Archives of Women's Mental Health (2019) 22:751–758
https://doi.org/10.1007/s00737-019-00997-x

ORIGINAL ARTICLE

Prevalence of intimate partner violence victimization and its association with mental disorders in the Korean general population

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Received: 19 December 2018 / Accepted: 25 July 2019 / Published online: 3 August 2019

Abstract

This study assessed the association between experiencing physical or sexual intimate partner violence (IPV) and mental health among women in the general Korean population. A total of 3160 South Korean women aged 18 to 74 responded to the Korean version of the WHO-Composite International Diagnostic Interview (K-CIDI), version 2.1., and questions about IPV. Multiple logistic regression was used to examine the odds of developing mental disorders associated with each type of IPV. Victimization by any type of IPV was associated with significantly increased odds of experiencing any mental disorders in the lifetime (OR 4.4, 95% CI 2.4–8.0). Participants who experienced sexual IPV had the highest odds of having mental disorders (OR 14.3, 95% CI 4.1–54.8). Sexual IPV experience among participants was associated with higher odds of major depressive disorder, anxiety disorder, obsessive-compulsive disorder, post-traumatic stress disorder, generalized anxiety disorder, specific phobias, agoraphobia, and nicotine dependence. Alcohol use disorder was highly associated with experiencing physical IPV (OR 3.8, 95% CI 1.7–8.0). Among women who experienced IPV, the youngest age group, from 18 to 35 years old (2.6%, 95% CI 1.4–3.8), and the never married group (2.7%, 95% CI 1.2–4.2) experienced the highest proportion of any form of IPV. Mental disorders throughout the lifetime are highly associated with the experience of IPV among women and are most prevalent among those who experienced sexual IPV. Thus, to prevent mental disorders among female IPV victims, treatment specific to each type of IPV should be provided early.

Keywords Violence · Women · Mental health · Mental disorders

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Introduction

Intimate partner violence (IPV) is increasingly understood as a major public health and mental health issue. IPV has long been regarded as a personal and private matter rather than a social crime because it occurs in intimate relationships. IPV tends to be underreported due to lack of awareness that it is a violent crime, shame, fear of revenge, and other similar reasons (Gracia 2004).

IPV describes any behavior within an intimate relationship that causes physical, sexual, or psychological harm, including acts of physical aggression, sexual coercion, psychological abuse, and controlling behavior (Organization 2010). Although it can occur in any type of intimate relationship, including marriages, affairs, divorced couples, and same-sex couples, IPV most commonly victimizes women and is the most prevalent form of violence against women (Ellsberg et al. 2008; World Health Organization 2012).

The mental health of IPV victims can be seriously affected throughout their lives (Amar and Gennaro 2005; Dillon et al. 2013; Kessler et al. 1985). In fact, many mental disorders can be caused by IPV. Post-traumatic stress disorder (PTSD), major depressive disorder (MDD), and other general mental problems are three to five times more prevalent among adolescent victims of IPV than in those who have not been victimized by IPV (Campbell 2002; Golding 1999; Trevillion et al. 2012), and they are likely to co-occur but often underestimated (McKee and Hilton 2017). Therefore, we have worked to understand their prevalence in the general Korean population.

Although a growing literature is reporting associations between IPV victimization and mental health consequences in clinical samples or specific age groups, such as youth (Gover et al. 2011a; Gover et al. 2011b), little is known about the prevalence of IPV among large community samples across diverse age groups. In addition, most IPV studies have used self-report forms about mental health; information about diagnoses of mental disorders using fully structured diagnostic interviews remains inadequate.

Furthermore, few data are available to explain how different IPV types are associated with mental health worldwide (Lovestad et al. 2017; Ruiz-Perez et al. 2018). For example, sexual IPV tends to be underreported in conservative cultural groups due to shame or social stigma despite evidence, suggesting that the psychiatric pathology involved in sexual IPV can be serious (Centers for Disease Control and Prevention 2000b; Lau et al. 2018). Particularizing the subtypes of IPV is important when exploring the specific mental health outcomes caused by IPV (Harned 2002; Vagi et al. 2015).

Therefore, we included questions about IPV and its subtypes in *The 2016 Survey of Mental Disorders in Korea*, which is a nationwide epidemiological study conducted every 5 years to estimate the prevalence and clinical correlations of mental disorders in South Korea. Also, because IPV is directed at women 3 to 5 times more often than it is at men (Centers for Disease Control and Prevention 2000b; Rennison and Welchans 2000b; Rubio-Garay et al. 2017; Vagi et al. 2015; Walker and Browne 1985), we have here focused on women in the general population.

Our aims in this study are to assess the lifetime prevalence of IPV and the socio-demographic variables and mental disorders associated with each type of IPV in a large, nationally representative sample of Korean women. We hypothesize an association between IPV victimization and mental disorders among South Korean women.

Methods

Data source and collection

This study was conducted from June 27 to November 28, 2016. The target population was all eligible women 18 years and older with citizenship in the Republic of Korea. Participants were selected using multi-stage, stratified community cluster sampling based on the population census conducted by community registry offices in 2015. We randomly chose one individual per household using the last birthday method, and the study population consisted of all those who completed the entire psychiatric diagnostic interview and questions about IPV. The control group was participants who had never experienced any form of IPV. This was to estimate the prevalence of IPV and its association with mental disorders. Those residing in hospitals, nursing homes, military service, or special social facilities such as prison; residents overseas for studying abroad or business trips; and foreigners without Korean citizenship were excluded. A total of 3160 women participated in this study, which was about 0.01% of Korean women. Psychology, nursing, and social work graduate students in mental health–related departments received the WHO-recommended Composite International Diagnostic Interview (CIDI) training and conducted face-to-face interviews in a separate space in each participants' home, in privacy. Socio-demographic characteristics (age, years of education, employment status, marital status, and monthly income) were recorded.

The completed K-CIDI questionnaire was sent centrally from each region. We checked all data files for missing data and confirmed whether the interview was conducted and entered according to the CIDI rules. Feedback was provided to interviewers and supervisors when errors were found. In particular, to check the consistency of the completed K-CIDI data, all input was checked in the data entry program with "skip" and "consistency" enabled. Double data entry was implemented according to our institution's standard operating

procedures. After all data entry was completed and confirmed, the database system was locked. All information obtained during the study that relates to an individual volunteer was regarded as confidential. Subjects were referred to by the number allotted to them throughout the study documentation. We have retained all records pertaining to the study (including CRF, informed consent forms, study reports, and other related records) for 3 years from the end of survey. This study was approved by the Institutional Review Board of Samsung Medical Center in Seoul, Korea (IRB No. 2016-05-014). All participants were fully informed about its aims and methods, and written consent was obtained from each participant prior to the study.

Measures

Assessment of lifetime DSM-IV disorders

The study team administered the Korean version of the CIDI 2.1 (K-CIDI 2.1) (Cho et al. 2002) to all participants. The CIDI (World Health Organization 2012) is a fully structured diagnostic interview designed to diagnose psychiatric disorders using the DSM-IV and ICD-10 criteria (Robins et al. 1988). Lifetime DSM-IV disorders include major depressive disorder, anxiety disorders (i.e., PTSD, panic disorder, obsessive- compulsive disorder (OCD), generalized anxiety disorder (GAD), social phobias, and specific phobias), and nicotine/alcohol use disorder.

Assessment of lifetime dating violence

While implementing K-CIDI, we also asked questions about IPV using the Massachusetts Youth Risk Behavior Survey, which is part of a state-based survey conducted in the US every 2 years to evaluate the prevalence of morbidity and mortality among US adolescents; it has a validity and reliability greater than 70% on each dating violence item (Silverman et al. 2001). We used the question, "Have you had ever been hurt physically or sexually by a date or someone you were going out with?" This question would include being physically pushed, hit, slapped, or forced into any sexual behavior. Four responses were offered: "No, I was never hurt by a date"; "Yes, I was hurt physically by a date"; "Yes, I was hurt sexually by a date"; and "yes, I was hurt physically and sexually by a date." To avoid limiting the definition of IPV to violence within married couples, we used the term "date."

We used three different categories to represent lifetime IPV. "Any physical IPV" included participants who experienced one or more forms of physical IPV without sexual IPV; "any sexual IPV" included participants who experienced one or more forms of sexual IPV without experiencing physical IPV; "Any form of IPV" included participants who experienced only physical IPV, those who experienced only sexual IPV, and those who experienced both. All variables were recorded as binomial (present or absent). We analyzed the relationships among the socio-demographic characteristics, DSM-IV disorders, and lifetime IPV experience by type.

Data analysis

We used weighted values to represent the national population with respect to age and the proportion of women in each catchment area according to the 2015 Korean Census (Korea National Statistical Office, 2016). Socio-demographic characteristics were compared within the three categories of lifetime IPV using a chi-squared test. Logistic regression analyses were performed to evaluate the odds ratios of developing DSM-IV mental disorders in association with each type of lifetime IPV after adjusting for age, length of education, employment status, marital status, and monthly income. Missing data were excluded from the analysis. All statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS, SPS Inc., Chicago, IL) version 23.0, with statistical significance defined as an alpha level of 0.05.

Results

Lifetime prevalence of physical and sexual IPV with socio-demographic correlates

Table 1 presents the socio-demographic characteristics of the controls and victims of IPV. The IPV group was younger than the controls ($p = 0.012$), but there were no differences in educational years, employment status, marital status, or monthly income.

The lifetime prevalence rate of any form of IPV was 1.5%, and the rates for physical and sexual IPV were 1.3% and 0.4%, respectively (Table 2). The 18 to 35 years age group had a prevalence rate of 2.3% for any physical IPV (95% CI = 1.1–3.5) and 2.6% for any form of IPV (95% CI = 1.4–3.8), which was significantly higher than the other age groups. The more educated group tended to experience a higher rate of any form of IPV; participants with more than 13 years of education experienced any physical IPV at a rate of 1.8% (95% CI = 1.1–2.5), any sexual IPV at a rate of 0.7% (95% CI = 0.2–1.2), and any form of IPV at a rate of 2.0% (95% CI = 1.2–2.8).

The prevalence of IPV varied by marital status. Whereas 1.3% of the married group experienced any form of IPV (95% CI = 0.8–1.8), 2.7% of the never married group experienced any form of IPV (2.3% any physical IPV, 1.1% any sexual IPV, and 2.7% any form of IPV).

Table 1 Socio-demographic characteristics of controls vs. victims of IPV (*N*, %)

	Controls (*N* = 3113)	IPV victims (*N* = 47)	*P* value
Age (years)			0.012*
18–35	607 (20.6)	16 (34.0)	
36–50	918 (31.2)	18 (38.3)	
51–74	1419 (48.2)	13 (27.7)	
Education (years)			
≤ 9	901 (30.6)	7 (14.9)	0.066
10–12	847 (28.8)	16 (34.0)	
≥ 13	1196 (40.6)	24 (51.1)	
Employment status			0.843
Employed	1074 (36.5)	18 (38.3)	
Unemployed	621 (21.1)	11 (23.4)	
Housewife/student	1248 (42.4)	18 (38.3)	
Marital status			0.076
Married	1792 (60.9)	23 (48.9)	
Widowed/separated/divorced	686 (23.3)	11 (23.4)	
Never married	465 (15.8)	13 (27.7)	
Monthly income, US$			0.651
≤ 3000	1848 (62.8)	28 (59.6)	
≥ 3001	1093 (37.2)	19 (40.4)	

CI confidence interval, *IPV* intimate partner violence

*$p < 0.05$

Prevalence of mental disorders and their association with each type of IPV

An experience of IPV was significantly associated with an increased risk for all kinds of mental disorders after controlling for age and education (Table 3). Of participants who experienced any form of IPV, 56.5% had at least one mental disorder, compared with 20.5% of control subjects. Participants who experienced any sexual IPV reported the highest adjusted odds ratio (AOR) for diagnosis with any lifetime mental disorder (AOR = 14.3, 95% CI = 4.1–54.8). Also, participants who experienced any sexual IPV reported higher lifetime odds of MDD, anxiety disorder (including OCD, PTSD, GAD, specific phobia, and agoraphobia), and nicotine dependence than those who experienced any physical IPV or any form of IPV ($p < 0.01$). An experience of any physical IPV showed a significantly strong association with alcohol use disorder (AOR = 3.8, 95% CI = 1.7–8.0).

Discussion

To our knowledge, this study is the first to investigate the prevalence of IPV and its association with different mental disorders among a nationally representative population of Korean women. Also, it is noteworthy that we administered a structured and standardized tool, the K-CIDI, to reflect diagnosable mental disorders in this study, unlike similar studies that used self-reported screening tools for their mental health data.

The probability of experiencing any form of IPV in this study population is much lower (1.5%) than previously reported worldwide prevalence rates, which range from 7 to 57% (Centers for Disease Control and Prevention 2000a; Control & Prevention, 2012; Straus, 2004; Teten et al. 2009; Wolitzky-Taylor et al. 2008). This difference could reflect cultural differences in the level of comfort in reporting IPV, which is often dismissed as a minor offense, and Korean women who have experienced IPV might lack the support needed to address the issue.

It is noticeable that the youngest age group (18–35 years) reported the highest experience with any form of IPV, which is consistent with previous studies suggesting a higher prevalence of IPV victimization among young women (Haynie et al. 2013; Shorey et al. 2008; Silverman et al. 2001).

This finding is likely associated with the higher proportion of IPV in the unmarried group, because younger people are less likely to be married than older participants. In our previous studies, we found that the prevalence of IPV was about two times lower in the married group than in the never married group, and several other studies have also found that unmarried women are at greater risk of IPV than married women

Table 2 Prevalence of each type of IPV among women by socio-demographic subgroup (%, 95% CI)

	Any physical IPV ($N = 41$)	Any sexual IPV ($N = 12$)	Any form of IPV† ($N = 47$)
Age (years)			
18–35	2.3 (1.1–3.5)	0.5 (0.0–1.1)	2.6* (1.4-3.8)
36–50	1.6 (0.8–2.4)	0.8 (0.2–1.4)	1.9 (1.0–2.8)
51–74	1.1 (0.5–1.7)	0.2 (0.0–0.5)	1.1 (0.5–1.7)
Education (years)			
≤ 9	1.0 (0.2–1.8)	0.0	1.0 (0.2–1.8)
10–12	1.6 (0.7–2.5)	0.5 (0.0–1.0)	1.9 (1.0–2.8)
≥ 13	1.8 (1.1–2.5)	0.7 (0.2–1.2)	2.0 (1.2–2.8)
Employment status			
Employed	1.3 (0.6–2.0)	0.7 (0.2–1.2)	1.7 (0.9–2.5)
Unemployed	1.9 (0.7–3.1)	0.4 (0.0–0.9)	2.0 (0.8–3.2)
Housewife/student	1.6 (0.8–2.4)	0.3 (0.0–0.6)	1.6 (0.8–2.4)
Marital status			
Married	1.2 (0.7–1.7)	0.3 (0.0–0.6)	1.3* (0.8–1.8)
Widowed/separated/divorced	2.1 (0.8–3.4)	0.4 (0.0–1.0)	2.3 (0.9–3.7)
Never married	2.3 (0.9–3.7)	1.1 (0.2–2.0)	2.7 (1.2–4.2)
Monthly income, US$			
≤ 3000	1.7 (1.0–2.4)	0.5 (0.1–0.9)	1.9 (1.1–2.7)
≥ 3001	1.5 (0.8–2.2)	0.4 (0.0–0.8)	1.7 (0.9–2.5)
Total	1.3 (0.6–2.0)	0.4 (0.0–0.8)	1.5 (0.8–2.2)

CI confidence interval, *IPV* intimate partner violence

*$p < 0.05$

† Any physical, any sexual, or both

(Rennison and Welchans 2000a; Yakubovich et al. 2018). Previous researchers suggested an association between a greater number of partners and the possibility of exposure to IPV (Bonomi et al. 2012; Halpern et al. 2009). However, the possibility married women being less likely to report IPV due to fear should not be overlooked.

Study subjects with high educational attainment appeared to experience a higher rate of IPV, although that trend was not statistically significant. Previous studies revealed inconsistent results concerning the educational level of IPV victims. One report suggested that couples with an educational disparity saw more IPV than couples with educational parity (Centers for Disease Control and Prevention 2000a). However, other studies showed that poorer educational levels were associated with IPV (Magdol et al. 1997). It remains unclear whether the educational level of a victim is an independent risk factor for IPV.

Traumatic events that occur in a dating relationship with a once-intimate partner can lead to severe psychological consequences, such as anxiety, depression, low self-esteem, or withdrawal from interpersonal relationships, over long periods of time (Boon et al. 2011; Wilson et al. 2006). Likewise, we demonstrated that the presence of a lifetime mental disorder was associated with a higher likelihood of experiencing any form of IPV.

Depressive disorder and depressed symptomatology are well known to be associated with a higher frequency of IPV in young adults (Banyard and Cross 2008; Coker et al. 2002; Foshee et al. 2004; Golding 1999), and this study showed coincident results in a general population of women. It is noteworthy that an experience of any sexual IPV appeared to produce the greatest increase in the experience of any type of mental disorder except alcohol use disorder; MDD, anxiety disorders (OCD, PTSD, GAD, and specific phobias), and nicotine dependence all had a stronger association with the any sexual IPV group than with the any physical IPV and any form of IPV groups.

Furthermore, the sexual IPV group had a higher risk of experiencing an anxiety disorder than any other mental disorder. This might indicate that an intense loss of autonomy and chronicity of traumatic experience are more prevalent in sexual IPV than other forms of IPV. High rates of PTSD and OCD are likely to result from thought distortions about unwanted experiences. Sexual violence could be viewed as a more intense threat or danger than other types of IPV, which could lead such experiences to be perceived as an intrusive, ongoing threat and source of anxiety to individuals, who then engage in avoidance behaviors to neutralize those responses (Dykshoorn 2014; Golding 1999).

Table 3 Prevalence and adjusted odds ratios of IPV with mental disorders among women

	% of responders				Adjusted OR (95% CI)		
	Controls ($N = 3113$)	Any physical IPV ($N = 41$)	Any sexual IPV ($N = 12$)	Any form of IPV[†] ($N = 47$)	Any physical IPV ($N = 41$)	Any sexual IPV ($N = 12$)	Any form of IPV[†] ($N = 47$)
Major depressive disorder	6.5	19.5	25.0	21.7	3.4** (1.5–7.1)	5.4** (1.3–17.2)	4.0*** (1.9–7.7)
Anxiety disorder	11.2	26.2	66.7	31.9	2.6** (1.2–5.0)	13.3*** (4.3–46.5)	3.4*** (1.8–6.2)
OCD	0.7	4.9	16.7	6.5	8.0** (1.6–26.3)	27.8*** (5.0–107.3)	10.6*** (2.7–31.3)
PTSD	1.9	9.8	33.3	13.0	6.0*** (1.9–15.4)	32.4*** (9.2–94.9)	8.6*** (3.3–19.7)
GAD	2.6	10.0	25.0	11.1	4.3** (1.4–10.7)	13.0*** (3.2–42.3)	4.8*** (1.7–11.2)
Specific phobia	7.5	12.2	33.3	17.4	1.6 (0.6–3.8)	5.6** (1.6–17.2)	2.4* (1.4–5.0)
Agoraphobia	0.6	4.9	8.3	4.3	8.0** (1.5–27.1)	19.6** (2.0–93.5)	7.1** (1.4–24.0)
Social phobia	1.7	7.3	8.3	6.5	4.3* (1.1–11.9)	6.1 (0.6–27.1)	3.7* (1.0–10.3)
Nicotine dependence	1.1	7.3	16.7	8.7	6.5** (1.6–18.7)	22.4*** (4.1–87.5)	7.8*** (2.4–20.8)
Alcohol use disorder	5.6	22	8.3	19.6	3.8*** (1.7–8.0)	1.3 (0.1–5.6)	3.3** (1.4–6.5)
Alcohol dependence	2.3	4.9	8.3	4.3	1.9 (0.4–5.9)	3.3 (0.3–15.0)	1.6 (0.3–5.0)
Alcohol abuse	4.7	22	8.3	19.6	4.9*** (2.1–10.3)	1.6 (0.2–7.3)	4.0*** (1.8–8.4)
Any mental disorder	20.5	51.2	83.3	56.5	3.6*** (1.9–6.6)	14.3*** (4.1–54.8)	4.4*** (2.4–8.0)

Adjusted for age distribution and educational level

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

[†] Any physical, any sexual, or both

Substance abuse is associated with any type of IPV (Banyard and Cross 2008; Exner-Cortens et al. 2013; Haynie et al. 2013) and other types of violence (McKee and Hilton 2017; Temple and Freeman Jr. 2011), and this study has shown consistent results. However, the association between alcohol use and physical IPV was higher than the association between alcohol use and sexual IPV. Alcohol consumption can precede physical conflict and might increase as a maladaptive behavior following an assault.

One of the limitations of this study is that the sample size is small, and recall bias could exist, especially for sexual IPV and in the older age groups. Also, careful interpretation has to be done because sexual violence tends to be understood as only rape or forced intercourse in Korean culture, and it is generally underreported due to feelings of shame and concerns about stigma or negative consequences. But some literature suggests that the prevalence rate of IPV in high-income countries including South Korea (World Health Organization 2013) is actually lower than in other countries. Nonetheless, our results suggest that the pathophysiology of sexual IPV can be severe. Furthermore, in this study, sexual IPV often appeared with physical IPV.

Another limitation is that this study is cross-sectional, so the data provide associations between the types of IPV and mental disorders but not causality. Lack of information about the severity and frequency of IPV also limits our ability to interpret our results. Nevertheless, our findings show at least that women who have experienced IPV might be more vulnerable to mental disorders than those who have not. Further studies examining the relationship between experiences of IPV and the incidence of mental problems should focus on temporal relationships and frequency. Future work should also consider more diverse aspects of IPV, such as verbal assault, stalking, and emotional IPV.

Conclusion

We have here produced a first estimate of the national prevalence of IPV victimization among Korean women by the type of IPV. Our research significantly indicates that women who experience IPV appear to have a greater risk of mental disorders than those who do not and suggests that sexual IPV might produce more severe psychopathology than physical IPV alone. Further longitudinal studies are needed to establish temporality between IPV and mental health and find the risk factors for IPV itself. Also, strategies to prevent mental disorders specific to each type of IPV should be provided early to IPV victims.

Acknowledgements We would like to acknowledge the Ministry of Health and Welfare, Republic of Korea, for their support of data collection.

Authors' contributions JHA and CSM participated in the study design, conception, data acquisition and data analysis, wrote the first manuscript drafting, and revised new drafts from co-authors. DEK participated in data analysis and acquisition of data. SYL participated in the design and conceptualized the study and revising of the manuscript. HJJ, SJC, and SJS were in charge of developing the questionnaire, directed the data acquisition, and participated in the study design and conceptualization. JPH participated in study design and conception, data acquisition, manuscript drafting, and funding acquisition. All authors read and approved the final manuscript.

Funding This work was supported by the Korea Healthcare Technology R&D project, Ministry of Health and Welfare, Republic of Korea (HM15C1072, HL19C0018).

Compliance with ethical standards

Written informed consent was obtained from all participants before presenting questionnaires and performing face-to-face interviews. This study was conducted with the approval of the institutional review board of the Samsung Seoul Hospital Clinical Research Committee (IRB No. 2016-05-014).

Conflict of interest The authors declare that they have no competing interests.

Abbreviations IPV, Intimate partner violence; K-CIDI, Korean version of the WHO-Composite International Diagnostic Interview; DSM-IV, Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition; AOR, Adjusted odds ratio; MDD, Major depressive disorder; OCD, Obsessive-compulsive disorder; GAD, Generalized anxiety disorder; PTSD, Post-traumatic stress disorder

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