

Domestic violence, lifetime trauma and psychological health of childbearing women

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Objective Although histories of abuse are associated with psychiatric illness in women, health professionals rarely enquire directly about such experiences. This study examined the association between physical and sexual violence and lifetime trauma and depressive and posttraumatic stress symptoms in women receiving maternity care.

Design Cross sectional study.

Setting South London Hospital maternity services.

Population Two hundred women receiving postnatal or antenatal care.

Methods Two hundred women receiving postnatal or antenatal care at a South London maternity service were screened for lifetime experiences of trauma and domestic violence. Information was obtained about self-harming behaviour, suicidal thoughts and attempts and psychiatric history. Women completed the Edinburgh Postnatal Depression Scale (EPDS) and the Posttraumatic Diagnostic Scale (PTDS).

Main outcome measures

Results One hundred and twenty-one (60.5%) women reported at least one traumatic event and two-thirds of these had experienced multiple traumatic events. The most frequent (34%) was witnessing or experiencing physical assault by a family member. Forty-seven (23.5%) women had experienced domestic violence. Physical and sexual abuse commonly co-occurred. Thirteen (10.7%) women with a trauma history had current posttraumatic stress disorder. Severe posttraumatic symptoms were associated with physical and sexual abuse histories and repeat victimisation. Adult and childhood physical and sexual abuse histories were also associated with more severe depressive symptomatology. Significant social factors associated with depression were being single, separated or in a non-cohabiting relationship.

Conclusion Traumatic events are under-recognised risk factors in the development of depressive and posttraumatic stress symptoms in childbearing women. Childhood abuse creates a vulnerability to re-traumatisation in adulthood. Awareness of the impact of trauma and abuse on psychological health may enable more appropriate targeting of clinical services and support for women receiving maternity care.

INTRODUCTION

It is recognised that severe or life-threatening trauma is a risk factor for the development of psychiatric illness including posttraumatic stress disorder and depression.¹ According to the *Diagnostic and Statistical Manual for Mental Disorders (DSM-IV)*, a traumatic event is defined as one 'that involves actual or threatened death, serious injury or threat to physical integrity' and gives rise to feelings of

intense fear, horror or helplessness.² The risk of developing posttraumatic stress disorder following a traumatic event depends on a number of factors, including the type of trauma, and is highest following assaultive violence.³ Although women are at less risk than men of being exposed to major or life-threatening trauma, once exposed they are twice as likely to develop posttraumatic stress disorder.⁴ Women also experience different kinds of traumatic events to men; with higher rates of sexual and domestic violence, which are associated with the highest rates of posttraumatic stress disorder.⁵ Domestic violence is under-reported and under-recognised across a range of health settings.⁶ Health professionals rarely enquire about domestic violence and women are reluctant to disclose such experiences in the absence of direct questioning.^{7,8}

A number of studies have found that, once exposed to a traumatic event, the risk of experiencing a subsequent trauma is substantially increased.⁹ Women who have been sexually abused as children are significantly more likely to report subsequent abuse as an adult, including domestic violence, than women without a childhood abuse history.¹⁰ It is possible that domestic violence acts as a marker for

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other traumatic and adverse life events, which mediate the psychiatric and social difficulties that are often attributed to domestic violence. However, what is not clear, is whether the risk of re-victimisation relates exclusively to physical and sexual violence or whether it is increased for all types of trauma, outside the context of interpersonal violence.

Studies of depression during pregnancy and the postpartum period have generally failed to assess for histories of abuse and violence as potential risk factors,^{11,12} in spite of the suggestion that women may be particularly vulnerable to domestic violence during this time.¹³

This study was part of a larger ESRC funded research project on domestic violence in pregnancy, which was carried out in the maternity services of two South London teaching hospitals. The aim of this study was to examine the prevalence and types of traumatic events, reported by women and the impact of the various types of traumatic events on women's mental health, particularly with respect to posttraumatic stress disorder and depression. The study received ethical approval from St Thomas' Hospital Research Ethics Committee.

METHODS

The study used a cross sectional design that consisted of 200 English-speaking women, aged 16 and older, from the postnatal and antenatal wards and the Day Assessment Unit (antenatal) at Guy's and St Thomas' maternity service between July 2001 and April 2002.

As the primary aim of this study was to estimate the prevalence of domestic violence in an obstetric population, the study was powered to be able to estimate the prevalence within an acceptable error margin. Therefore, it was planned to recruit 200 patients to be able to calculate the 95% confidence interval around the estimate of prevalence of domestic violence to within $\pm 5\%$.

Women on the postnatal wards were generally discharged within 12 hours of giving birth, unless there were complications with the mother or the baby, or they had an instrumental delivery or caesarean section. Women on the antenatal ward were admitted as a result of an obstetric complication and could remain on the ward for anything between a few days to a few months. The Day Assessment Unit served as a walk-in clinic for women of <18 weeks of gestation, who were experiencing problems and required an assessment. The women attending this clinic could be discharged within the day, or admitted to the antenatal ward. All women on the antenatal ward were approached for interview, unless they were too unwell (e.g. experiencing severe physical pain and unable to move, on a drip, vomiting and diarrhoea). The ward manager would indicate to the researcher which women were too unwell to be approached. All women on the postnatal ward were approached for interview unless they were too unwell or

had delivered a stillbirth. Women who had a caesarean section were approached three to five days after surgery.

Consent to take part in the survey was obtained sequentially. Women were initially informed by the researcher (LB) that the research was to assess women's health during pregnancy. Women who agreed to participate were taken to a private room away from the wards where they were given a full explanation of the study. Women were informed that all information was confidential, unless they indicated that there was a risk of harm to an existing child. Participants were offered a £10 gift voucher in recognition of their assistance.

All women who participated in the research were offered contact cards with information about local organisations that offer support to women experiencing domestic violence. Additional time was given to women who disclosed domestic violence and wished to discuss this further. Women were also asked whether they wished any disclosure of domestic violence or abuse to be communicated to a health professional.

A semi-structured interview included questions about demographics and psychological health. Civil status was coded as a dichotomous variable: 'married or cohabiting' and 'single, separated, or in a non-cohabiting relationship'. Ethnicity was collapsed into three categories due to the small numbers in some ethnic groups: 'Black', 'White' and 'other'. Employment was coded as 'in paid employment/on maternity leave' or 'unemployed/in receipt of sickness benefit'. Socio-economic classification was derived using the Standard Occupational Classification, Volumes 1 and 2^{14,15} using the categories: 'managerial and professional occupations', 'intermediate occupations' and 'routine and manual occupations (including the long term unemployed)'. Experiences of domestic violence were assessed using a variation of the Abuse Assessment Screen.¹⁶ Women who reported physical or sexual violence by a current or former partner/husband or family member were coded as positive for a history of domestic violence.

With regard to psychological health, women were asked whether or not they had ever consulted their GP complaining of 'nerves, anxiety, sleeping problems, or feeling sad', if they had ever received a psychiatric diagnosis from a health professional, and treatment they were offered. Dichotomous 'yes/no' questions were used to elicit information about self-harming behaviour, suicidal thoughts and suicide attempts.

Women were additionally asked to complete two self-report psychological measures. The Edinburgh Postnatal Depression Scale (EPDS) is a 10-item scale to assess depression, which was originally developed for postnatal use,¹⁷ but is now validated for use during pregnancy.¹⁸ All women were asked to rate on a four-point scale how they felt in the preceding week in response to the 10 items. A cutoff score of 14/15 was used antenatally, as recommended by Murray and Cox¹⁸ because of the high levels of dysphoria in pregnancy, and 12/13 postnatally.

Table 1. Socio-demographic characteristics of antenatal and postnatal women. Values are presented as *n* (%).

Socio-demographic characteristics	Antenatal	Postnatal	Total or mean age	χ^2 or <i>t</i> test (<i>df</i>)	<i>P</i>
Civil status					
Married/cohabiting	72 (76.6)	88 (83.0)	160 (80.0)	0.9 (1)	0.33
Single, separated, in a relationship, not living together	22 (23.4)	18 (17.0)	40 (20.0)		
Ethnicity					
White	57 (60.6)	55 (51.9)	112 (56.0)	3.0 (2)	0.21
Black	31 (33.0)	37 (34.9)	68 (34.0)		
Other	6 (6.4)	14 (13.2)	20 (10.0)		
Employment status					
Paid employment/maternity leave	58 (61.7)	69 (65.1)	127 (63.5)	0.1 (1)	0.72
Unemployment/disability benefit	36 (38.3)	37 (34.9)	73 (36.5)		
Socio-economic classification					
Managerial and professional	26 (27.7)	35 (33.0)	61 (30.5)	1.6 (2)	0.44
Intermediate occupations	17 (18.1)	23 (21.7)	40 (20.0)		
Routine and manual occupations/unemployed	51 (54.3)	48 (45.3)	99 (49.5)		
Mean age [SD]	29.5 [5.9]	31.5 [6.0]	30.6 [5.8]	2.4 (198)	0.02

Lifetime exposure to traumatic events and posttraumatic stress disorder were assessed using the Posttraumatic Diagnostic Scale (PTSD). The PTSD is a self-report scale that measures lifetime exposure to traumatic events, as well as providing a diagnosis of posttraumatic stress disorder and posttraumatic stress symptom severity in the past month. It also asks about the duration of disturbance and resulting impairment. The instrument has been validated against the SCID (Structured Clinical Interview for Posttraumatic Stress Disorder; *DSM-IV*) and demonstrates high internal consistency and test-retest reliability, and good sensitivity and specificity.¹⁹ A cutoff score of 17 is taken to indicate clinical 'caseness' for a diagnosis of posttraumatic stress disorder.

Prevalence rates are presented with appropriate 95% confidence intervals. The relationship between lifetime trauma and current depression and posttraumatic stress disorder was examined both descriptively and inferentially. The χ^2 test was used to examine the association between outcome variables measured at the nominal level. Adjusted χ^2 tests (Yates' continuity correction) was used for all 2×2 tables, except where there were expected counts less than 5, in which case the Fisher-Irwin exact test was used. Pearson's χ^2 tests was used for all $2 \times n$ ($n > 2$) tables if >25% of expected counts were greater than 5, otherwise the Fisher-Irwin exact test was used. The *t* test was used to compare means between the groups for data measured at the ratio level. Although some of these variables appear to have a skewed distribution and therefore suggest the use of non-parametric alternatives, *t* tests and analysis of variance were felt to still be robust due to the large sample size. Multiple logistic regression was used with dichotomous dependent variables to generate odds ratios while controlling for confounders. Confounders were included in the regression model if they were significantly

associated with the dependent variable univariately at $P \leq 0.1$. This level was set on the basis of statistical advice before the data analysis. Analysis of variance was used to compare the mean EPDS scores among different

Table 2. Socio-demographic characteristics by history of domestic violence (Abuse Assessment Screen). Values are presented as *n* (%).

Socio-demographic characteristics	History of domestic violence (<i>n</i> = 47)	No history of domestic violence (<i>n</i> = 153)	χ^2 or <i>t</i> test (<i>df</i>)	<i>P</i>
Civil status				
Married/cohabiting	29 (38.3)	22 (14.4)	11.4 (1)	0.001
Single, separated, in a relationship, not living together	18 (61.7)	131 (85.6)		
Ethnicity				
White	23 (48.9)	89 (58.2)	2.0 (2)	0.4
Black	20 (42.6)	48 (31.4)		
Other	4 (8.5)	16 (10.5)		
Employment status				
Paid employment/maternity leave	25 (53.2)	102 (66.7)	*	0.1
Unemployment/disability benefit	22 (46.8)	51 (33.3)		
Socio-economic classification				
Managerial and professional	12 (25.5)	49 (32.0)	0.7 (2)	0.7
Intermediate occupations	10 (21.3)	30 (19.6)		
Routine and manual occupations/unemployed	25 (53.2)	74 (48.8)		
Mean age [SD]	30.6 [5.9]	30.3 [5.8]	0.3 (198)	0.7

* If blank, then Fisher-Irwin exact test is used.

Table 3. Lifetime exposure to traumatic events of 200 women. Values are presented as *n* (%).

Event	<i>n</i> (%)
Serious incident, fire, or explosion (e.g. an industrial, farm, car, plane or boating accident)	38 (19.0)
Natural disaster (e.g. tornado, hurricane, flood or major disaster)	19 (9.5)
Physical assault by a family member or someone you know (e.g. being mugged, physically attacked, shot, stabbed or held at gunpoint)	68 (34.0)
Physical assault by a stranger (e.g. being mugged, physically attacked, shot, stabbed or held at gunpoint)	34 (17.0)
Sexual assault by a family member or someone you know (e.g. rape or attempted rape)	22 (11.1)
Sexual assault by a stranger (e.g. rape or attempted rape)	7 (3.5)
Military combat or a war zone	4 (2.0)
Sexual contact when you were younger than 18 with someone who was 5 or more years older than you (e.g. contact with genitals, breasts)	20 (10.1)
Imprisonment (e.g. prison inmate, prisoner, or war hostage)	15 (7.5)
Torture	8 (4.0)
Life-threatening illness	40 (20.0)
Other traumatic event	25 (12.5)

groups. The Statistical Package for the Social Sciences (SPSS version 10.0 for Windows) was used to store and analyse the data.²⁰

RESULTS

Between July 2001 and April 2002, 1144 women on the postnatal and antenatal wards and Day Assessment Unit were invited to participate in the study. Of the women approached, 200 (17.4%) women agreed to participate, 106 women from the postnatal ward and 94 women from the antenatal ward and Day Assessment Unit (Table 1).

Of the 200 women surveyed, 47 (23.5%; 95% CI = 18.2–29.8%) reported a history of domestic violence on the

Abuse Assessment Screen. There was no significant difference in the reporting of domestic violence between postnatal and antenatal women (28/94; 29.8% vs 19/106, 17.9%; $\chi^2 = 3.3$, $df = 1$, $P = 0.07$). The perpetrator of the abuse was a current partner or husband (5, 10.6%; 95% CI = 4.6–24.6%), an ex-partner or husband (35, 74.5%; 95% CI = 60.5–84.7%) and a family member or relative (7, 14.9%; 95% CI = 7.1–26.7%). One hundred and twenty-one (60.5%; 95% CI = 53.6–67.0%) women had been exposed to at least one traumatic event on the PTSD and 78 (64.5%; 95% CI = 55.6–72.4%) of these women had experienced multiple traumatic events. Table 2 presents the lifetime exposure to traumatic events amongst the 200 women. Table 3 presents the associations between domestic violence and socio-demographic factors.

Women who reported a history of domestic violence were significantly more likely to have experienced at least one other traumatic event compared with women with no history of domestic violence (33/47, 70.2% vs 74/153, 48.4%; $\chi^2 = 6.0$, $df = 1$, $P = 0.01$). Table 4 presents the associations between domestic violence and traumatic events. Only childhood sexual abuse and physical or sexual assault by an unknown assailant was significantly associated with a history of domestic. Accidental or non-assaultive traumas were no more likely to be reported by victims of domestic violence than by women with no history of domestic violence. Unwanted sexual experiences as a child were significantly associated with physical or sexual assault by any perpetrator as an adult (16/20, 80.0% vs 69/179, 38.5%; $\chi^2 = 11.0$, $df = 1$, $P = 0.001$) and also with exposure to any adult trauma, unrelated to interpersonal violence (14/20, 70.0% vs 73/179, 40.8%; $\chi^2 = 5.1$, $df = 1$, $P = 0.02$).

In a logistic regression, both domestic violence (OR = 2.7, 95% CI = 1.3–5.8, $P = 0.008$) and lifetime experience of trauma, excluding domestic violence, emerged as significant predictors of women having 'ever visited a GP with nerves, anxiety, problems sleeping or feeling sad'

Table 4. Associations between domestic violence and other traumatic events. Values are presented as *n* (%).

Traumatic event	Domestic violence (<i>n</i> = 47)	No domestic violence (<i>n</i> = 153)	χ^2 (<i>df</i>)*	<i>P</i>
Serious incident, fire or explosion (e.g. an industrial, farm, car, plane or boating accident)	11 (23.4)	27 (17.6)	0.4 (1)	0.5
Natural disaster (e.g. tornado, hurricane, flood or major disaster)	8 (17.0)	11 (7.2)	3.0 (1)	0.08
Physical or sexual assault by a stranger (e.g. being mugged, physically attacked, shot, stabbed or held at gunpoint)	14 (29.8)	24 (15.7)	3.8 (1)	0.05
Military combat or a war zone	0 (0.0)	4 (2.6)		0.6
Sexual contact when you were younger than 18 with someone who was (≥ 5 years older (e.g. contact with genitals, breasts)	10 (21.3)	10 (6.6)	7.0 (1)	0.008
Imprisonment (e.g. prison inmate, prisoner or war hostage)	6 (12.8)	9 (5.9)	*	0.1
Torture	6 (12.8)	2 (1.3)		0.002
Life-threatening illness	11 (23.4)	29 (19.0)	0.2 (1)	0.6
Other traumatic event	7 (14.9)	18 (11.8)	0.09 (1)	0.8

* If blank, then Fisher–Irwin exact test is used.

Table 5. Associations between psychological health, lifetime trauma and domestic violence. Values are presented as *n* (%). χ^2 test was used to obtain *P* values.

Psychological health outcomes	Trauma (<i>n</i> = 121)	No trauma (<i>n</i> = 79)	χ^2 (<i>df</i>)	<i>P</i>	Domestic violence (<i>n</i> = 47)	No domestic violence (<i>n</i> = 153)	χ^2 (<i>df</i>)*	<i>P</i>
Suicidal thoughts	43 (35.5)	3 (3.8)		0.001	15 (31.9)	31 (20.3)	2.1 (1)	0.1
Suicide attempts	12 (9.9)	1 (1.3)		0.03	5 (10.6)	8 (5.2)		0.2
Self-harm	6 (5.0)	0 (0.0)		0.08	2 (4.3)	4 (2.6)		0.6
Diagnosed with depression by a health professional	30 (24.8)	5 (6.3)		0.002	9 (19.1)	26 (17.0)	0.01 (1)	0.9
Consulted a GP with 'nerves, anxiety, problems sleeping or feeling sad'	38 (31.4)	7 (8.9)		0.001	19 (40.4)	26 (17.0)	10.0 (1)	0.002

* If blank, then Fisher–Irwin exact test is used.

(OR = 3.5, 95% CI = 1.6–7.7, *P* = 0.002). Table 5 presents the univariate associations between psychological health and history of trauma and psychological health and domestic violence.

There was no significant association between clinical 'caseness' on the EPDS and having a history of trauma, multiple traumatic events, domestic violence, trauma history involving adult or childhood physical or sexual violence, or being admitted for obstetric complications. However, there were significant differences within these groups regarding mean EPDS scores (see Table 6).

Analysis of variance was used to compare mean EPDS scores between the following five dichotomous groups: history of domestic violence, history of trauma, history of trauma involving adult/childhood physical or sexual violence, ward (antenatal vs postnatal status), and married or cohabiting vs single, separated or in a non-cohabiting relationship. Only being single, separated or in a non-cohabiting

relationship emerged as significant in the model (*F* = 4.9, *df* = 1, *P* = 0.03). Because women with a history of abuse were significantly more likely to be single, separated or in a non-cohabiting relationship, this procedure was repeated, removing civil status from the model. A history of trauma involving adult/childhood physical or sexual assault (*F* = 3.9, *df* = 1, *P* = 0.05) and being on the antenatal ward (*F* = 8.1, *df* = 1, *P* = 0.005) were associated with significantly higher EPDS scores using this model.

The mean PTSD score for the 121 women who had experienced any trauma was 4.3 (SD = 8.0, range 0–45). Thirteen (10.7%) of the 121 women scored 17 or more, corresponding to a clinical diagnosis of posttraumatic stress disorder. Women exposed to multiple traumatic events scored significantly higher on the PTSD compared with women exposed to a single traumatic event (6.5, SD = 10.5 vs 0.3, *df* = 1.1; diff = 6.2, 95% CI = 3.9–8.7). Women exposed to a traumatic event that had occurred between one month and three years previously scored significantly higher on the PTSD compared with women exposed to a traumatic event that occurred more than three years ago (8.1, SD = 11.4 vs 2.3, *df* = 6.6; diff = 5.8, 95% CI = 2.0–9.6). The women with a trauma history that involved physical or sexual violence as a child and/or adult scored significantly higher on the PTSD (5.1, sd = 9.6 vs 1.8, SD = 6.2; diff = 3.3, 95% CI = 0.3–6.3) compared with women who reported other forms of trauma. Clinical caseness on the PTSD was significantly associated with caseness for depression as measured by the EPDS (χ^2 = 5.9, *df* = 1, *P* = 0.01). Seven (25.0%) of the 28 women with caseness on the EPDS also had a score of 17 or more on the PTSD, while only 6 (6.5%) of the 93 women who scored below clinical caseness on the EPDS met clinical caseness on the PTSD.

CONCLUSIONS

The response rate of 17% is rather low and reflects the practical difficulty associated with creating the time and private space to interview newly delivered mothers on busy postnatal wards has been noted by other researchers.²¹ We

Table 6. Comparison of mean EPDS scores. *T* test was used to obtain *P* values.

Groups compared	Mean	SD	Difference in means	95% CI	<i>P</i>
Any trauma history vs No trauma history	9.2 7.4	5.7 4.7	1.8	0.3–3.3	0.02
Multiple traumatic events vs Single traumatic event	9.9 7.7	5.9 5.2	2.2	0.09–4.3	0.04
History of domestic violence vs No domestic violence	10.4 7.8	6.0 5.1	2.6	0.9–4.3	0.004
Trauma related to interpersonal violence vs Traumas unrelated to interpersonal violence*	9.9 7.2	5.0 5.6	2.7	1.2–4.2	<0.001
Antenatal group vs Postnatal	9.8 7.2	5.7 4.8	2.6	1.1–4.1	0.001

* Interpersonal violence defined as childhood and/or adult sexual or physical violence or torture.

do not know whether there was any systematic difference between the women who declined to take part when first approached on the ward and those who agreed, as we did not collect demographic or obstetric data on women who were not involved in the study. However, we think that the relatively low rate of compliance is unlikely to have biased the results, as women were only told what the study was about, after they had accompanied the researcher to a private room and had agreed to participate in the study. The main reasons women gave for not doing the survey were that they were too tired, were expecting or entertaining visitors, were preoccupied with the baby (postnatal ward), worried about the baby's health or simply getting ready to go home. Women were often anxious that the ward clerks and midwives complete all the relevant paper work so they could be discharged quickly and did not want to be bothered by research. There is no evidence that women were reluctant to be questioned about domestic violence, as none of the women who initially agreed to be questioned by the researcher refused to give their consent or withdrew from the study once the specific nature of the enquiry was described to them.

The psychological measures used in this study only provide information about current levels of depressive and posttraumatic stress symptomatology. We did not examine lifetime diagnoses of depression or posttraumatic stress disorder, or their relation to trauma. In addition, the antenatal group only included women who had been seen or admitted as a result of obstetric complications and therefore, the findings in this group may not be applicable to women with an uncomplicated pregnancy. It is possible that some of the current depressive symptomatology in the antenatal group reflected the experience of being admitted to hospital. However, there was no significant difference in rates of clinical caseness for depression in the antenatal and postnatal groups, and the levels of depressive symptoms reported in this study are comparable to other studies of depression in 'uncomplicated' antenatal populations.²²

Traumatic life events were reported by a substantial number of women and were comparable to that described in studies of women outside maternity services.^{4,5,23} Around one in 10 women reported contact sexual abuse as a child and one in four women had experienced domestic violence at some point in their lives, which is consistent with a number of UK²⁴ and Irish surveys,²⁵ but somewhat lower than the 41% lifetime rate of domestic violence recently reported by Richardson *et al.*²⁶ in women attending GP surgeries in East London.

This study identified a strong association between a trauma history and current depressive and posttraumatic stress symptoms. The majority of women in this study had experienced more than one traumatic event in their lives and these women had higher levels of depressive and posttraumatic stress symptoms than women who had only suffered a single trauma. Thus, it would appear that the psychiatric effects of these traumas are cumulative.²⁷

Higher levels of depressive and posttraumatic stress symptoms were also found in victims of interpersonal violence and abuse than other forms of trauma. Around one in 10 women who had experienced any lifetime trauma met the criteria for a current diagnosis of posttraumatic stress disorder, a rate which is similar to that reported in other studies.²⁸

Domestic violence affects around one in three women over a lifetime^{29,30} and one in nine on an annual basis.³¹ A recent study of women attending General Practice surgeries in East London¹⁰ reported lifetime rates of 41% for domestic violence, 4% for rape outside an intimate relationship, and 21% of women report 'other' traumatic experiences. Women who experience domestic violence are at increased risk of developing psychiatric illness including depression, anxiety, substance misuse and posttraumatic stress disorder.^{32,33} In this study, childhood sexual abuse and single or cohabiting civil status was also associated with depressive symptoms. It is recognised that victims of physical and sexual abuse are more likely to experience problems in terms of their intimate and marital relationships³⁴ and to be single, separated or divorced²⁴ which means that, in practice, they often present with depressive symptoms in clinical settings.

The psychological impact of being single, separated or in a non-cohabiting relationship may be different for women who are pregnant or who have recently given birth, than for non-pregnant women, so the results of this study cannot necessarily be generalised to women outside maternity services. Pregnancy and the immediate period following birth is a time when partner support and being in a confiding trusting relationship may be particularly important for psychological health. Women may feel more physically vulnerable, and emotionally dependent on their partners during pregnancy and after giving birth. In addition, the implications of domestic violence are perhaps more profound during pregnancy and the immediate postpartum period because of the threat such violence poses to the safety of both mother and baby.

Women with a history of interpersonal victimisation may experience pregnancy and childbirth as particularly threatening to their physical integrity. Obstetric procedures which involve submitting to repeated intimate and intrusive physical examination, often by male doctors, may intensify feelings of helplessness and entrapment, which are recognised as risk factors in the development of depression³⁵ and reactivation of posttraumatic stress symptoms.³⁶ Although posttraumatic stress disorder has been identified as a potential response to childbirth and antenatal complications,^{37,38} none of the women in this study selected birth or any aspect of their current pregnancy as the index traumatic event.

Coid *et al.*¹⁰ have suggested that the association between childhood sexual abuse and adult re-victimisation is mediated by socio-economic factors and increased alcohol use by victims. Unlike Coid's research, this study found no

significant association between domestic violence and socio-economic disadvantage, or increased alcohol consumption. The results of this study demonstrate that the vulnerability of victims of childhood sexual abuse to re-traumatisation extends beyond interpersonal traumas. It may be that childhood sexual abuse leads to alterations in the victim's capacity for self-protection and self-efficacy, and self-esteem, as well as the way they perceive, judge or respond to environmental threat.^{24,39} Some of the psychiatric effects of childhood sexual abuse, including personality disorders and posttraumatic psychiatric illness, would also increase the risk of trauma exposure.⁴⁰

Domestic violence rarely exists in isolation and probably represents a marker for a range of childhood and adult abuse experiences. Our findings support the conclusions of Mullen *et al.*,⁴¹ who argued that the psychiatric and social effects of childhood abuse represent a 'matrix of developmental disadvantage' which includes sexual abuse, relationship dysfunction and repeat victimisation. It is important therefore that any apparent association between domestic violence and psychiatric illness is not attributed to the effects of domestic violence in isolation, but understood in this context.

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References

- Kessler RC. Posttraumatic stress disorder: the burden to the individual and to society. *J Clin Psychiatry* 2000;**61**(Suppl 5):4–12.
- American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, 4th edition*. Washington (DC): American Psychiatric Association, 1994.
- Kessler RC, Sonnega A, Bromet E, et al. Posttraumatic stress disorder in the National Comorbidity Survey. *Arch Gen Psychiatry* 1995;**52**:1048–1060.
- Breslau N, Kessler RC, Chilcoat H, et al. Trauma and posttraumatic stress disorder in the community: the 1996 Detroit Area Survey of Trauma. *Arch Gen Psychiatry* 1998;**55**:626–632.
- Resnick HS, Kilpatrick DG, Dansky BS, et al. Prevalence of civilian trauma and posttraumatic stress disorder in a representative national sample of women. *J Consult Clin Psychol* 1993;**61**:984–991.
- British Medical Association. *Domestic Violence: A Health Care Issue?* London: British Medical Association, 1998.
- McLeer SV, Anwar R. A study of battered women presenting in an emergency department. *Am J Public Health* 1989;**79**:65–66.
- Richardson J, Feder G. Domestic violence: a hidden problem for general practice. *Br J Gen Pract* 1996;**46**:239–242.
- Breslau N, Davis GC, Andreski P. Risk factors for PTSD-related traumatic events: a prospective analysis. *Am J Psychiatry* 1995;**152**:529–535.
- Coid J, Petrukevitch A, Feder G, Chung WS, Richardson J, Moorey S. Relation between childhood sexual and physical abuse and risk of re-victimisation in women: a cross-sectional survey. *Lancet* 2001;**358**:450–454.
- Foreman N, Videcech P, Hedegaard M, Salvig JD, Secgerm NJ. Postpartum depression: identification of women at risk. *Br J Obstet Gynaecol* 2000;**107**:1210–1217.
- Warner R, Appleby L, Whitton A, Faragher B. Demographic and obstetric risk factors for postnatal psychiatric morbidity. *Br J Psychiatry* 1996;**168**:607–611.
- Gielen A, O'Campo PJ, Faden RR, Kass NE, Xue X. Interpersonal conflict and physical violence during the childbearing year. *Soc Sci Med* 1994;**39**:781–787.
- Office for National Statistics. Structure and description of unit groups. *Standard Occupational Classification 2000, 1*. London: The Stationary Office, 2000.
- Office for National Statistics. The coding index. *Standard Occupational Classification 2000, 2*. London: The Stationary Office, 2000.
- McFarlane J, Parker B, Soeken K. Physical abuse, smoking and substance use during pregnancy: prevalence, interrelationships and effects of birth weight. *J Obstet Gynecol Neonat Nurs* 1996;**25**:313–320.
- Cox JL, Holden JM, Sagovsky R. Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *Br J Psychiatry* 1987;**150**:782–786.
- Murray D, Cox J. Screening for depression during pregnancy with the Edinburgh Depression Scale (EPDS). *J Reprod Infant Psychol* 1990;**8**:99–107.
- Foa E, Cashman L, Jaycox L, Perry K. The validation of a self-report measure of posttraumatic stress disorder, the Posttraumatic Diagnostic Scale. *Psychol Assess* 1997;**9**:445–451.
- Norussis M. *SPSS for Windows Professional Statistics Release 6.0*. Chicago: SPSS, 1993.
- Torres S, Campbell J, Campbell DW, et al. Abuse during and before pregnancy: prevalence and cultural correlates. *Violence Vict* 2000;**15**:303–321.
- Bolton HL, Hughes P, Turton P, Sedgewick P. Incidence and demographic correlates of depressive symptoms during pregnancy in an inner London population. *J Psychosom Obstet Gynecol* 1998;**202**–209.
- Norris FH. Epidemiology of trauma: frequency and impact of different potentially traumatic events on different demographic groups. *J Consult Clin Psychol* 1992;**60**:409–418.
- Andrews B, Brown G. Marital violence in the community. A biographical approach. *Br J Psychiatry* 1988;**153**:305–312.
- McGee H, Garavan R, de Barra M, Byrne J, Conroy R. *The SAVI Report. Sexual Abuse and Violence in Ireland*. Dublin: The Dublin Rape Crisis Centre, 2002.
- Richardson J, Coid J, Petrukevitch A, Shan Chung W, Moorey S, Feder G. Identifying domestic violence: cross sectional study in primary care. *BMJ* 2002;**324**:1–6.
- Follette VM, Polusny MA, Bechtle AE, Naugle AE. Cumulative trauma: the impact of child sexual abuse, adult sexual assault and spouse abuse. *J Trauma Stress* 1996;**9**:25–35.
- Kilpatrick DG, Saunders BE, Veronen LF, Best CL, Von JM. Criminal victimisation: lifetime prevalence, reporting to police and psychological impact. *Crime Delinq* 1987;**33**:479–489.
- Dominy N, Radford L. *Domestic Violence in Surrey: Developing an Effective Inter-Agency Response*. London: Roehampton Institute, 1996.
- Mooney J. *The Hidden Figure: Domestic Violence in North London*. London: Islington Council, 1993.
- Stanko EA, Crisp D, Hale C, Lucraft H. *Counting the Costs: Estimating the Impact of Domestic Violence in the London Borough of Hackney*. Wiltshire: Crime Concern, 1998.
- Golding JM. Intimate partner violence as a risk factor for mental disorders: a meta-analysis. *J Fam Violence* 1999;**14**:99–132.
- Coid J, Petrukevitch A, Chung W-S, Richardson J, Moorey S, Feder G. Abusive experiences and psychiatric morbidity in women primary care attenders. *Br J Psychiatry* 2003;**183**:332–339.
- Mullen PE, Martin JC, Anderson JC, Romans SE, Herbison GP. The

- effect of child sexual abuse on social, interpersonal and sexual function in adult life. *Br J Psychiatry* 1994;**165**:35–47.
35. Brown GW, Harris TO, Hepworth C. Loss, humiliation and entrapment among women developing depression: a patient and non-patient comparison. *Psychol Med* 1995;**25**:7–21.
36. Solomon Z, Garb R, Bleich A, Grupper D. Reactivation of combat related posttraumatic stress disorder. *Am J Psychiatry* 1987;**144**: 51–55.
37. Creedy DK, Shocket I, Horsfall J. Childbirth and the development of acute trauma symptoms: incidence and contributing factors. *Birth* 2000;**27**:104–111.
38. Ayers S, Pickering A. Do women get posttraumatic stress disorder as a result of childbirth? A prospective study of incidence. *Birth* 2001; **28**:111–118.
39. Nishith P, Mechanic M, Resick P. Prior interpersonal trauma: the contribution to current PTSD symptoms in female rape victims. *J Abnorm Psychol* 2000;**109**:20–25.
40. Ullman SE, Siegal JM. Predictors of exposure to traumatic events and posttraumatic stress sequelae. *J Commun Psychol* 1994;**22**:328–338.
41. Mullen P, Martin J, Anderson J, Romans S, Herbison P. Childhood sexual abuse and mental health in adult life. *Br J Psychiatry* 1993;**163**:721–732.

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