Violence against women II

Health consequences of intimate partner violence

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Intimate partner violence, which describes physical or sexual assault, or both, of a spouse or sexual intimate, is a common health-care issue. In this article, I have reviewed research on the mental and physical health sequelae of such violence. Increased health problems such as injury, chronic pain, gastrointestinal, and gynaecological signs including sexually-transmitted diseases, depression, and post-traumatic stress disorder are well documented by controlled research in abused women in various settings. Intimate partner violence has been noted in 3–13% of pregnancies in many studies from around the world, and is associated with detrimental outcomes to mothers and infants. I recommend increased assessment and interventions for intimate partner violence in health-care settings.

In reviews of US and Canadian population-based surveys during 1985–98, between 8 and 14% of women of all ages reported physical assault in the previous year by a husband, boyfriend, or ex-partner; the lifetime prevalence was between 25 and 30%.[1,2] Such assault is most often termed intimate partner violence in North America, with the definition usually including acts of forced sex as well as other forms of physical violence. It is also recognised that psychological coercion and degradation almost always accompany such violence and are included with physical and sexual assault under the broader terms of spouse abuse, domestic violence, or violence against women.

Most investigations into health-care setting and health consequences of violence against women have been from the USA, and have analysed intimate partner violence; some studies have measured emotional abuse separately. In this article, I have reviewed research published in English during the past decade, and have paid special attention to findings that have been replicated outside the USA. The review includes findings from population-based investigations or studies with sufficient sample size, minimal selection or response bias, controlled comparisons, or rigorous qualitative methods that have been replicated in more than one sample.

Health-care settings

In investigations in health-care settings (mainly from the USA), yearly prevalence of intimate partner violence has varied between 4 and 23%, with middle-level socioeconomic and well educated groups having the lowest prevalence, and poorer women the highest (figure 1).[1,3] Intimate partner violence might be higher in health-care settings than in most US population-based samples because samples would be expected to include a substantial proportion of battered women. Furthermore, the same studies showed a narrower range of lifetime prevalence (33–39%) that was less affected by socioeconomic status and more similar to population-based studies, suggesting at least two hypotheses. Although health consequences of intimate partner violence can linger long after the violence has ended, seeking help for those symptoms, especially from accident and emergency departments, might subside over time. Another possibility is that economic and educational resources might not protect women from being abused, but make it easier for them to relatively quickly escape or end the violence, thus rendering them less likely to be currently abused.

Lancet 2002; **359:** 1331–36

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Physical health effects

Women who are abused are frequently treated within health-care systems, however, they generally do not present with obvious trauma, even in accident and emergency departments.[3] Intimate partner violence has long-term negative health consequences for survivors, even after the abuse has ended.[4,5] These effects can manifest as poor health status, poor quality of life, and high use of health services.[6–8] Battering is a significant direct and indirect risk factor for various physical health problems frequently seen in health-care settings. Intimate partner violence is one of the most common causes of injury in women.[9] In several large studies in US accident and emergency departments, 11–30% of injured women whose mechanisms of injury and relationship to the perpetrator had been recorded had been battered.[9] Battered women were more likely to have been injured in the head, face, neck, thorax, breasts, and abdomen than women injured in other ways (figure 2).[10] In two large case-control studies of women in US accident and emergency departments, risk factors for injury by an intimate partner were male rather than female characteristics including histories of arrest, substance abuse, poor education, unemployment, and ex-partner status.[10,11] These results, and findings that a higher proportion of women who have been battered in the past year (12–17%) present to accident and emergency departments than women with acute trauma from abuse (2–3%)[3] suggest the need for universal rather than incident-based screening in emergency-care settings. Although most battered women in the USA state that they have been injured as a result of the abuse, less than half say that they sought health care specifically for those injuries.[12]

40–60% of murders of women in North America are done by intimate partners.[13,14] In less-industrialised countries, percentages might be even higher, although global data on murder of women is sparse.[12,15,16] More research and surveillance is needed to ascertain the global proportion of female deaths, including maternal deaths, that should be attributed to intimate partners.[17] As well as murder, mortality associated with domestic violence includes suicide of women in non-industrialised as well as industrialised societies.[18–20]

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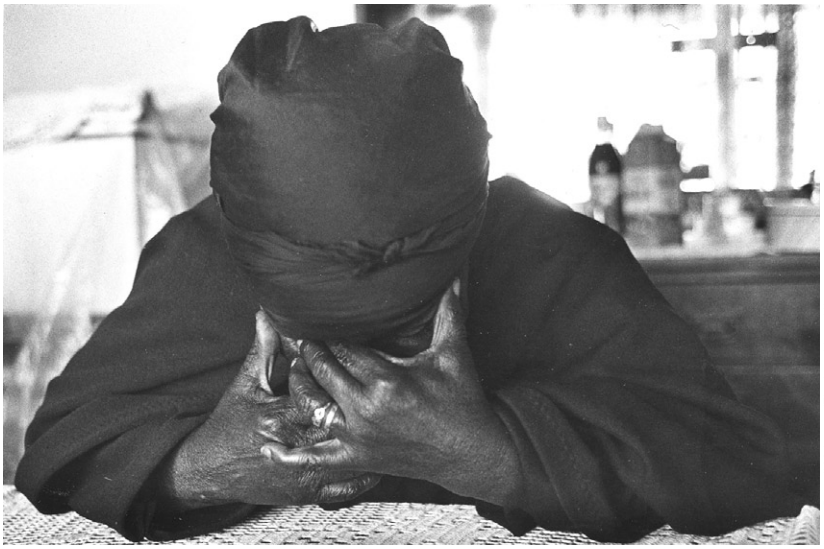

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Figure 1: **Domestic violence is more prevalent than most health-care providers realise**

The injuries, fear, and stress associated with intimate partner violence can result in chronic health problems such as chronic pain (eg, headaches, back pain) or recurring central nervous system symptoms including fainting and seizures.[2,6,8,21–25] The exact mechanism of such effects has not been established but could include recurrent injury or stress, alterations in neurophysiology, or both. For instance, abused women frequently (10–44%) report choking—incomplete strangulation—and blows to the head resulting in loss of consciousness,[8,26] both of which can lead to serious medical problems including neurological sequelae.

Battered women also have significantly more than average self-reported gastrointestinal symptoms (eg, loss of appetite, eating disorders) and diagnosed functional gastrointestinal disorders (eg, chronic irritable bowel syndrome) associated with chronic stress.[21–24] These disorders may begin during an acutely violent and thus stressful relationship, be related to child sexual abuse, or both.[22] The consequent functional damage to the bowel can last far longer than the violent relationship. Similarly, self-reported cardiac symptoms such as hypertension and chest pain have also been associated with intimate partner violence.[6,25] It is plausible to postulate interactions between genetic tendencies for hypertension, lifestyle risk behaviours (such as smoking),[27] and stress from violent relationships but mechanisms have not been thoroughly investigated. Most studies have been cross-sectional and included analysis of bivariate and multivariate associations rather than mediated or moderated models, such as those reporting an increased incidence of self-reported colds and influenza.[27] Suppression of the immune system as a result of stress, mental-health disorders such as depression, or both is again another reasonable but untested causal hypothesis.

The table presents findings for physical health symptoms and intimate partner violence from five roughly comparable samples of women from the general population, health-care insurance databases, and different primary-care settings in the USA.[8,22–25] There is not absolute congruence across these studies, perhaps because of the different somatic responses people can have to trauma and the different types of injuries abused women can sustain, as well as subtle differences in study methods. Despite this variability, there is agreement that battering has significant short-term and long-term physical health effects.[5,25,28,29]

Forced sex

Gynaecological problems are the most consistent, longest lasting, and largest physical health difference between battered and non-battered women. Differential symptoms and conditions include sexually-transmitted diseases, vaginal bleeding or infection, fibroids, decreased sexual desire, genital irritation, pain on intercourse, chronic pelvic pain, and urinary-tract infections.[5,6,8,22–25,27,30–32] In one of the best-sampled (good sampling techniques, high representation, good randomisation, &c) US population-based studies of self-reported data, the odds of having a gynaecological problem were three times greater than average for victims of spouse abuse;[8] evidence of a dose-response effect with severity of physical assault has also been reported.[5] The combination of physical and sexual abuse that characterises the experience of at least 40–45% of battered women puts these women at an even higher risk for health problems than women only physically assaulted.[24,32] Forced sex has consequences that could explain the higher prevalence of gynaecological problems, although few studies have measured forced sex separately and those that did were not population-based.[23,30] Possible mechanisms of increased risk include the shame and stress reported with forced sex manifesting as especially high levels of stress and depression known to depress the immune system; vaginal, anal, and urethral trauma from forced sex (direct force or lack of lubrication) leading to increased transmission of micro-organisms through direct transmission into the bloodstream or back flow of bacteria in the urethra; and men forcing sex on partners and having unprotected sex with other partners. Although descriptive studies and work in animals implicate all these mechanisms, no largescale controlled studies indicate which factors are most salient.

As well as forced sex, in several well designed, indepth, interview-based, and longitudinal studies battered women have described sexually abusive and controlling acts such as verbal sexual degradation, refusal to use condoms, or refusal to use contraception.[30,33] These issues might partly explain links between intimate partner violence and sexually-transmitted diseases, HIV, and unintended pregnancy in population-based studies in the USA and developing countries.[8,33–35,37–39] Qualitative data from indepth interviews show how abuse interacts with complex social, psychological, and cultural factors involved in decisions and actions to prevent pregnancy or sexually-transmitted diseases, including HIV and AIDS and the difficulty of negotiation of use of condoms or contraception in violent relationships—especially in countries and cultures in which societal norms do not accord women equal say in such decisions.[16,33–35,39–41] However, studies in the USA, South Africa, and India have revealed much secret use of contraception, although there are both health and abuse risks involved with this strategy.[37,42,43] Additionally, from the USA and developing countries come narratives of requests for condom use, HIV testing, or notification of positive-HIV status resulting in abusive incidents, often with accusations of infidelity.[16,42,43]

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Abuse during pregnancy

In a large review of US studies of prevalence of abuse during pregnancy, Gazmararian and colleagues[44] noted a range of 0·9–20·1%; in most studies a range of 3·9–8·3% was recorded. Prevalence of such abuse in other industrialised and non-industrialised nations are similar: 6·4% during the past year and 2·5% overall in the UK (7·8% including threats),[45] 5·5–6·6% in Canada,[46,47] at least 6·8% in South Africa,[48] 11% in Sweden (21% including symbolic violence and threats),[49] and 13% in Nicaragua.[50] Although higher prevalence is associated with more inclusive definitions of abuse, more than one question being asked about abuse, adolescence,[51] and low income of respondents, prevalence across countries is remarkably similar.

The main health effect specific to abuse during pregnancy is the threat to health and risk of death of the mother, fetus, or both from trauma.[17,52,53] Another cause of fetal death, elective pregnancy termination, has also been related to intimate partner violence in large but uncontrolled studies in the USA.[54] Physical abuse in pregnancy is associated with health problems during pregnancy such as sexually-transmitted diseases including HIV-1,[39] urinary-tract infections, substance abuse, depression, and other mental-health symptoms.[55,56] Indepth interviews of women[57] suggest that abuse during pregnancy could be a factor in the overlap of intimate partner violence and child abuse seen in US research.[58]

Although many US studies have noted associations of abuse during pregnancy with infant outcomes such as preterm delivery, fetal distress, antepartum haemorrhage, and pre-eclampsia, evidence is inconsistent across studies.[59] The focus of the most numerous and best-controlled (using all or most appropriate control variables, or well matched case-control studies) investigations has been on intimate partner violence as a risk factor for low birthweight. Although evidence from individual studies has been contradictory, a meta-analysis of 14 published studies from North America and Europe showed a weak but significant association between abuse during pregnancy and low birthweight (odds ratio 1·4, 95% CI 1·1–1·8).[60] Variations between samples and subsamples and potential causal pathways could account for some of the differences in individual studies. Results from one study suggested a stronger relation between abuse and birthweight in women of middle socioeconomic status than in poor women,[61] perhaps because the proportion of low birthweight attributable to intimate partner violence is greater in populations with fewer competing causes. Low birthweight might be the outcome of premature delivery caused by trauma resulting from intimate partner violence in rare situations or might occur in fullterm infants as a result of more complex causal pathways.[60] Maternal low weight gain, smoking, or both were mediators of the connection between abuse and low birthweight in several studies.[62,63] Abusive partners might pressure their wives or girlfriends not to gain weight, or abuse could cause stress, which has in turn been associated with smoking, low weight gain, and consequent low birthweight.[62–64] Only one controlled study of abuse during pregnancy has been done in a developing country; results showed a significant relation with low birthweight.[16] Thus, there is much to be explained about interactions between risk factors for low birthweight, ethnic origin, and intimate partner violence.[64]

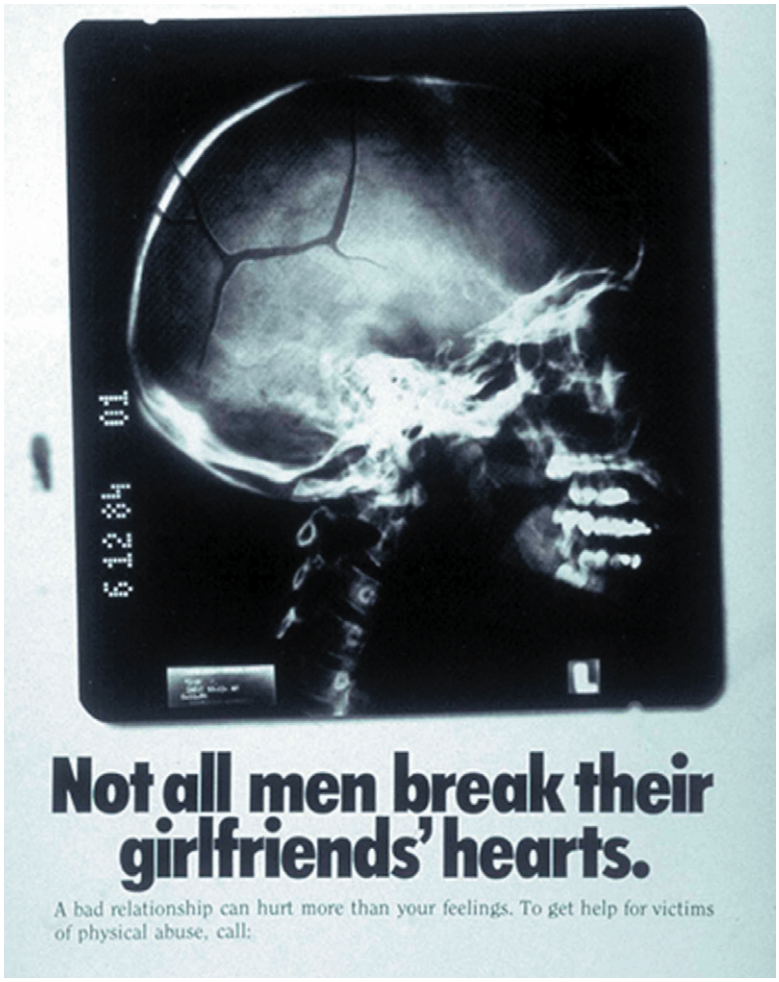

Figure 2: **Poster showing physical effects of abuse**
From: San Francisco District Attorney, Family Violence Project.

Mental-health effects

Depression and post-traumatic stress disorder, which have substantial comorbidity, are the most prevalent mental-health sequelae of intimate partner violence (figure 3).[2,8,20,65–69] In a comprehensive meta-analysis of mainly US studies, Golding[20] showed that the risk for depression and post-traumatic stress disorder associated with intimate partner violence was even higher than that resulting from childhood sexual assault. Depression in battered women has also been associated with other life stressors that often accompany domestic violence, such as childhood abuse, daily stressors, many children, changes in residence, forced sex with an intimate partner, marital separations, negative life events, and child behaviour problems.[65,66,68] Some battered women might have chronic depression that is exacerbated by the stress of a violent relationship, but there is also evidence that first episodes of depression can be triggered by such violence, and longitudinal evidence of depression lessening with decreasing intimate partner violence.[68,69] Even so, the relations between violent experiences and mental-health problems needs further study. Much of the sex differences in global incidence of depression could be attributable to the sex difference in intimate partner violence, although this premise has never been specifically tested.

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	Reference number				
	McCauley et al[8]	Campbell et al[23]	Coker et al[24]	Leserman et al[22]	Plichta[25]
Symptoms					
General health lower or number of symptoms higher than average	S	S	S	S	S
Digestive problems: diarrhoea, spastic colon, constipation, nausea	S	S	S	NM	NM
Loss of appetite, eating binges, making self vomit	S	S	NM	NS	NM
Abdominal pain, stomach pain	S	S	NM	NM	NM
UTI: bladder/kidney infection, pain, problems with urination	S	S	S	NS	S
Vaginal infection: discharge, itching	S	S	NM	S	NM
Sexually transmitted disease	NM	S	S	NM	NM
AIDS or HIV-1	NM	NS	NM	NM	NM
Vaginal bleeding, severe menstrual problems, dysmenorrhoea	NM	S	NM	NM	NM
Pelvic pain, genital area pain	S	S	S	S	NM
Fibroids or hysterectomy	NM	NS	S	NM	NM
Painful intercourse, sexual dysfunction	NM	S	S	S	NM
Headaches, migraines	S	S	S	S	S
Fainting, passing out	S	NS	NM	S	S
Seizures, convulsions	NM	NS	S	NM	NM
Back pain, chronic neck pain	NS	S	S	S	S
Influenza or cold, stuffy or runny nose	NM	NS	NM	S	NM
Hypertension	NM	NS	S	NM	NM

Table design by J Dienemann (reference 23). NM=not measured in study. S=significant (p<0·05) or relative risk=1·0 or higher. NS=not significant. UTI=urinary tract infection.

Physical symptoms in battered women from US health-care settings or population-based health surveys

Post-traumatic stress disorder has also been extensively studied in North America as a sequelae of intimate partner violence; prevalence in battered women is much higher (weighted mean odds ratio 3·74) than in non-abused women.[20,69] Severity of abuse, previous trauma, and partner dominance have been identified as important precursors of post-traumatic stress disorder developing from intimate partner violence.[67,69] Suicidal tendencies, although less often studied than post-traumatic stress disorder, have also been associated with intimate partner violence in the USA, Scandinavia, and Papua New Guinea.[18–20]

In a Canadian population-based study, Ratner found that in addition to depression, abused women had significantly more anxiety, insomnia, and social dysfunction than those not abused, with physical violence having a stronger effect than psychological abuse.[2] These sleep disturbances seem related to a complex interaction of physical, psychological, and environmental mechanisms, although there is only one known sleep laboratory study of intimate partner violence.[70] Women in developing countries also report mental-health problems from abuse, with 70% of cases of emotional distress in Nicaragua attributed to intimate partner violence, and depression and anxiety reported in battered women in Pakistan.[71,72]

Finally, alcohol and drug abuse is the other mental-health problem most frequently seen in battered women in industrialised countries.[2,8,20,55,56] In at least two comparisons between abused and non-abused women, controlling for demographic differences, partner substance use, or both, led to the risk of alcohol abuse in battered women disappearing,[11,25] but in another population-based controlled study, the association persisted.[73] Although causal pathways between intimate partner violence and substance abuse are difficult to establish, results from a study set in accident and emergency departments suggested that intimate partner violence preceded both alcohol and drug abuse in most cases.[74] A postulated explanation of substance use as an outcome of intimate partner violence is through post-traumatic stress disorder.[75] Women with post-traumatic stress disorder might use drugs or alcohol to calm or cope with the specific groups of symptoms associated with post-traumatic stress disorder: intrusion, avoidance, and hyperarousal. In a population-based study, substance use was both a risk factor for, and effect of, post-traumatic stress disorder and all forms of violence, especially repeated violence and childhood trauma.[76] Women can also begin to abuse substances through their relationships with men or from wanting to escape the reality of intimate partner violence. It is important to address and understand these complex relations between intimate partner violence, mental health, and behaviour to diagnose accurately and intervene in substance-abuse problems.

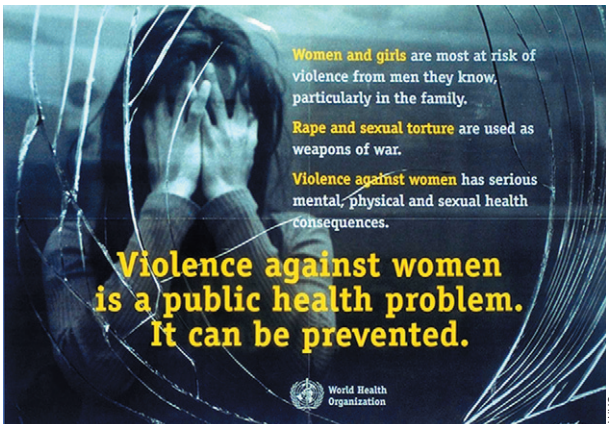

Figure 3: **WHO poster highlighting mental effects of abuse**

Use of medical care

Analysis of the relations between partner abuse, health status, and use of medical care in women in population-based and clinical studies has shown poorer overall mental and physical health, more injuries, and more consumption of medical care including prescriptions and admissions to hospital in abused than non-abused women.[5–7,22] In a Canadian population-based study,[2] battered women sought care from accident and emergency departments and saw a medical professional about 3 times more often than non-battered women. Furthermore, strong evidence suggests that use of medical services increases with the severity of physical assault.[5] Several estimates have been made of the health-care costs of intimate partner violence, but only a few rigorous cost analyses have been done. In a well designed comparison of health plans, battered women generated around 92% more costs per year than non-battered women, with mental-health services accounting for most of the increased costs.[7]

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Conclusions

Battered women present in all health-care settings with many different physical and mental-health problems and demographic characteristics. Women may present to health-care settings before they present to criminal justice or social service agencies, and if abuse is identified they can receive interventions that increase their safety and improve their health. Thus, assessment for intimate partner violence of all women should be done in all health-care settings;[77] several studies have validated brief clinical screens and chart prompts in inpatient and outpatient settings.[78,79]

The intertwined relations of abuse and physical and mental-health outcomes should be of interest to health-care practitioners as well as researchers. Abuse is a risk factor for many health-care problems, but the causes and extent of such risk are only beginning to be understood. If abuse contributes to factors such as smoking, poor nutrition, substance abuse, and stress, interventions aimed at these problems will not succeed without addressing intimate partner violence. An important first step in establishing evidence-based practice[80] in the area of intimate partner violence is to test interventions such as that described by the March of Dimes Birth Defects Foundation.[81,82] This protocol is not specific to abuse during pregnancy and could be used in any health-care setting in any country by any health-care provider. Research in countries other than the USA, especially developing countries, must be done after establishing interventions that result in improved safety and better mental and physical health for abused women, while recognising that improvement may take time.

It is important that we also recognise the resourcefulness and many strengths that battered women use in addressing their health problems and domestic violence.[41,83] Any assessment and intervention with abused women needs to respect their autonomy and be offered in a spirit of advocacy and collaboration as well as concern for their health and safety. Worldwide research, prevention, and interventions in injury, maternal child-health, mental health, and HIV and AIDS must recognise the role of violence against women.

Acknowledgment

I thank the Johns Hopkins University Population Information Program's Media/Materials Clearinghouse for their help in finding some of the images used in this publication. The images are from their End Violence Against Women website, www.endvaw.org.

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