

**The association between life satisfaction, emotional support and perceived health among
Intimate Partner Violence (IPV) survivors**

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The authors declare no conflicts of interest.

Abstract

Background: Intimate partner violence (IPV) is a pressing phenomenon whose consequences are associated with severe physical and mental health outcomes. Every minute, around 24 people in the United States are raped, physically harmed, or emotionally abused by their intimate partner. Although having experienced IPV is not modifiable, emotional support is believed to be a protective factor to prevent victims from committing suicide. The psychological state of IPV victims is critical in post-traumatic events and this is evidenced in numerous qualitative interviews. Therefore, The objective of this study is to identify IPV and socio-demographic factors associated with emotional support, life satisfaction, and perceived health status in the United States.

Methods: This study analysed the data from 2007 Behavioral Risk Factor Surveillance System. Univariate analyses, multivariable logistic regression analyses and ordinal logistic regression analyses were used to estimate the adjusted odds ratios (AORs) and 95% confidence intervals (95% CIs) for factors associated with IPV. Analyses were conducted using SPSS version 25.

Results: The analyses show that there is a strong association between IPV experience and emotional support (AOR:1.810; 95% CI = 1.626 -2.015). Participants who had unwanted sex with an intimate partner in the past 12 months, have 2.28 higher odds to receive less emotional support and 2.05 higher odds to perceive poor life satisfaction. In addition, participants who reported experiencing IPV were associated with (AOR: 3.12; 95% CI =2.68 – 3.62) times the odds of having ≥ 6 days more mentally unhealthy days in a month. For perceived health outcomes, people who had been threatened with violence by a sex partner have 1.74 (95% CI =1.54 – 1.96) times the odds of having poor perceived general health status. IPV survivors have 3.12 (95% CI =2.68 – 3.62) times the odds of having ≥ 6 days more mentally unhealthy days in a month.

Conclusions: People reported with any IPV experience are more likely to receive less emotional support, perceive dissatisfaction in life, and poor health outcomes. This study shows the need for policies centered on the development of interventions that focus on mental health for those who have experienced IPV.

Keywords: *life satisfaction, Emotional, Perceived health, Intimate partner violence*

Introduction

Intimate partner violence (IPV), defined as physical violence, sexual violence, and psychological aggression by a current or former intimate partner(1), is a multidimensional phenomenon with consequences of severe social, emotional, and cognitive impairment(2). Nearly 3 in 10 women and 1 in 10 men have experienced IPV and report a related impact on their daily functioning(3). Such experiences include physical, sexual, emotional abuse and threats. These exposures had a graded relationship with serious consequences on the victim's physical and mental health(4). The prevalence of IPV and its sequelae have profound health consequences, economic burden and public health significance.

IPV is attributed to an array of multidimensional health outcomes. Women are three times more likely to be exposed to domestic violence compared to men(5) and are most likely to suffer poor physical and mental health ranging from hypertension, diabetes(6), and higher rates of HIV/AIDS infection(7). A growing literature suggests that IPV can disrupt normal psychosocial development and increase vulnerability to a broad range of behavioral and mental health problems. Traumatic experiences like IPV can also affect emotional and psychological development, increasing vulnerability to mental health problems such as sleep disturbances(8), major depression, anxiety, posttraumatic stress disorder (PTSD)(9–11), and suicide attempts(12). In addition, borderline, narcissistic and antisocial personality disorders are common among IPV perpetrators(13). Therefore, the health consequences of IPV are far-reaching and multifaceted.

Physiologic and psychosocial consequences of IPV are also notable. Greater exposure to IPV is associated with higher household out-of-pocket medical costs and financial burden to society.

The Centres for Disease Control estimates the annual costs of IPV in the United States is US

\$8.3 billion as a result of direct physical and mental health care, lost productivity and lost potential income(14). Further, higher health-care costs among IPV survivors are sustained for 3 years following the end of violence, after which they parallel to women who did not experience IPV at the 4 to 10-year mark post IPV exposure(15). Importantly however, the economic burden of IPV is absolutely underestimated since the previous costs research focused only on inpatient or referral data.

Research on IPV has thoroughly addressed its negative consequences. However, this line of inquiry obscures how adversity can also positively transform IPV survivors, and thus a comprehensive picture of recovery is missed(16). Some studies reveal that some survivors can develop better adaptation, positive thinking and emotional and social recovery despite experiencing traumatic situations(17,18).

Evidence has shown that the availability of social and emotional support is essential to mental and behavioral health in women who have experienced IPV(19,20). Adequate actual- and perceived support can act as a buffer against the development of PTSD in trauma-exposed victims(21,22). The psychological state of IPV survivors is critical in post-traumatic events and this is evidenced in numerous qualitative interviews(23). Yet, there is a paucity of representative study to compare the perceived life satisfaction, emotional support and health status among IPV in the current state of science. In the absence of such knowledge, the development of effective intervention strategies and treatment protocol to address such deficiencies in IPV will likely remain problematic.

Methods

To assess the association between IPV and the outcomes of perceived emotional support, life satisfaction, and health status among women aged 18 years and over in the U.S., data from the 2007 Behavioral Risk Factor Surveillance System (BRFSS) survey were analyzed. BRFSS is a state-based, cross-sectional survey designed to measure behavioral risk factors within the adult population of those ages 18 years and older(24). BRFSS data are collected via telephone in 50 states.

Participants are asked a series of questions from the core component of the questionnaire, and some from the optional modules(24). BRFSS selects individuals randomly by dialing household telephone numbers and interviews only one participant per household(24). To evaluate the primary independent variable, for the current study, the Intimate Partner Violence Module was used. The optional module has been applied to the state of Hawaii, Virginia, and West Virginia.

Measures

All measures were based on self-reported data obtained from the 2007 BRFSS, which is the latest BRFSS study that included an IPV module. The following variables were used to correlate the association with IPV.

Emotional support is measured with the following question ‘How often do you get the social and emotional support you need?’ and participants responded with ordinal level of measurement, ranging from “always”, “usually”, “sometimes”, “rarely”, “never”, “don’t know”, “not sure”, and “refused”. We collapsed the responses from five to three levels, using only “always”, “sometimes” and “rarely” for a better fit with our analysis.

Life satisfaction is measured with the following question ‘In general, how satisfied are you with

your life?' Participants responded from "very satisfied", "satisfied", "dissatisfied", "very dissatisfied", "don't know", "not sure", and "refused". We collapsed the responses from four to two levels, as "satisfied" and "dissatisfied" as a dichotomous variable.

Perceived general health status is measured with the following question 'Would you say that in general your health status is?' The response options were "excellent", "very good", "good", "fair" and "poor"

Perceived physical health, mental health and poor health are measured by the following questions with the response option "__ number of days", "none", "don't know/not sure", or "refused". The items measured in days were classified as "none", "1-5 days" or "6 days or more" in a month.

'Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?

'Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?'

'During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?' Additional covariates considered were race, education, employment, income and age.

Analysis

Univariate analyses were used to describe the frequency and proportion of selected characteristics (i.e. demographics variables). Bivariate analyses were conducted with chi-square tests for nominal data to assess the association between perceived emotional support, life satisfaction, unhealthy days, sociodemographic factors, and IPV. Multivariable logistic regression analyses were used to estimate adjusted odds ratios (ORs) and 95% confidence interval (CIs) for factors associated with IPV. Ordinal logistic regression analysis was initially used to examine the relationship of IPV variables to each of the ordinally scaled variables. Since the proportional odds assumption is not satisfied, the continuation ratio approach was used to obtain the ORs and CIs for each transition of the choices in the variable. Bivariate and multivariable analyses excluded persons with responses that were missing or recorded as “don’t know/not sure” or “refused”. With the large sample size in the dataset, and the IPV module is not compulsory for participants, it is anticipated that the missing data are at random. A 2-sided p-value of $<.05$ was considered to indicate statistical significance. Analyses were conducted using SPSS version 25.

Demographics showed a sample size of $n=19,102$ with the mean age of 48.32 for those with IPV experience, while 53.87 is the mean age for those without any IPV experience. 32,40 participants (16.9%) indicated having an IPV experience. Women ($n=11,665$; 61%) comprised the majority of the sample. The sample included white ($n=13,490$; 78.6%) and non-white persons ($n=3,681$; 21.4%). Majority of the participants graduated from high school or had some high school education ($n=7,650$; 41.1%), followed by college or more ($n=6,339$; 33.2%), and college 1-3 years ($n=5,089$; 26.7%) as shown in Table 1.

Results

Logistic regression analysis (Table 3) shows a significantly higher odds ratio to explain the association between IPV experience, received emotional support, and perceived life satisfaction. Table 2 shows that persons who had been threatened with violence by their partner have 1.810 (95% CI = 1.626 -2.015) times the odds of being rarely in the receiving end of emotional support compared to persons who had not been threatened violence by their partner. Simultaneously, people who had unwanted sex from a partner have 2.28 (95% CI =1.99-2.62) times the odds of being rarely receiving emotional support compared to persons who have not experienced unwanted sex with a partner. In terms of life satisfaction, persons who have been threatened with violence have 1.834 (95% CI =1.658 – 2.027) times the odds of being dissatisfied in life compared to persons who have not been threatened of violence by their sex partner. Moreover, persons who had unwanted sex with their partner have 2.05 (95% CI =1.78 – 2.37) times the odds of being dissatisfied in life compared to people who do not have unwanted sex with a partner.

As for perceived health outcomes, persons who had been threatened with violence by their sex partner have a 1.74 (95% CI =1.54 – 1.96) times the odds of having lower perceived general health status compared with persons who have not been threatened by their sex partner.

On the number of unhealthy days in a month reported by participants, those who had been threatened with violence by their sex partner have a 2.29 (95% CI =2.07 – 2.53) times the odds of having more mentally unhealthy days in a month compared with persons who have not been threatened with violence by their sex partner. Contemporaneously, persons who had unwanted sex with partner have a 3.12 (95% CI =2.68 – 3.62) times the odds of having ≥ 6 days more

mentally unhealthy days in a month compared with persons who did not have unwanted sex with their partner.

Discussion

Having 6 or more “unhealthy days” in a month is a difficult predicament for anyone, whether a parent, worker or student. Having at least 72 unhealthy days in a year could ruin one’s hopes of being a competent parent, worker, or student. The purpose of this study was to understand the association between IPV experience and perceived emotional support, life satisfaction, and health status. First, we examined the relationships among the variables, and then we used a regression analysis to understand the influence of the covariates (i.e., race, education, employment, income, age) towards the dependent variables (i.e., emotional support, life satisfaction, and perceived health status). Finally, we explored the association between IPV and the outcome variables (i.e., dependent variables) with adjusted covariates.

Results indicate a strong association between participants’ IPV experience and emotional support, suggesting that persons with IPV experience received less emotional support. The most significant finding is that unwanted sex with an intimate partner in the past 12 months has a 2.28 higher odds of rarely receiving emotional support and 2.05 higher odds of perceived life dissatisfaction. This finding is similar to the conclusions made by Coker et al (2003) (25) in a structural equation model that higher emotional support affects the health outcomes of IPV survivors in the long run.

We also found that participants who reported IPV experience (e.g., threatened, attempted, over violent, or unwanted sex) reported more unhealthy days in a month, with mental health as the most significant of reasons for having “unhealthy days”. Although initially surprising, these

results appear somewhat consistent with the findings from the World Health Organization (WHO) multi-country sample in 2003 that found women who reported IPV at least once in their lifetime also reported significantly more emotional distress, suicidal thoughts (ORs 2.9 [CIs: 2.7–3.2]), and suicidal attempts (ORs 3.8 [CIs: 3.3–4.5]), compared to women who did not experience IPV(25).

Limitations

One of the limitations of this study is the lack of the use of a weighting formula that could have re-balanced the data to reflect the population more accurately. However, the large sample size of the data set represents a greater generalizability of the BRFSS to the U.S. population. Another limitation is that each variable measured uses a single question only. For example, *emotional support* is measured with the following question ‘How often do you get the social and emotional support you need?’ and participants responded with ordinal level of measurement, ranging from “always”, “usually”, “sometimes”, “rarely”, “never”, “don’t know”, “not sure”, and “refused”. Then, we collapsed the responses from five to three levels, using only “always”, “sometimes” and “rarely” for a better fit with our analysis. Further, some of the questions did not include a specific timeframe to recall the IPV experience. Self-reported data and recall bias are other limitations of the study. The strength of the study is it provides information on the effects of emotional support, life satisfaction, and perceived health status on IPV in the U.S. which gives guidance to future studies.

Conclusions

In conclusion, the consequences of IPV are enormous. In this study, persons who reported having experienced IPV were more likely to receive less emotional support, more likely to

perceive dissatisfaction in life, and have poor health outcomes. Mental health encompasses various aspects that may lead a person who survive IPV to develop poor mental health. These indicators of poor mental health include depression, PTSD, suicidal ideation, sleep disturbance, and self-esteem issues (26,27). Results of this study suggest the need for person-centered policies on the development of interventions that focus on mental health for people who have experienced IPV.

Precision health intervention programs (28) could be designed to provide individualized information, education, and prevention strategies on IPV that will match diverse IPV survivors of all race, socioeconomic status, gender, and age. Constantino and Crane (2005)(20), found that social/emotional support intervention in women experiencing IPV is effective in improving perceived social/emotional support and decreasing healthcare utilization. The perception of the availability of social/emotional support is significant to survivors of IPV. When their perceived availability of social/emotional support is low, survivors of IPV lose their ability to attenuate the unhealthy consequences of IPV.

Abbreviations:

BRFSS: Behavioral Risk Factor Surveillance System

HIV/AIDS: Human immunodeficiency virus infection and acquired immune deficiency syndrome

IPV: Intimate Partner Violence

PTSD: Post-traumatic Stress Disorder

Acknowledgements

We would like to thank the Center for Disease Control and Prevention for access to data.

Funding

No funding to be reported for this study.

Availability of data and materials

The original dataset for the current study are available in the Center for Disease Control and Prevention website. The datasets used and analysed during the current study are available from the corresponding author on reasonable request.

Author's contributions

VH analysed the data and wrote the first draft of the manuscript. RC reviewed and edited the manuscript. All authors have read and approved the manuscript.

Ethics approval and consent to participate

The Institutional Review Board at the University of Pittsburgh approved this study.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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