2010) Spain			126.91 from previous cross sectional study, 35 non abused control group. F/U at 3 years.	All female 40+ years	Asked for detailed information about the pattern of abuse over time and the types of abuse experienced.	
IPA associated with suicidal thoughts ($\chi^2 = 20.38$, $p < .0005$) and attempts ($\chi^2 = 10.89$, $p = .004$). Mental health recovery in those experiencing physical and psychological abuse, but not in those with experience of psychological abuse alone.						
Clinical population (N=2)						
Bergman and Brismar (1991) Sweden		117 Women with experience of IPA, presenting to ED. Recruited between 1983 and 1984, follow-up at 6 years. 117 Control group women selected through the population register and matched for age, nationality and geographic area. 380, treated in the hospital between 1988 and 1989 as a result of suicide attempts.	All female Mean age at time of recruitment –33	Records investigated from approx 10 years before to 6 years after participant recruited. Defined by presence of physical injuries as a result of abuse.	Records investigated from approx 10 years before to 6 years after participant recruited.	Of abused group, 22 (19%) had made at least 1 suicide attempt during the 16 year study period. However, results suggest that the relationship between experience of abuse and suicide attempts may be mediated by substance use.
Boyle, Jones, and Lloyd (2006) UK		294 presenting to ED due to IPA. 2 Controls for each case. F/U for the period 1996–2004	78 (M), 216 (F), in each group. Mean age 34.2 years (SD 13.3)	Presentation at ED as a result of domestic assault	Presentation to the ED with self-harm during the follow-up period.	Case group were more likely to present with self-harm than controls (RR= 3.6, 95% CI= 2.1–6.5) and had more ED contacts than controls. A moderate correlation was found between the number of episodes of self-harm and number of domestic assaults (Spearman's rho 0.3, $p < .001$)

Notes: F/U = follow-up; ED = emergency department; IPA = intimate partner abuse; CIS-R = The Revised Clinical Interview Schedule; RR = rate ratio.

used an all male sample (Pantalone et al., 2010), concluding that IPA played a significant role in the mental health of men living with HIV/AIDS. Of the remaining six studies, two reported some differences across sexes in the relationship between IPA and suicidality (Afifi et

al., 2009; Boyle & Todd, 2003), whilst one reported no significant sex differences (Heru et al., 2006), and three did not investigate the effect of sex (Boyle et al., 2006; Calder et al., 2010; Siemieniuk et al., 2010). Clearly, further research is required to investigate the effect of sex on

the relationship between IPA and suicidality. In addition, the existing research in this area does not adequately investigate issues such as the role of the participants' ethnicity or sexual orientation in this relationship. Therefore, it can be observed that the research literature often focuses on specific demographic groups, thereby limiting the generalisability of the findings, and the depth in which we can understand the relationship between IPA and suicidality.

There were also limitations concerning the measures of IPA utilised in the studies. Many studies did not use a comprehensive definition of IPA which encompassed its multifaceted nature. Indeed, the majority of studies did not investigate the issue in a way that fits with the UK Department of Health's (2000) definition of IPA, as described previously. Many of the studies ($n = 14$) investigated physical violence alone, and of these, many measures were biased towards detecting more severe forms of physical abuse. A few studies only considered physical and sexual abuse ($n = 2$). Among the remaining studies, some aspects of IPA, such as sexual abuse, were often not investigated, or the questions asked were highly specific, such as those asked by Chowdhary and Patel (2008) where sexual violence referred only to forced sexual intercourse. Therefore, many studies were not able to investigate all aspects of IPA, or at least could not investigate them all in equal depth. When a full range of IPA behaviours were measured, it was demonstrated that the psychological aspects of abuse played a key role, and also that the combinations of different types of abuse presented different levels of risk. Therefore, including measures of all aspects of IPA can considerably enhance our understanding of the relationship between IPA and suicidality. There are additional aspects of IPA, however, which none of the studies under review measured. For example, previous research has demonstrated a link between IPA and stalking (Tjaden & Thoennes, 2000), which has led many to conclude that stalking during or after the conclusion of an intimate relationship is a form of IPA. Given that previous studies have demonstrated an association between severity of abuse and suicidality (Naved & Akhtar, 2008; Vitanza et al., 1995; Wingood et al., 2000), and severity of abuse has been reported to be associated with severity of stalking behaviours (Mechanic, Uhlmansiek, Weaver, & Resick, 2000), this may be a particularly important aspect of IPA to consider.

Also with regard to the measures of IPA, it was noted that there was considerable variance in the time period measured. Experience of IPA was recorded for anywhere from one week prior to the study to at any point over the participants' lifetime. The measures which investigate recent or current abuse *only* are problematic, as obviously abuse before that time will not be recorded, but may affect the results. For example, it has been demonstrated that those with past experience of IPA demonstrate poorer social functioning (McCaw, Golding, Farley, & Minkoff, 2007), higher emotional distress, suicidal ideation, and suicidal behaviours, than those with no experience of abuse (Ellsberg et al., 2008). This is a particularly relevant issue in the case-control studies, where it may present a significant confounding factor in those defined as "non-abused." In addition, investigating IPA experience over the lifetime enables a better understanding of the long term impact of IPA on the individual, and of the temporal relationship between IPA and suicidality. This review has helped to highlight that these are issues which are not adequately addressed by the existing literature.

The measures of suicidality also presented some limitations. Some studies measured only suicidal ideation, or suicide attempts, whilst only a few measured both of these. This variability makes it difficult to compare the findings of many of these studies. Many studies relied on single self-report items or on presentation to hospital emergency departments to assess suicidality, with only thirteen studies using a more formalised measure to measure suicidal ideation, and only one of these studies assessed the lethality of the suicide attempt (Kaslow et al., 2002). In addition, as with the IPA measures, the measures of suicidality recorded varying time periods, from recent to lifetime exposure. Once again, this presents issues for control groups, and in general serves as a

confounding variable. Overall, the assessment of suicidality in the studies reviewed would not have met the standards suggested by O'Carroll et al. (1996); that lethality and intent should be routinely measured.

Other measures used by the studies also varied widely, with some using a number of additional measures of relevant variables to help analyse the relationship in more detail, and others using a minimum of measures. Overall, consistent across the majority of the studies, there was a lack of investigation into the strength of the association between IPA and suicidality, and into potential mediating and moderating variables. The consistency with which some variables (e.g. PTSD, psychological distress, hopelessness, substance use, coping skills and social support) have been found to play a role in the relationship between IPA and suicidality, suggests that these are key variables which should be investigated further. The majority of studies also were not able to investigate the differing impact of physical and psychological abuse on suicide risk. Given the multi-faceted nature of IPA, a more detailed understanding of the role of different aspects of IPA and their relationship with suicidality is needed.

4.2. Future research

There are several areas on which future research could improve. Collectively, this review suggests a dose-response relationship between IPA and suicidality, however it is unclear whether this relates to severity, frequency, or types of abuse experienced, and this is an area which requires more in-depth research to establish the nature of the link. In addition, it is important that future research endeavours to include measures which assess all aspects of IPA, and ideally both suicidal ideation and suicidal behaviours, as well as measures of variables which may mediate or moderate the relationship between these two factors. As IPA is measured in a wide variety of ways, with some studies using an in-depth approach, and others utilising brief screening tools, it would be clinically relevant to investigate the merits of each within this type of research, in order to determine to most useful approach. This review has also noted the variance in the time periods investigated by the studies, which makes it particularly difficult to investigate the temporal relationship between IPA and suicidality. Future research could contribute to our understanding of this issue by recording lifetime exposure to both IPA and suicidality, and their relative timing. Future prospective and longitudinal studies could also contribute significantly to this area. It would also be helpful to better understand whether specific characteristics of IPA differentiate between those who have thoughts of suicide versus those who translate those thoughts into suicide attempts (see O'Connor, Rasmussen, & Hawton, 2012). Overall, it is important that research into IPA and suicidality broadens its focus and attempts to provide a more in-depth understanding of this relationship.

4.3. Clinical implications

It can be seen throughout this review that IPA is an issue that has significant clinical implications. In addition to its association with suicidality, this review has highlighted that IPA has wide ranging and often severe consequences including physical injuries, disabilities, complications of pregnancy, alcohol and drug abuse, depression, and poor mental health. This review has highlighted the relevance and importance of screening for IPA in healthcare settings, and suggested that consideration of the severity of abuse experienced could be an important part of this process. Research has also suggested that it is important to identify all those at risk, and not to confine efforts to females for example. The strong association between IPA and suicidality that has been demonstrated further highlights that those who are identified as having experience of IPA should additionally be screened for suicidal thoughts and behaviours.

5. Conclusion

Despite the variability among the studies, the consistency of the findings serves to demonstrate the strong relationship between IPA and suicidality. The studies reviewed have made a significant contribution to our understanding of this relationship, and taken together, their findings show the importance of continuing to develop this understanding and exploring the relationship between IPA and suicidality in greater depth.

Declaration of interest

The authors have declared none.

Acknowledgements

This research is funded by the Economic and Social Research Council.

References²

- Abbott, J., Johnson, R., & Koziol-McLain, J. (1995). Domestic violence against women: Incidence and prevalence in an emergency department population. *Journal of the American Medical Association*, *273*, 1763–1767.
- *Affifi, T. O., MacMillan, H., Cox, B. J., Asmundson, G. J. G., Stein, M. B., & Sareen, J. (2009). Mental health correlates of intimate partner violence in marital relationships in a nationally representative sample of males and females. *Journal of Interpersonal Violence*, *24*, 1398–1417.
- *Asad, N., Karmaliani, R., Sullaiman, N., Bann, C. M., McClure, E. M., Pasha, O., Wright, L. L., & Goldenberg, R. L. (2010). Prevalence of suicidal thoughts and attempts among pregnant Pakistani women. *Acta Obstetrica et Gynecologica*, *89*, 1545–1551.
- *Back, S. M., Post, R. D., & D'Arcy, G. (1982). A study of battered women in a psychiatric setting. *Women & Therapy*, *1*, 13–26.
- Beck, A. T., & Steer, R. A. (1991). *Beck scale for suicide ideation manual*. San Antonio: TX, Psychological Corporation, Harcourt Brace.
- *Bergman, B., & Brismar, B. (1991). Suicide attempts by battered wives. *Acta Psychiatrica Scandinavica*, *83*, 380–384.
- *Blasco-Ros, C., Sánchez-Lorente, S., & Martínez, M. (2010). Recovery from depressive symptoms, state anxiety, and post-traumatic stress disorder in women exposed to physical and psychological, but not to psychological intimate partner violence alone: A longitudinal study. *BMC Psychiatry*, *10*, 98.
- *Boyle, A., Jones, P., & Lloyd, S. (2006). The association between domestic violence and self-harm in emergency medicine patients. *Emergency Medicine Journal*, *23*, 604–607.
- *Boyle, A., & Todd, C. (2003). Incidence and prevalence of domestic violence in a UK emergency department. *Emergency Medicine Journal*, *20*, 438–442.
- *Calder, J., McVean, A., & Yang, W. (2010). History of abuse and current suicidal ideation: Results from a population based survey. *Journal of Family Violence*, *25*, 205–214.
- Campbell, J. C., Kub, J. E., & Rose, L. (1996). Depression in battered women. *Journal of the American Medical Women's Association*, *51*, 106–110.
- Cascardi, M., & O'Leary, K. D. (1992). Depressive symptomatology, self-esteem, and self-blame in battered women. *Journal of Family Violence*, *7*, 249–259.
- *Chowdhary, N., & Patel, V. (2008). The effect of spousal violence on women's health: Findings from the Stree Arogya Shodh in Goa, India. *Journal of Postgraduate Medicine*, *54*, 306–312.
- Council of Europe (2002). *Recommendation Rec of the Committee of Ministers to member States on the protection of women against violence*. Strasbourg, France: Council of Europe.
- Department of Health (2000). *Domestic violence: A resource manual for health care professionals*. London: UK, HMSO.
- Dutton, M. A., Mitchell, B., & Haywood, Y. (1996). The emergency department as a violence prevention centre. *Journal of the American Medical Women's Association*, *51*, 92–96.
- *Ellsberg, M., Jansen, H. A. F. M., Heise, L., Watts, C. H., & Garcia-Moreno, C. (2008). Intimate partner violence and women's physical and mental health in the WHO multi-country study on women's health and domestic violence: An observational study. *Lancet*, *371*, 9619.
- Gleason, W. J. (1993). Mental disorders in battered women: An empirical study. *Violence and Victims*, *8*, 53–68.
- Golding, J. (1999). Intimate partner violence as a risk factor for mental disorders: A meta-analysis. *Journal of Family Violence*, *14*, 99–132.
- *Haarr, R. N. (2010). Suicidality among battered women in Tajikistan. *Violence Against Women*, *16*, 764–788.
- Harkavy Friedman, J. M., & Anis, G. M. (1989). Assessment of Suicidal Behaviour: A new instrument. *Psych Annals*, *19*, 382–387.
- Herman, J. (1992). Complex PTSD: A syndrome in survivors of prolonged and repeated trauma. *Journal of Traumatic Stress*, *5*, 377–391.
- *Heru, A. M., Stuart, G. L., Rainey, S., Eyre, J., & Recupero, P. R. (2006). Prevalence and severity of intimate partner violence and associations with family functioning and alcohol abuse in psychiatric inpatients with suicidal intent. *The Journal of Clinical Psychiatry*, *67*, 23–29.
- *Houry, D., Kaslow, N. J., & Thompson, M. P. (2005). Depressive symptoms in women experiencing intimate partner violence. *Journal of Interpersonal Violence*, *20*, 1467–1477.
- Hudson, W. W. (1990). *Partner abuse scale: Physical*. Tempe: AZ, Walmyr Publishing Company.
- Hudson, W. W., & McIntosh, S. R. (1981). The assessment of spouse abuse: Two quantifiable dimensions. *Journal of Marriage and the Family*, *43*, 873–888.
- *Ishida, K., Stupp, P., Melian, M., Serbanescu, F., & Goodwin, M. (2010). Exploring the associations between intimate partner violence and women's mental health: Evidence from a population-based study in Paraguay. *Social Science & Medicine*, *71*, 1653–1661.
- *Kaslow, N. J., Thompson, M. P., Meadows, L. A., Chance, S., Puett, R., & Hollins, L. (2000). Risk factors for suicide attempts among African American women. *Depression and Anxiety*, *12*, 13–20.
- *Kaslow, N. J., Thompson, M. P., Meadows, L. A., Jacobs, D., Gibb, B., & Bornstein, H. (1998). Factors that mediate and moderate the link between partner abuse and suicidal behaviour in African American women. *Journal of Consulting and Clinical Psychology*, *66*, 533–540.
- *Kaslow, N. J., Thompson, M. P., Okun, A., Price, A., Young, S., & Bender, M. (2002). Risk and protective factors for suicidal behaviour in abused African American women. *Journal of Consulting and Clinical Psychology*, *70*, 311–319.
- *Leiner, A. S., Compton, M. T., Houry, D., & Kaslow, N. J. (2008). Intimate partner violence, psychological distress, and suicidality: A path model using data from African American women seeking care in an urban emergency department. *Journal of Family Violence*, *23*, 473–481.
- Lewis, G., Pelosi, A. J., Araya, R., & Dunn, G. (1992). Measuring psychiatric disorder in the community: A standardized assessment for use by lay interviewers. *Psychological Medicine*, *22*, 465–486.
- MacFarlane, J., Parker, B., Socken, K., & Bullock, L. (1992). Assessing for abuse during pregnancy. Severity and frequency of injuries and associated entry into prenatal care. *Journal of the American Medical Association*, *267*, 3176–3178.
- Marshall, L. L. (1992). Development of the severity of violence against women scales. *Journal of Family Violence*, *7*, 103–121.
- Martin, S. L., Macy, R. J., Sullivan, K., & Magee, M. L. (2007). Pregnancy-associated violent deaths. The role of intimate partner violence. *Trauma, Violence & Abuse*, *8*, 135–148.
- *McCauley, J., Kern, D. E., Kolodner, K., Dill, L., Schroeder, A. F., & DeChant, H. K. (1995). The "battering syndrome": Prevalence and clinical characteristics of domestic violence in primary care internal medicine practices. *Annals of Internal Medicine*, *15*, 737–746.
- McCaw, B., Golding, J. M., Farley, M., & Minkoff, J. R. (2007). Domestic violence and abuse, health status, and social functioning. *Women & Health*, *45*, 1–23.
- Mechanic, M. B., Uhlmansiek, M. H., Weaver, T. L., & Resick, P. A. (2000). The impact of severe stalking experienced by acutely battered women: An examination of violence, psychological symptoms and strategic responses. *Violence and Victims*, *15*, 443–458.
- *Naved, R. T., & Akhtar, N. (2008). Spousal violence against women and suicidal ideation in Bangladesh. *Women's Health Issues*, *18*, 442–452.
- O'Carroll, P. W., Berman, A. L., Maris, R. M., Moscicki, E., Silverman, M., & Tanney, B. (1996). Beyond the Tower of Babel: A nomenclature for suicidology. *Suicide & Life-Threatening Behavior*, *26*, 237–252.
- O'Connor, R. C. (2007). The relations between perfectionism and suicidality: A systematic review. *Suicide and Life-Threatening Behaviour*, *37*, 698–713.
- O'Connor, R. C. (2011). Towards and integrated motivational-volitional model of suicidal behaviour. In R. C. O'Connor, S. Platt, & J. Gordon (Eds.), *International handbook of suicide prevention: Research, policy & practice* (pp. 181–198). Chichester: Wiley-Blackwell.
- O'Connor, R. C., Rasmussen, S., & Hawton, K. (2012). Distinguishing adolescents who think about self-harm from those who engage in self-harm. *The British Journal of Psychiatry*, *200*, 330–335.
- *Pantalone, D. W., Hessler, D. M., & Simoni, J. M. (2010). Mental health pathways from interpersonal violence to health-related outcomes in HIV-positive sexual minority men. *Journal of Consulting and Clinical Psychology*, *78*, 387–397.
- *Parsons, L. H., & Harper, M. A. (1999). Violent maternal deaths in North Carolina. *Obstetrics and Gynecology*, *94*, 990–993.
- *Pico-Alfonso, M. A., Garcia-Linares, M. I., Celda-Navarro, N., Blasco-Ros, C., Echeburua, E., & Martínez, M. (2006). The impact of physical, psychological, and sexual intimate partner violence on women's mental health: Depressive symptoms, posttraumatic stress disorder, state anxiety, and suicide. *Journal of Womens Health*, *15*, 599–611.
- *Renner, L. M., & Markward, M. J. (2009). Factors associated with suicidal ideation among women abused in intimate partner relationships. *Smith College Studies in Social Work*, *79*, 139–154.
- *Reviere, S. L., Farber, E. W., Tworney, H., Okun, A., Jackson, E., & Zhanville, H. (2007). Intimate partner violence and suicidality in low-income African American Women—a multimethod assessment of coping factors. *Violence Against Women*, *13*, 1113–1129.
- *Sansone, R. A., Chu, J., & Wiederman, M. W. (2007a). Suicide attempts and domestic violence among women psychiatric inpatients. *International Journal of Psychiatry in Clinical Practice*, *11*, 163–166.
- *Sansone, R., Chu, J., & Wiederman, M. (2007b). Self-inflicted bodily harm among victims of intimate-partner violence. *Clinical Psychology & Psychotherapy*, *14*, 352–357.
- Sansone, R. A., Wiederman, M. W., & Sansone, L. A. (1998). The Self-Harm Inventory (SHI): Development of a scale for identifying self-destructive behaviours and borderline personality disorder. *Journal of Clinical Psychology*, *54*, 973–983.
- *Scottgliba, E., Minne, C., & Mezey, G. (1995). The psychological, behavioural and emotional impact of surviving an abusive relationship. *Journal of Forensic Psychiatry*, *6*, 343–358.
- *Seedat, S., Stein, M. B., & Forde, D. R. (2005). Association between physical partner violence, posttraumatic stress, childhood trauma, and suicide attempts in a community sample of women. *Violence and Victims*, *20*, 87–98.

² Indicates those studies that were included in the systematic review.

- *Siemieniuk, R. A. C., Krentz, H. B., Gish, J. A., & Gill, M. J. (2010). Domestic violence screening: Prevalence and outcomes in a Canadian HIV population. *AIDS Patient Care and STDs*, 24, 763–770.
- Smith, P. H., Earp, J. A., & DeVellis, R. (1995). Measuring battering: Development of the Women's Experience with Battering (WEB) scale. *Women's Health*, 1, 273–288.
- *Stark, E., & Flitcraft, A. (1995). Killing the beast within—woman battering and female suicidality. *International Journal of Health Services*, 25, 43–64.
- *Thompson, M. P., Kaslow, N. J., Kingree, J. B., Puett, R., Thompson, N. J., & Meadows, L. A. (1999). Partner abuse and posttraumatic stress disorder as risk factors for suicide attempts in a sample of low-income, inner-city women. *Journal of Traumatic Stress*, 12, 59–72.
- Tjaden, P., & Thoennes, N. (2000). The role of stalking in domestic violence crime reports generated by the Colorado Springs Police Department. *Violence and Victims*, 15, 427–441.
- Tolman, R. M., & Wang, H. (2005). Domestic violence and women's employment: Fixed effects models of three waves of women's employment study data. *American Journal of Community Psychology*, 36, 147–158.
- *Vachher, A. S., & Sharma, A. K. (2010). Domestic violence against women and their mental health status in a colony in Delhi. *Indian Journal of Community Medicine*, 35, 403–405.
- *Vitanza, S., Vogel, L. C. M., & Marshall, L. L. (1995). Distress and symptoms of posttraumatic stress disorder in abused women. *Violence and Victims*, 10, 23–34.
- *Vung, N. D., Ostergren, P. O., & Krantz, G. (2009). Intimate partner violence against women, health effects and health care seeking in rural Vietnam. *European Journal of Public Health*, 19, 178–182.
- Walen, J., Goodwin, M. M., Spitz, A. M., Petersen, R., & Saltzman, L. E. (2000). Screening for intimate partner violence by health care providers—barriers and interventions. *American Journal of Preventive Medicine*, 19, 230–237.
- Waller, A. E., Hohenhaus, S. M., & Shah, P. J. (1996). Development and validation of an emergency department screening and referral protocol for victims of domestic violence. *Annals of Emergency Medicine*, 27, 754–760.
- *Weaver, T. L., Allen, J. A., Hopper, E. K., Maglione, M. L., McLaughlin, D. E., & McCullough, M. A. (2007). Mediators of suicidal ideation within a sheltered sample of raped and battered women. *Health Care for Women International*, 28, 478–489.
- Weissman, A. D., & Worden, J. W. (1972). Risk-rescue rating and suicide assessment. *Archives of General Psychiatry*, 26, 553–560.
- *Wingood, G. M., DiClemente, R. J., & Raj, A. (2000). Adverse consequences of intimate partner abuse among women in non-urban domestic violence shelters. *American Journal of Preventive Medicine*, 19, 270–275.
- World Health Organisation (2000). *WHO multi-country study on women's health and life experiences questionnaire (version 9)*. Geneva: World Health Organisation.