Intimate partner violence and sexual assault among women with serious mental illness: A review of prevalence and risk factors

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Abstract

● *Summary:* As compared with the general population, women with serious mental illness experience higher rates of intimate partner violence, sexual assault, and are at a greater risk of future victimization, post-traumatic stress disorder, exacerbated symptoms of mental illness, and other negative health outcomes. Despite substantial research, the field lacks clear, consistent guidance for intervention development. To this end, this review aims to move the field beyond its focus on prevalence by providing a comprehensive and concise summary that compares and assesses the findings, quality, and scope of 10 systematic reviews (reviewing 168 studies) pertaining to prevalence and risk factors of intimate partner violence and/or sexual assault among women with serious mental illness.

● *Findings:* The systematic reviews in this study indicate wide variation exists in the prevalence rates of intimate partner violence among women with serious mental illness. Differences are attributable to inconsistent definitions of key concepts across studies, differences in inclusion and exclusion criteria, type of disability, and type of violent

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victimization. Fewer than half of the studies focus on risk factors for violent victimization among women with serious mental illness, which contributes to the lack of viable interventions for this population.
• *Application:* The implications discussed in this study address best practices for screening and assessment, opportunities for intervention modification, standardization of definitions of core concepts, and the importance of examining the service challenges from the perspective of clients and service providers. The study offers an organizing framework to advance the field's focus on risk and protective factors toward developing effective interventions and treatment strategies.

Keywords
Social work, domestic violence, mental health, risk, systematic review, women

In 2012, an estimated 6.8 million people in the United States 12 years or older were victims of violent crime, defined as homicide, rape/sexual assault, robbery, aggravated and simple assault, domestic and intimate partner violence, and violent crime involving injury (Truman, Langton, & Planty, 2013). This rate of violent crime amounts to 26.1 violent victimizations per 1000 people. Although violent victimization is more prevalent among men (29.1 per 1000 people) than women (23.3 per 1000 people), prevalence rates differ by type of violent crime (Lauritsen & Heimer, 2008; Teplin, McClelland, Abram, & Weiner, 2005; Truman et al., 2013). For instance, women are at a significantly higher risk of rape, sexual assault (SA), domestic violence (DV), and intimate partner violence (IPV; Lauritsen & Heimer, 2008; Planty, Langton, Krebs, Berzofsky, & Smiley-McDonald, 2013). Moreover, of all rape or SA victimizations in the United States reported between 1995 and 2010, only 9% of the victims were men (Planty et al., 2013). In 2010, the rate of rape or SA among women in the United States was 2.1 per 1000 people whereas the rate was 0.1 per 1000 people among men (Planty et al., 2013).

Elevated risk of victimization is also prevalent among people with disabilities, including those with physical, emotional, or developmental disabilities. Best estimates have suggested that people with disabilities are three times more likely to be victims of rape, SA, robbery, and aggravated assault (Harrell, 2012). According to a report on the National Crime Victimization Survey (Harrell, 2012), women with disabilities, including those with prolonged mental or emotional conditions, experience higher rates of violent victimization (53 per 1000 people) than men with disabilities (42 per 1000) or men (22 per 1000) and women (17 per 1000) in the general population.

Prevalence rates of victimization also vary among subcategories of people with disabilities, with the highest levels of victimization reported among individuals

with mental illness (Hughes et al., 2012). For instance, Hughes et al. (2012) found rates of sexual violence (5.5%) and IPV (37.8%) were higher among people with mental illness than among other disability groups or the general population. Some studies have specifically examined rates of violence victimization among those with serious mental illness (SMI; adults who have a recurrent or persistent mental disorder that significantly impacts functioning as defined by Section 1912(c) of the United States Public Health Service Act; SAMHSA, 1993). For example, Teplin et al. (2005) estimated that more than 25% of people with SMI had experienced violent victimization within the previous year, which was 11.8 times greater than the rate in the general population.

Victims of IPV and SA are at risk for acute and chronic physical and mental health problems (Resnick, Acierno, & Kilpatrick, 1997). The immediate injury or trauma suffered in IPV and/or SA (e.g., physical injury, contracting a sexually transmitted infection, psychological trauma, and stress) can have long-term negative effects on the survivor's well-being, contributing to poor outcomes such as chronic substance use and abuse, risky sexual behaviors, eating disorders, posttraumatic stress disorder (PTSD), impaired physiological functioning or systemic disorders, and the development of or exacerbation of mental illness (Dutton et al., 2006; Khalifeh & Dean, 2010; Resnick et al., 1997).

Despite the high prevalence rates and the association between violent victimization and mental illness, no mental health or IPV-focused interventions that meet the specific needs of women IPV survivors with SMI have been developed and rigorously evaluated. For the purpose of the present review, we defined IPV-focused interventions as comprising psychosocial programs and approaches that help to prevent IPV against women with SMI, as well as help address IPV against women with SMI to promote their safety. Such interventions could be delivered in DV safety programs, mental health clinics, or other social work settings. Moreover, the existing research regarding the incidence, prevalence, and risk and protective factors for women with SMI who experience IPV is fraught with numerous gaps, methodological flaws, and definition and measurement inconsistencies that inhibit our understanding of the size and needs of this vulnerable population. For example, although empirical research has documented the prevalence of victimization in both the general population and among those with disabilities, prevalence rates specific to IPV and SA among women with SMI vary widely based on differences in methodology and definitions of key constructs (see, e.g., Choe, Teplin, & Abram, 2008; Friedman & Loue, 2007). In addition, questions of temporal order (i.e., whether a person's mental illness was a correlate of or a risk factor for victimization) also contribute to variation in estimates and pose significant barriers to developing appropriate interventions. For instance, when mental illness is considered as a risk factor, interventions might target mental health symptoms to reduce the risk of victimization. In contrast, treating mental illness as a correlate means interventions must target risk factors in addition to mental illness to prevent IPV and SA.

Although the evidence base for effective interventions in this area is limited, a considerable amount of the available research has investigated the prevalence of violent victimization among women with mental illness, and an emerging body of research has examined risk factors for violent victimization. This literature includes multiple systematic reviews of empirical studies that estimated the prevalence of IPV and SA among women with SMI. However, the wide variation in the scope, methods, rigor, and quality of these systematic reviews—coupled with the lack of a consistent, standardized definition of SMI—means the field still lacks a clear research agenda and direction for intervention development. To address this gap, we conducted a systematic review of reviews to provide a comprehensive and concise summary, comparison, and assessment of the findings, quality, and scope of the existing research pertaining to prevalence of and risk factors for IPV and SA among women with SMI. This type of review has also been described as an *umbrella review*, for which established guidelines are available (e.g., Ortega, Lopez-Briz, & Fraga-Fuentes, 2016; Smith, Devane, Begley, & Clarke, 2011; Tsagris & Fragkos, 2016). Using this guidance and the findings from this synthesis of the literature, we also offer a framework to organize and advance the field's focus on risk and protective factors needed to develop effective interventions and treatment strategies for women with SMI who experience IPV or SA.

Method

In January 2015, our research team conducted a systematic search of seven computerized article databases (PubMed, PsycINFO, CINAHL, Social Work Abstracts, Social Sciences Abstracts, Campbell Collaboration, and Cochrane Collaboration) to identify systematic reviews and meta-analyses of empirical studies evaluating the prevalence of IPV and SA victimization among women with SMI (see Figure 1). These searches used keywords associated with IPV, SMI, prevalence, and systematic reviews (see Table 1). In addition, searches were conducted using terms from the National Library of Medicine's controlled vocabulary of Medical Subject Headings (MeSH), and searches were conducted in PsycINFO using terms from the *Thesaurus of Psychological Index Terms* (Tuleya, 2009; see Table 2). Titles and abstracts of references were reviewed for relevance using the following inclusion criteria: (a) a systematic review or meta-analysis published in English; (b) estimated prevalence of IPV as defined by SA, DV, family violence, rape, or physical assault; (c) study samples consisted of adult women with SMI as defined by major depression, bipolar disorder, schizophrenia, schizoaffective disorder, or psychotic disorder; and (d) published in a peer-reviewed journal. Systematic reviews were excluded if the empirical studies solely examined IPV as a risk factor for developing mental illness. Given the primary aim of this study is focused on reviews estimating prevalence of and risk factors for IPV and/or SA among women with SMI, reviews addressing temporality were not included because they were beyond the scope of this review.

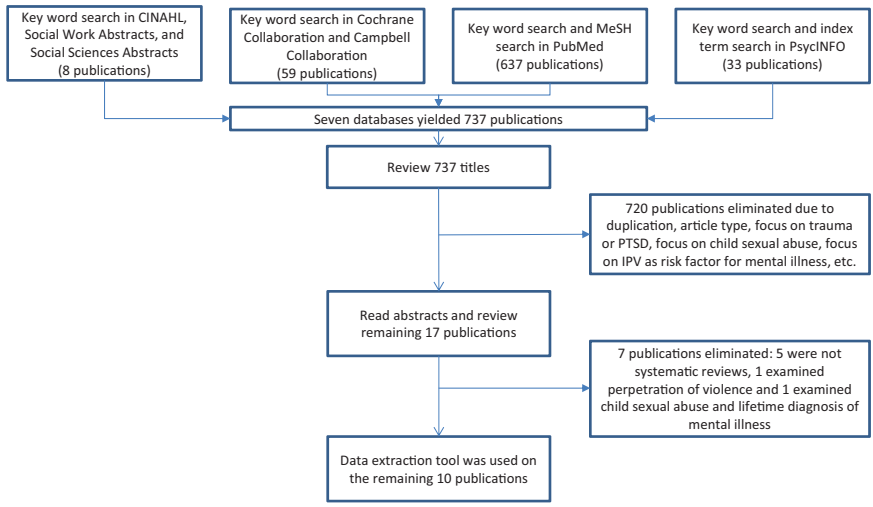

Figure 1. Results of the systematic search.

The research team used a standardized data extraction tool to ensure consistency and thoroughness across each review, and then constructed a summary of eligible articles describing the following key components: (a) the study aim; (b) the type of article (i.e., meta-analysis or systematic review); (c) the number of empirical studies reviewed; (d) the methods used, including sample description and the quality assessment of the studies included in the review; (e) summary of results; (f) discussion, including the strengths, limitations, and implications; (g) definitions of IPV, SA, and SMI; (h) IPV risk factors identified in the study; and (i) any interventions discussed or tested in the study. Data from the extraction tool were then synthesized into two summary tables (see Tables 3 and 4). Data from these tables were critically analyzed and summarized in the Results section.

Study sample

The initial search yielded 737 publications (see Figure 1). Our research team then reviewed titles to eliminate duplicates and articles that did not meet inclusion criteria (e.g., articles that were not systematic reviews or meta-analyses, and publications that focused on children, IPV and its impact on trauma, or IPV as a risk factor for developing mental illness), resulted in 720 eliminated publications. The research team read the abstracts and reviewed the content of the remaining 17 publications against inclusion criteria, and eliminated another 7 articles (5 were not systematic reviews, 1 examined perpetration of violence, and 1 examined child sexual abuse and lifetime diagnosis of mental illness), yielding a final sample of 10 systematic reviews were included in this review.

Table 1. Key words used in systematic searches of literature databases.

Terms	Search words
Intimate partner violence (IPV) and sexual assault (SA)	Domestic violence, spouse abuse, wife abuse, battered women, family violence, intimate partner violence, gender-based violence, violent victimization, sexual assault, rape, sexual violence
Serious mental illness	Severe mental illness, serious mental illness, mental disorder, severe and persistent mental illness, serious mental disorder, psychotic disorder, schizophrenia, bipolar disorder, major depressive disorder
Systematic review	Systematic review, literature review, meta-analysis
Prevalence	Prevalence, frequency, incidence

Table 2. Additional terms from Medical Subject Headings (MeSH) and the thesaurus of psychological index terms.

Terms	MeSH (PubMed)	Psychological index terms (PsycINFO)
Intimate partner violence (IPV) and sexual assault (SA)	Battered women, domestic violence, rape, spouse abuse	Battered females, domestic violence, intimate partner violence, physical abuse, violence
Serious mental illness	Affective disorders, bipolar disorder, depressive disorder, mental disorders, mentally ill persons, psychotic, schizophrenia	Bipolar disorder, chronic mental illness, major depression, mania, mental disorders, paranoid schizophrenia, psychosis, schizophrenia, schizoaffective disorder

Results

Aims, definitions, and foci of reviewed articles

Across the 10 systematic reviews included in this meta-review, the systematic reviews had examined 168 studies, with review samples ranging from 11 to 42 studies. Of the 168 studies, 138 appeared in only one of the systematic reviews, and no study appeared in all 10 systematic reviews included in our umbrella review. All 10 systematic reviews examined the prevalence of victimization among women with SMI, of which three also reported risk factors for violent victimization (Friedman & Loue, 2007; Khalifeh & Dean, 2010; Latalova et al., 2014). Eight of the systematic reviews included studies with individuals who experienced victimization at any point in their lives, whereas two of the systematic reviews included only studies with samples of individuals who had experienced violent victimization within the last 1 to 3 years (Choe et al., 2008;

Table 3. Review of systematic reviews examining intimate partner violence and sexual assault victimization among women with serious mental illness.

Publication	Methods	Key findings	Discussion	Strengths and limitations
Choe et al. (2008)	*Sample* • U.S. sample • 31 publications examining prevalence and incidence of perpetration and victimization *Quality assessment* • None indicated	• Violent victimization rates vary by definition of violence, available data, severity of mental illness, timeframe, and study setting • Rape and sexual assault of outpatients ranged from 2.6% to 12.7% • Prevalence of victimization is higher among the population with psychiatric issues (25%) than the general population (3%)	• Research should focus on: ○ identifying risk factors and predictors of violent victimization; ○ long-term effects of victimization; ○ parallel studies of victimization and perpetration; ○ application of standardized measurement instruments; ○ standard definitions and methodology; and ○ moderation and mediation analyses to specify association of SMI with violent perpetration or victimization. • Policy should focus on interventions that target ○ risk factors of victimization, ○ stigmatization of individuals with SMI, ○ accessibility of mental health services, and	*Strengths* • Examines recent victimization • Provides clear direction for practice, policy, and research *Limitations* • Methodological challenges with studies included in the review might result in over- or under-reporting of victimization and perpetration among the population • No discussion of the context in which abuse occurred (i.e., relationship to victim), thus unable to distinguish what might be IPV and SA perpetrated by intimate partners

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Table 3. Continued

Publication	Methods	Key findings	Discussion	Strengths and limitations
			○ comorbidity of mental health and substance abuse disorders.	
Friedman and Loue (2007)	*Sample* • International sample • 17 publications examining partner violence among women with SMI *Quality assessment* • None indicated	• Prevalence of IPV among women with SMI ranges from 21.4% to 69.7% • Variation in prevalence due to data collection methods and definitions of partner violence and SMI • Certain disorders (e.g., schizophrenia, depression, personality disorders) are considered risk factors for IPV and are associated with higher risk of victimization • Past history of sexual or physical abuse is associated with an elevated risk of IPV	• Research should address methodological limitations, risk factors of violence against women with SMI and violence perpetrated by women with SMI, IPV among women in same-sex relationships • Uniform screening processes among physicians must be in place to detect IPV (among opposite-sex and same-sex partners) as well as PTSD	*Strengths* • Critically analyzes study definitions of IPV and SMI • Examines both perpetration and victimization • Includes analysis of methodological challenges *Limitations* • Reviewed studies have significant methodological limitations, including lack of temporal order (IPV and mental illness), variation in definitions of SMI and IPV, and do not specify context in which violence occurred. These limitations impact the validity of the conclusions drawn from the analysis.
Goodman, Rosenberg, Mueser, and Drake (1997)	*Sample* • U.S. sample • 13 publications examining victimization of women with SMI	• 51%–97% of women with SMI experience physical or sexual abuse during their lifetime	• Increase research related to prevalence and nature of victimization for women with SMI	*Strengths* • Most study samples include respondents with schizophrenia or noted

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Table 3. Continued

Publication	Methods	Key findings	Discussion	Strengths and limitations
	Quality assessment • None indicated	• 12%–75% of women with SMI report more than 3 experiences of physical/sexual abuse • Estimates of victimization vary due to inconsistent definitions of abuse and sample heterogeneity • Physical and sexual abuse is correlated with greater severity of SMI symptoms • Women with SMI and histories of physical or sexual abuse remain in inpatient care longer, show more self-destructive behaviors, and have greater incidence of suicidal thoughts, gestures, and attempts • Schizophrenia is a risk factor for victimization • Victimization might trigger relapse or onset of schizophrenia • Victimization is a risk factor of homelessness, substance abuse, HIV-infection; these paths might also impact symptoms of schizophrenia	• Develop valid and reliable measurement tools that account for cognitive deficits, variability in mental status, and cultural constructions of violence among respondents • Standardize definition of victimization and procedures for assessing incidence among women with SMI • Focus on the correlates of SMI and victimization, including identification of comorbid disorders such as PTSD • Consider including multiple covariates in studies with comparison groups	symptoms associated with psychotic disorders • Authors outline gaps in the knowledge and provide a clear agenda for future research *Limitations* • Reviewed studies do not sufficiently describe methods used • Heterogeneity of study methods (e.g., study samples, definitions used) limits ability to compare results across studies • Reviewed studies do not distinguish between victimization perpetrated by intimates and victimization by nonintimates

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Table 3. Continued

Publication	Methods	Key findings	Discussion	Strengths and limitations
Howard et al. (2010)	*Sample* • International sample • 26 publications examining prevalence of DV among those with SMI and/or interventions for DV among those with SMI *Quality assessment* • None indicated	• Estimated prevalence rates of lifetime DV for inpatients: 34%–63% of women and 14%–48% of men • Past-year prevalence estimates were 22%–76% for women and 48% for men • Prevalence rate for outpatients: 15%–90% for women and 0%-13% for men Past-year prevalence estimates for outpatients: 19%–86% of women and 5% of men reported DV in the past 6 months	• Valid determination of DV risk for those with SMI requires (a) comparison samples, (b) consistent measures and timing of DV, and (c) reliable DV reporting • Valid determination of risk for different types of abuse among individuals with SMI cannot be made without information on the context and type of abuse. Such information is needed to address challenges associated with different types of abuse	*Strengths* • Review authors address the limitations regarding definitions of DV *Limitations* • Does not define SMI • Insufficient description of methods • Studies on DV prevalence do not include comparison groups
Hughes et al. (2012)	*Sample* • International sample 26 publications from 1990 to 2010 that report on recent violent victimization of adults with disabilities *Quality assessment*	• Estimates for prevalence of violence varied widely people with SMI had highest prevalence rates of past-year violence (24.3%), followed by intellectual impairments (6.1%), and nonspecific impairment (3.2%)	• Research should focus on temporal designs to further explore risk factors associated with violence and disability • More research is needed from middle- and low-income countries • Methodological limitations of studies hinder efforts to	*Strengths* • Review and meta-analysis has strong methodology • Includes quality assessment of Methods and Discussion of reviewed studies • Offers comparison across disability groups

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Table 3. Continued

Publication	Methods	Key findings	Discussion	Strengths and limitations
	• Study quality assessed using a standardized tool • Authors did not eliminate low-quality studies	• People with SMI had highest prevalence rates of physical violence (21.4%), followed by intellectual impairments (9.9%), and nonspecific impairment (2.9%) • Among those with SMI, the prevalence of sexual violence was 5.5%, and prevalence of IPV was 37.8% • People with SMI have highest risk of violence and highest prevalence of violence • Those with nonspecific impairments have lowest risk and lowest prevalence of violence	address violent victimization of people with disabilities • Field needs high-quality epidemiological research that uses standardized measures	*Limitations* • Review studies have weak and inconsistent methodologies • Studies were cross-sectional • Many reviewed studies did not include comparison groups • Most reviewed studies are representative of higher income countries
Khalifeh and Dean (2010)	*Sample* • International sample • 11 studies examining prevalence of victimization by gender among populations with SMI	• Studies yielded inconsistent findings on gender differences in prevalence of victimization • Compared with the general population, women with SMI have a 13- to 19-fold increase in	• Gender must be considered when identifying pathways and risk factors for victimization • Policy should focus on routine inquiry about victimization of individuals with SMI	*Strengths* • Review uses a post hoc analysis to examine risk factor distribution for men and women with SMI • Provides theoretical orientation for risk factor

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Table 3. Continued

Publication	Methods	Key findings	Discussion	Strengths and limitations
	Quality assessment • None indicated	victimization; men with SMI have a 9- to 11-fold increase • Personality disorders, young age of symptom onset, and history of victimization were risk factors • Risk factors specific to men with SMI included history of assault, lack of an intimate partner, medication noncompliance, and drug use/history of drug use • Risk factors for women included lack of support and homelessness	• Research is needed on context in which victimization occurs, gender-specific risk profiles, interactions of gender, risk factors, and SMI, gender differences in trauma symptoms • Interventions need to target socioeconomic domains of housing, employment, and financial support • Research should explore gender and victimization using theoretical frameworks to develop hypotheses • Research on context of victimization is needed to understand risk factors and to identify potential areas for intervention	identification *Limitations* • No discussion of quality of reviewed studies • No conclusions can be drawn about gender differences in victimization because of inconsistencies in the reviewed studies, including varying measures, inconsistent inclusion/exclusion criteria, wide variation in study periods, and discrepant definitions and study settings
Latalova, Kamaradova, and Prasko (2014)	*Sample* • International sample • 28 studies *Quality assessment*	• Prevalence of violent victimization varies across studies, 7.1%–56%	• Clinical staff must be able to identify IPV and current/past PTSD via routine assessments	*Strengths* • Authors describe clear criteria for inclusion in the review

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Table 3. Continued

Publication	Methods	Key findings	Discussion	Strengths and limitations
	• None indicated	• Females with SMI experience higher rates of sexual violence (20.3%) than men with SMI (7.6%) or both genders without SMI • Evidence as to whether men or women with severe mental illness experience higher rates of nonsexual victimization is not conclusive • Individuals with SMI who abuse substances are more likely to experience violent victimization than counterparts who do not abuse substances • Strong association was found between homelessness and violent victimization • For those with SMI, strong association was found between comorbid personality disorders and violent victimization	• IPV should be included in routine assessments of people with SMI • Homelessness and comorbid substance-use disorders must be targeted to reduce risk of victimization • Interventions to address client safety might involve cognitive-behavioral programs, medication management, and assertive engagement	• Authors discuss risk factors and correlates of IPV among people with SMI *Limitations* • Authors do not assess quality of research studies included in the review • Only a subgroup of studies define SMI, but definitions are inconsistent • Definitions of *substance use disorders* and *homelessness* are inconsistent across studies • Only a subgroup of studies use a standardized tool for diagnostic assessment; others rely on patient self-report of SMI • Comparisons across studies not possible due to lack of consistent time frames (e.g., lifetime vs. past year victimization) • Substantial variation in sample sizes makes comparisons across studies difficult

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Table 3. Continued

Publication	Methods	Key findings	Discussion	Strengths and limitations
Mauritz, Goossens, Draijer, and van Achterberg (2013)	*Sample* • International sample • 33 journal articles Quality assessment • Researchers assessed quality based on study design, sampling, use of assessment tools to determine diagnosis, and measures of trauma exposure • Quality criteria not used as selection criteria	• Prevalence rates of physical and sexual abuse ranged by diagnostic group; those with SMI, schizophrenia spectrum disorders, or borderline personality disorder had higher rates compared with those with major depressive disorder or bipolar disorder • Among individuals with SMI, prevalence of physical abuse was 47% and prevalence of sexual abuse was 37% • Women with SMI had higher rates of sexual abuse than men • Prevalence rates of physical and sexual abuse were higher among those with SMI compared with the general population (47% vs. 21% and 37% vs. 23%, respectively)	• To address under reporting, clinicians should routinely assess for interpersonal trauma • PTSD in individuals with SMI must be treated given the negative impact of symptoms on mental health and quality of life • Researchers should examine potential risk factors for developing PTSD, including emotional neglect, physical neglect, and emotional abuse	*Strengths* • Author assesses quality of the studies included in the review *Limitations* • No description given of the context in which interpersonal trauma occurred

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Table 3. Continued

Publication	Methods	Key findings	Discussion	Strengths and limitations
		• Those experiencing interpersonal trauma have greater symptom severity than those without interpersonal trauma		
Oram, Trevillion, Feder, and Howard (2013)	*Sample* • International sample • 42 journal articles *Quality assessment* • Assessed quality of study design, sample, statistical analysis methods, and criteria indicating DV	• Approximately 1/3 of women inpatients and outpatients experience IPV • 18% of men in psychiatric settings experience physical IPV and 4% report sexual violence • Estimates of IPV types vary due to differences in study methods	• Field lacks high-quality studies on DV in psychiatric populations that include diagnostic information and nonpsychiatric comparison groups • Critical research gap regarding prevalence of DV among male psychiatric patients	*Strengths* • Provides a clear definition of DV • Authors assess quality of reviewed studies and note quality of study in discussion of each study's findings • Review makes distinction between IPV and violence by others • Authors critique methods of reviewed studies, including sampling technique and inclusion/exclusion criteria *Limitations* • No definition given for SMI • Study samples are not limited to people with SMI

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Table 3. Continued

Publication	Methods	Key findings	Discussion	Strengths and limitations
				• Diagnostic information not available for all studies included in the review • Quality of reviewed studies varies widely, contributing to substantial variation in estimates of prevalence rates • Studies do not include nonpsychiatric comparison groups • No standard method used to assess DV. Substantial differences in assessment approaches, such as face-to-face interview versus self-report questionnaires.
Trevillion, Oram, Feder, and Howard (2012)	*Sample* • International sample • 41 studies Quality assessment • Quality evaluation conducted using a standard instrument that included an assessment of selection bias	• Women and men with mental illnesses are more likely to experience both lifetime and past-year partner violence than are people without mental illness • Prevalence of lifetime partner violence among women with depressive	• Greater emphasis must be placed on professionals who have DV training screening patients to identifying DV • Field should focus on developing and evaluating interventions that reduce DV among population with mental illnesses and	*Strengths* • Review includes a quality assessment of each of the 41 studies and a comprehensive assessment of the limitations of study findings • Authors examine the prevalence and odds of partner violence across

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Table 3. Continued

Publication	Methods	Key findings	Discussion	Strengths and limitations
	• Studies with quality scores ≥50% were considered high quality • Quality scores were not used as inclusion/exclusion criteria	disorders ranged from 15.6% to 89.2% • Prevalence of past-year partner violence among women with depressive disorders ranged from 1.7% to 82.5% • Based on one survey, 26.7% women with bipolar disorder experienced lifetime physical partner violence and an odds ratio of 8.14 (95% CI = [6.99, 9.47])	address mental health of survivors	diagnostic categories and by gender • Review includes empirical studies that used a standardized and validated tool to determine mental health diagnoses *Limitations* • High degree of heterogeneity across the studies • Definition of DV varies widely across studies, especially as related to time and type of behavior; this variation contributes to the high degree of heterogeneity • Studies did not control for confounders such as childhood abuse • Authors assessed 1/3 of the studies as low quality research • More than 50% of the studies use nonprobability sampling, and a significant number of studies had other issues related to selection bias

IPV: intimate partner violence; SA: sexual assault; SMI: serious mental illness; DV: domestic violence; PTSD: post-traumatic stress disorder; CI: confidence interval.

Table 4. Analysis of definitions, risk factors, and interventions.

Publication	Definitions	Risk factors identified	Interventions identified
Choe et al. (2008)	*IPV/SA or victimization* • Does not distinguish between IPV or SA perpetrated by intimates or others • Victimization defined as rape, sexual assault, robbery, and physical assault *SMI* "A subset of psychiatric disorders–psychotic disorders and major affective disorders–characterized by severe and persistent cognitive, behavioral, and emotional symptoms that reduce daily functioning" (p.153–154) *Critical analysis of definitions* • Included each study's definition of violence and examined results based on how broadly or narrowly the study-defined violence • Authors noted that studies of perpetration and victimization are hampered by the lack of consistent definitions of violence • Authors did not discuss other limitations of inconsistent definitions on the generalizability of study findings	• None. Review did not examine risk factors. • Authors suggest research should focus on clinical and environmental risk factors associated with violent victimization: effects of clinical symptoms, homelessness, neighborhood factors, and lifestyle on risk of violent victimization	• No specific intervention identified • Authors recommend focusing interventions on modifiable risk factors such as medication compliance, managing conflictual relationships, substance use, homelessness, and other strategies for managing symptoms

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Table 4. Continued

Publication	Definitions	Risk factors identified	Interventions identified
Friedman and Loue (2007)	*IPV/SA or victimization* • Authors distinguish between violence by strangers and violence by intimate partners • IPV defined as the "perpetration of physical or sexual violence on an individual by his or her intimate partner in the context of a romantic or sexual relationship" (p. 472) *SMI* • SMI defined as including major depressive disorder, schizophrenia, schizoaffective disorder, and bipolar disorder *Critical analysis of definitions* • Authors discuss the variation in definitions of SMI and the methodological limitations imposed by inconsistent definition of terms	• Authors identify following risk factors for partner violence: schizophrenia, depression, anxiety, personality disorders, and substance abuse or dependence • Specific symptoms related to schizophrenia might increase vulnerability and risk of victimization, including symptoms of poor or limited reality testing, impaired judgment, challenges related to planning, and difficulty with social relationships • Early victimization identified as a risk factor for future victimization	• Suggest routine screening for IPV • Authors do not identify specific interventions nor make recommendations for intervention targets
Goodman et al. (1997)	*IPV/SA or victimization* • Review does not distinguish between perpetrators (i.e., intimates vs. strangers).of sexual and physical abuse • Examines sexual and physical abuse in childhood and adulthood defined as – *Physical abuse*: "an act intended to produce severe pain or injury, including repeated slapping, kicking, biting,	• None. Review does not examine IPV risk factors. • Authors examine whether abuse can precipitate emergence or enhancement of symptoms of schizophrenia • Authors discuss whether schizophrenia is a risk factor for adult abuse	• Authors discuss psychosocial group intervention based on social learning theory (see Harris & Fallot, 1996) ○ This intervention focuses on intrapersonal skills, identity formation, problem-solving skills, and initiative taking

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Table 4. Continued

Publication	Definitions	Risk factors identified	Interventions identified
	choking, burning, beating, or threatening with or using a weapon." (p. 685) – *Sexual abuse*: "forcible touching of breasts or genitals or forcible intercourse, including anal, oral, or vaginal sex." (p.685) *SMI* • No definition of SMI provided • Review inclusion criteria specified studies had to include samples of respondents with an Axis I disorder • Review excluded studies of outpatient populations if not exclusively composed of adults with SMI or chronic mental illness *Critical analysis of definitions* • Authors discuss how inconsistencies in definitions can account for the wide range in prevalence rates		○ Unclear if intervention addresses safety
Howard et al. (2010)	*IPV/SA or victimization* • Review focus is not exclusively on IPV • Includes studies of nonintimate partner relations (e.g., other family members) • Review indicates a focus on DV defined as "any incident of threatening behavior,	• Authors discuss risk factors for DV present in the general population, including gender, age, marital status (i.e., women who are separated), history of child abuse,	• Authors suggest education of professionals should include training in how to conduct routine screenings for DV in a safe, confidential way

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Table 4. Continued

Publication	Definitions	Risk factors identified	Interventions identified
	violence or abuse (psychological, physical, sexual, financial, or emotional) between adults who are or have been an intimate partner or family member, regardless of gender or sexuality" (p.881) *SMI* • No definition provided • Authors reference studies of individuals with SMI *Critical analysis of definitions* • Authors acknowledge need for consistent definitions • Report results by definitions of abuse • No discussion of impact of inconsistencies on the generalizability of studies	pregnancy, and environmental factors (e.g., poverty, political violence in the community) • Authors conclude risk of DV among individuals with SMI cannot be determined without comparison samples, consistency in the measurement and timing of DV, and reliable reporting of DV	• Authors suggest screening tools appropriate for adults with SMI: ○ Composite Abuse Scale (Hegarty, Bush, & Sheehan, 2005; Hegarty, Sheehan, & Schonfeld, 1999) • Authors caution that routine screening should take place only if intervention can be offered • Discuss DV interventions and cognitive-behavioral therapy focused on trauma ○ Note these interventions and supporting evidence are not available for patients with SMI and are experiencing DV
Hughes et al. (2012)	*IPV/SA or Victimization* • IPV is 1 of 5 categories of violence in the analysis: physical violence, sexual violence, IPV, any violence, and violence by a caregiver • IPV defined by violence (physical or sexual) "perpetrated by an intimate or dating partner" (p. 1622) *SMI*	• Authors note heightened risk of violent victimization for people with disabilities • Note some disability groups might have higher risk of violent victimization (e.g., those with SMI) • Note comparison groups are needed in order to have a	• No specific intervention identified

(continued)

Table 4. Continued

Publication	Definitions	Risk factors identified	Interventions identified
	• SMI defined as "schizophrenia and schizoaffective disorders, bipolar disorder, major depression, alcohol-induced or drug-induced psychosis, psychosis, major affective disorder, other psychotic disorder, mania, delusions, personality disorder, anxiety (including post-traumatic stress disorder), somatoform disorders, dementia" (p. 1622) • Authors define each category of disability: nonspecific impairments, mental illness, intellectual impairments, physical impairments, and sensory impairments *Critical analysis of definitions* • Researchers note the need for standardized measurement tools • Do not discuss the challenges posed by inconsistent definitions	comprehensive understanding of risk of violence	
Khalifeh and Dean (2010)	*IPV/SA or victimization* • Review was not limited to IPV • Definition of victimization was not provided • Outcomes measured in the tables indicate physical and sexual assault *SMI* • No definition provided	• Authors conducted a post hoc analysis on the UK700 study (Dean et al., 2007) to examine risk factors. Their preliminary analysis indicated risk factors for victimization of those with SMI (either gender) included young age of psychosis, pervious	• Intervention targets might differ for men and women • Intervention design should be based on the gender-specific risk pathways (e.g., substance abuse among men, and homelessness and social support among women)

(continued)

Table 4. Continued

Publication	Definitions	Risk factors identified	Interventions identified
	• Samples in reviewed studies range from adults receiving psychiatric services to adults with schizophrenia who were discharged from psychiatric inpatient facilities *Critical analysis of definitions* • Brief discussion of definitions is limited to noting the difficulty of making comparisons across studies due to different definitions of victimization and different outcome measures	victimization, and comorbid personality • Risk factors specific to men were history of assault, lack of an intimate partner, and drug abuse • Risk factors specific to women were lack of regular contact with family members and a history of homelessness • Authors cautioned that this analysis was preliminary and further research on regarding risk pathways is needed	• Intervention targets might be beyond clinical services, such as homelessness, financial support, social support
Latalova et al. (2014)	*IPV/SA or victimization* • Authors did not define these terms • Authors used terms related to victimization for the search terms, and included studies reporting on sexual abuse, sexual assault, physical assault, physical abuse, nonviolent victimization, violent victimization *SMI* • Review did not include definition of SMI • Reviewed studies included samples of respondents with SMI, including schizophrenia, bipolar disorder, major	• Substance abuse: People with SMI who abuse substances have a higher risk of victimization than those who do not abuse substances • Comorbid personality disorder was associated with violent victimization among people with SMI • Strong association between homelessness and violent victimization of those with SMI; however, the temporal	• Review authors discuss need for medication management, assertive outreach, and a focus on ensuring protection and safety of client • No specific interventions identified

(continued)

Table 4. Continued

Publication	Definitions	Risk factors identified	Interventions identified
	depression, or other psychotic disorders *Critical analysis of definitions* • Review includes discussion of impact on study findings caused by the lack of a standardized definition of SMI	relationship cannot be determined from the available studies	
Mauritz et al. (2013)	*IPV/SA or Victimization* • Review authors do not distinguish between victimization of people with SMI perpetrated by intimates or others • Review examines types of interpersonal trauma, including emotional abuse, emotional neglect, physical abuse, physical neglect, and/or sexual abuse in childhood and/or adulthood • Review also examines trauma-related disorders defined as PTSD; PTSD with associated features; complex PTSD; and various dissociative disorders not included in this study *SMI* • Defined as a *DSM-IV* disorder with a duration of 2 years or more, plus a Global Assessment of Functioning score of 60 or less, or a minimum of 3 disabilities *Critical analysis of definitions*	• Authors indicate the need to explore specific risk factors for developing PTSD including emotional neglect, emotional abuse, and physical neglect as risk PTSD specifically • Review authors do not discuss risk factors for IPV broadly	• Review includes brief discussion addressing PTSD using cognitive restructuring, eye movement desensitization and reprocessing, and prolonged exposure • Authors do not identify potential interventions to address IPV in women with SMI

(continued)

Table 4. Continued

Publication	Definitions	Risk factors identified	Interventions identified
	• No analysis of the impact of definitions on generalizability		
Oram et al. (2013)	*IPV/SA or victimization* • A focus on IPV but includes family violence • Review defines DV as "any incident of threatening behavior, violence or abuse (psychological, physical, sexual, financial or emotional) between adults who are or have been intimate partners or family members regardless of gender or sexuality." (p. 94) *SMI* • SMI not defined • Studies included in the review included populations receiving psychiatric treatment in inpatient, outpatient or community-based settings *Critical analysis of definitions* • Authors discuss the effect on generalizability of study findings caused by inconsistent measurement tools and assessment of DV • No discussion of variable/lack of SMI definitions *IPV/SA or victimization*	• Authors note the reviewed studies lack non-psychiatric control groups for comparison, making it difficult to determine risk factors for IPV or DV	• None identified

(continued)

Table 4. Continued

Publication	Definitions	Risk factors identified	Interventions identified
Trevillion et al. (2012)	• Review authors provide explicit definition: "Any incident of threatening behavior, violence, or abuse (psychological, physical, sexual, financial, or emotional) between adults who are or have been intimate partners or family members regardless of gender or sexuality" (online Supplemental Text 3) *SMI* • Review does not distinguish between any mental illness and SMI • Reviewed studies included any mental disorders as defined by ICD-10 and *DSM-IV* • Authors calculate odds ratios and prevalence rates by type of mental illness *Critical analysis of definitions* • Authors note heterogeneity in findings is due in part to variability in definitions of DV	• None. Review did not examine risk factors.	• Authors discuss need for interventions, but review does not identify specific interventions

IPV: intimate partner violence; SA: sexual assault; SMI: serious mental illness; DV: domestic violence; ICD-10: International Statistical Classification of Diseases and Related Health Problems, 10th edition; *DSM-IV*: *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition.

Hughes et al., 2012). Although some studies examined perpetration of violence, victimization among men with SMI, and victimization among people with disabilities in general (Choe et al., 2008; Friedman & Loue, 2007; Hughes et al., 2012; Khalifeh & Dean, 2010; Trevillion et al., 2012), here we included only findings of prevalence for violent victimization among women with SMI.

Type of violent victimization. Four of the 10 systematic reviews focused on either IPV or DV (Friedman & Loue, 2007; Howard et al., 2010; Oram et al., 2013; Trevillion et al., 2012). Although the majority of empirical studies included in the systematic reviews of DV focused on violence by intimate partners, some of these studies also included abuse by nonintimates. Notably, five of the six remaining systematic reviews focused on violent victimization in general without distinguishing between violence committed by intimate partners and violence committed by strangers or other family members. Moreover, the definition of violent victimization used in these five systematic reviews included SA experienced at any time from childhood to adulthood. The final systematic review (Hughes et al., 2012) reported on victimization in general and included a specific category for IPV.

Definitions of SMI included in systematic reviews. Eight systematic reviews focused on victimization of adults with SMI, one study included sample populations of men and women aged 16 years and older (Trevillion et al., 2012). One study focused on violence perpetrated against multiple categories of disabilities, of which mental illness was one (Hughes et al., 2012) and three of the studies specifically defined SMI (Choe et al., 2008; Hughes et al., 2012; Mauritz et al., 2013). For instance, Mauritz et al. (2013) stated SMI is indicated if the diagnosis is in the *Diagnostic and Statistical Manual of Mental Disorders* (specifically *DSM-III*, *DSM-IV*, or *DSM-IV-TR*; American Psychiatric Association, 1980, 1994, 2000); the illness has a duration of 2 years or more; and the symptoms impact the individual's functional capacity or the individual has a minimum of three disabilities. Although four systematic reviews did not specifically define SMI, the authors of each of these reviews had specified inclusion/exclusion criteria that indicated a focus on the adult population with SMI (Friedman & Loue, 2007; Goodman et al., 1997; Latalova et al., 2014; Trevillion et al., 2012). For example, the empirical studies reviewed by Friedman and Loue (2007) included studies of persons with major depressive disorder, schizophrenia, schizoaffective disorder, and bipolar disorder. Additionally, three systematic reviews focused on psychiatric populations in general but did not distinguish between psychiatric conditions and functional impairment (Howard et al., 2010; Khalifeh & Dean, 2010; Oram et al., 2013).

Study quality and rigor. Of the 10 systematic reviews included in this meta-review, four used a predetermined set of criteria to assess the quality of the empirical studies included in their review (Hughes et al., 2012; Mauritz et al., 2013; Oram et al., 2013; Trevillion et al., 2012). Of the remaining six systematic reviews, two

included a critical analysis of the methodological limitations of the reviewed studies (Friedman & Loue, 2007; Goodman et al., 1997), whereas four provided only a cursory assessment of study limitations (Choe et al., 2008; Howard et al., 2010; Khalifeh & Dean, 2010; Latalova et al., 2014).

Among the four systematic reviews that used a standard quality assessment protocol, the authors found a majority of the empirical studies were of low quality. For instance, the systematic review conducted by Mauritz et al. (2013) reviewed 33 studies, none of which met 50% of the quality assessment criteria that pertained to selection bias. In addition, authors of other systematic reviews noted that variability in the study quality and methodological heterogeneity contributed to wide ranges in prevalence estimates of IPV and SA victimization, which limited the validity of study results. Notably, the authors of all 10 systematic reviews identified significant methodological limitations among the studies included in their reviews, including (a) biased sampling techniques; (b) unclear definition or application of core concepts; (c) lack of standardized measurement instruments, surveys, and items (i.e., tools with limited or untested reliability and validity); and (d) failure to identify the type and context of IPV.

Prevalence of IPV and SA victimization

Reports of general victimization. Of the five systematic reviews examining general victimization, four reviews reported that prevalence of victimization was higher among women with SMI than in the general population (Choe et al., 2008; Khalifeh & Dean, 2010; Latalova et al., 2014; Mauritz et al., 2013). Specifically, Khalifeh and Dean (2010) reported the studies in their review indicated a 13- to 19-fold increase in victimization of women with SMI. In addition, Choe and colleagues (2008) reported that prevalence of victimization in the psychiatric population was 25% as compared with 3% in the general population. Although Mauritz et al. (2013) reported similar between-group differences in the prevalence of violent victimization among those with SMI and the general population, their estimates of prevalence rates were considerably higher than those reported in other reviews. Based on their review of 33 studies, Mauritz et al. (2013) estimated that, as compared with 21% of the general population, 47% of individuals with SMI had experienced physical abuse. Further, Mauritz et al. also estimated that as compared with 23% of the general population that had experienced SA, 37% of individuals with SMI had experienced SA. Several authors of systematic reviews noted the limited number of empirical studies with general population comparison groups. Consequently, caution should be exercised when making comparisons between women with SMI and the general population.

The systematic reviews also showed that the rates of victimization varied widely across empirical studies. Goodman et al. (1997) reported that between 51% and 97% of women with SMI were physically or sexually victimized during their lifetime. Mauritz et al. (2013) found slightly lower prevalence rates of lifetime physical or sexual victimization among women with SMI, with rates ranging from 25% to

72% for physical abuse and from 24% to 49% for sexual abuse. Conversely, Choe et al. (2008) estimated the prevalence of rape and SA of women with SMI ranged between 2.6% and 12.7%, whereas Hughes et al. (2012) estimated sexual violence at 5.5% of women with SMI. Several studies attributed wide variation in prevalence estimates to variation in the definitions of victimization, sample population, diagnostic composition, and methodological limitations of empirical studies (Choe et al., 2008; Friedman & Loue, 2007; Goodman et al., 1997; Howard et al., 2010; Mauritz et al., 2013).

The systematic reviews also showed that prevalence rates of violent victimization varied by disability type. In the review conducted by Hughes et al. (2012), the authors compared violent victimization across multiple types of disabilities and found the highest prevalence rate of recent violence was among those with mental illnesses (24.3%), with considerably lower rates reported for those with intellectual impairments (6.1%) and nonspecific impairments (3.2%). In addition, Mauritz et al. (2013) indicated that when compared with individuals with major depressive disorder or bipolar disorder, the highest prevalence rates of physical and sexual abuse were among those with schizophrenia spectrum disorders, borderline personality disorder, or those labeled generally as having SMI.

IPV and domestic violence. Five systematic reviews reported specifically on IPV or DV (Friedman & Loue, 2007; Howard et al., 2010; Hughes et al., 2012; Oram et al., 2013; Trevillion et al., 2012). Of these systematic reviews, two reviews reported wide ranges of IPV or DV among individuals with SMI (Friedman & Loue, 2007; Howard et al., 2010). Friedman and Loue (2007) indicated between 21.4% and 69.7% of individuals with SMI experienced IPV. Howard et al. (2010) reported lifetime prevalence rates of DV for women inpatients ranged from 34% to 63% (excluding an outlier study), whereas past-year prevalence estimates ranged from 22% to 76%. For outpatient samples, the range was much larger. Between 15% and 90% reported DV in their lifetime, 19% to 86% reported DV within the past year, and 8% reported DV within the past 6 months (Howard et al., 2010).

The remaining three systematic reviews that specifically focused on IPV reported similar prevalence rates of partner violence. A meta-analysis by Trevillion et al. (2012) indicated that the prevalence estimates were wide-ranging and contingent upon diagnosis. For instance, the prevalence of lifetime partner violence ranged from 15.6% to 89.2% for women with depressive disorders whereas the range was between 43.8% and 83.3% for women with schizophrenia (Trevillion et al., 2012). Oram et al. (2013) reported that approximately one-third of all women inpatients and outpatients experienced partner violence in their lifetime. Hughes et al. (2012) estimated that 37.8% of people with mental illness experienced IPV. The authors of these reviews attributed the wide variation in prevalence estimates to differences in data collection methods and the inconsistent definitions of IPV and SMI.

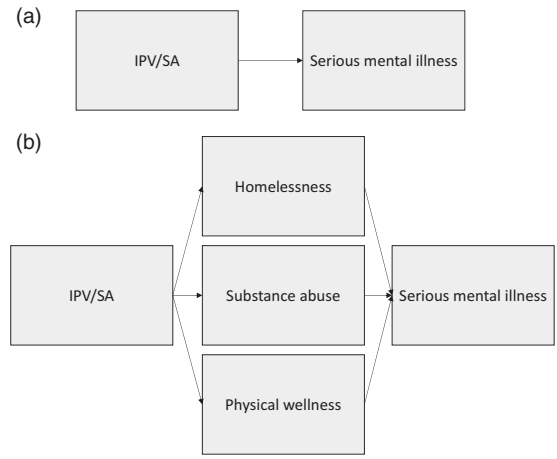

Figure 2. Direct and mediated relationship between IPV/SA and serious mental illness: (a) shows the direct relationship between IPV/SA and serious mental illness suggesting that IPV/SA may cause serious mental illness (b) depicts the effect of IPV/SA on serious mental illness mediated by risk factors such as homelessness, substance abuse, and physical wellness.

Risk of victimization

Of the 10 reviews, four discussed risk factors explaining why people with SMI have higher rates of IPV or SA compared with the general population (Friedman & Loue, 2007; Goodman et al., 1997; Khalifeh & Dean, 2010; Latalova et al., 2014). Findings can be summarized into four potential risk mechanisms. The first hypothesized risk mechanism posits a direct relationship between IPV and/or SA and SMI (Figure 2(a)). In other words, people experiencing IPV and/or SA might develop SMI as a result of the victimization (Goodman et al., 1997). In addition, once victimized, individuals have a higher risk of revictimization, which could account for the higher prevalence among women with SMI (Friedman & Loue, 2007). A second hypothesized risk mechanism suggests that the relationship between IPV and/or SA and SMI is mediated by a set of risk factors that trigger symptoms of SMI (Figure 2(b)). Specifically, people who experience IPV and/or SA are at higher risk of homelessness, substance use disorders, and poor physical health, all of which can exacerbate symptoms of mental illness (Goodman et al., 1997; Latalova et al., 2014). The hypothesized third risk mechanism posits that mental illness is itself a risk factor for victimization (Figure 3(a); Friedman & Loue, 2007). Specifically, results suggested that risk factors for victimization included schizophrenia, personality disorders, depression, and anxiety (Friedman & Loue, 2007; Goodman et al., 1997). Extending from this third mechanism, a fourth hypothesized risk mechanism suggests the relationship between SMI and IPV and/or SA is mediated through a set of risk factors, namely history of assault, abuse, IPV, or

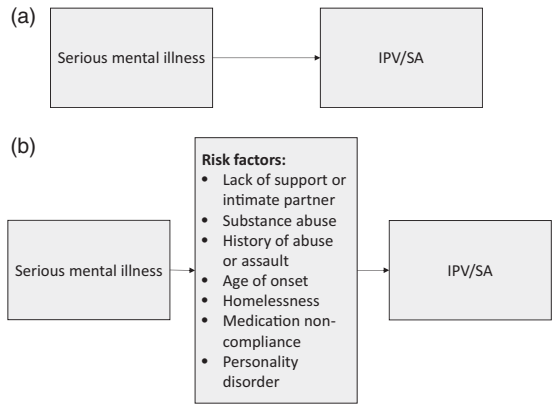

Figure 3. Direct and mediated relationship between serious mental illness and IPV/SA: (a) shows the direct relationship between serious mental illness and IPV/SA suggesting that serious mental illness is a risk factor for IPV/SA (b) depicts the effect of serious mental illness on IPV/SA as mediated by a set of risk factors.

SA; personality disorder; age of onset; lack of an intimate partner; drug use; lack of support; homelessness; substance abuse; and medication noncompliance (Figure 3(b); Khalifeh & Dean, 2010).

Notably the findings from this meta-review showed that the associated direction of the relationship between mental illness and victimization was not yet clear given the available evidence. Although some reviews reported that victimization might be a risk factor for the onset or relapse of schizophrenia, others studies suggested that the relationship between IPV and/or SA and SMI was mediated by interpersonal and socioeconomic risk factors (Goodman et al., 1997; Khalifeh & Dean, 2010). In addition to the methodological limitations previously discussed, "temporal ambiguity" presented a significant challenge when describing the risk factors associated with victimization (Friedman & Loue, 2007; Khalifeh & Dean, 2010). It remains unclear the extent to which mental illness posed greater risk for victimization or whether victimization presented a greater risk for developing mental illness. Additional research is needed to better define the temporal relationship as well as the relationships among women's social circumstances, economic resources, and victimization risk.

Discussion

Whether social workers are working within the mental health service sector or are providing services to IPV and/or SA survivors, it is likely that all social workers will encounter individuals who have experienced or are experiencing SMI and IPV. Accordingly, it is critical that social workers understand the intersection of mental health and IPV and/or SA among women with SMI, as well as the issues related to

practice, policy, and research for this highly vulnerable population. Moreover, schools of social work should equip their students with a clear understanding of not only the prevalence and incidence of IPV and SA among those with SMI, but also the unique needs of this marginalized population. To these ends, the following section presents specific recommendations with respect to social work practice, policy, and research.

Implications for practice

Two common recommendations for practice emerged from the review: (a) establishing routine IPV and/or SA screening in mental health settings; and (b) developing interventions that address women's mental health and safety needs concurrently and comprehensively.

Routine screening. In the absence of routine screening and assessment of IPV and/or SA, clinicians often rely on voluntary reporting from clients, which ultimately results in under reporting (Friedman & Loue, 2007; Howard et al., 2010; Khalifeh & Dean, 2010). Consequently, the results of this meta-review support the recommendation that mental health service providers should use valid and reliable screening instruments to identify women who are experiencing or who are at elevated risk of experiencing IPV and/or SA. Accordingly, we encourage organizations and providers who work with women with SMI to implement routine violence victimization screening with their clients.

Fortunately, a growing body of research has emerged regarding best practices for screening and assessing IPV and/or SA in the context of health care delivery (e.g., Macy, Ermentrout, & Johns, 2011; Robinson & Spilsbury, 2008; Spangaro, Zwi, & Poulos, 2009). Such best practices urge providers to (a) build a trusting relationship with victims/survivors of violent victimization, (b) conduct victimization screenings and assessments with privacy and confidentiality, (c) support women's disclosure of IPV and/or SA experiences with relevant resources and referrals, and (d) use specific strategies to facilitate women's disclosure such as offering emotional support and nonjudgmental responses. The Centers for Disease Control and Prevention offers a compendium of IPV and SA assessment instruments for use in health care settings (see Basile, Hertz, & Back, 2007); we recommend readers obtain a copy of this compendium for use in their clinical practices. Similarly, social workers should consider posting flyers, pamphlets, and posters pertaining to IPV in their offices and buildings to inform women about IPV and helpful resources in their local community. Having such information publically displayed and widely available can help increase women's awareness of IPV and sources of support.

In addition, we encourage IPV and/or SA service providers to consider using standardized mental health screening tools to help identify those with mental health conditions. For instance, the Mini-International Neuropsychiatric Interview (MINI; Sheehan et al., 1998) contains multiple tools that assess for

mental illness, and which have utility for informing referrals from IPV and/or SA agencies to mental health providers. The MINI also contains a PTSD screening instrument that could be routinely administered to help ensure that women experiencing IPV and/or SA are not misdiagnosed with other SMIs and receive appropriate referrals to treatment and support. In choosing a routine screening process, mental health and IPV and/or SA service providers must consider the resources available in their agency.

Intervention development. Based on the findings of this meta-review, very few rigorously researched interventions are available that have been designed specifically to address IPV and/or SA among women with SMI. Further, this meta-review clearly shows that treatment providers cannot assume that study results of existing interventions designed to address IPV and SA can be generalized to women with SMI. In fact, two systematic studies we reviewed as part of this research recommended modifying existing interventions to suit the needs of women with SMI. Goodman et al. (1997) referred primarily to trauma and PTSD among those with SMI and the need to modify trauma-focused interventions to meet the specific treatment needs of individuals with schizophrenia. Similarly, Howard et al. (2010) noted that treatment interventions showing evidence of positive outcomes for those with trauma or victimization histories cannot simply be implemented among individuals with SMI who are currently experiencing victimization. Rather, Howard et al. (2010) urged that existing interventions be modified to meet the specific needs of women with SMI, as well as be adapted for delivery by human services personnel who usually do not have clinical expertise or training in working with people with SMI.

Similarly, an urgent need exists for tailored safety interventions for women with SMI because even though service providers in nonprofit DV and SA agencies regularly provide services to victims of trauma and violence, these providers are not typically trained to provide services to women with SMI. The same is true for mental health service providers who, despite regularly providing mental health services to women experiencing IPV and/or SA, are infrequently trained in assessing and addressing the needs of IPV and/or SA survivors. The lack of IPV training and expertise among mental health service providers is particularly problematic when dealing with women's immediate safety needs. Thus, to ensure that women with SMI who are survivors of IPV receive appropriate safety services, mental health service providers should have knowledge of IPV. Further, service providers in nonprofit DV and SA agencies should also receive training in SMI. In addition to cross-training for providers in both the mental health and DV and SA service sectors, we recommend the development and testing of standard, protocol-based interventions for IPV survivors with SMI that can be used across service sectors. With such interventions in place, women with SMI who are experiencing IPV can have their needs met wherever they appear for services.

The reviewed systematic studies also recommended developing interventions that target the modifiable risk factors for IPV and/or SA found in women's

social networks and environments. For instance, the results of this meta-review support the need to address issues such as homelessness, economic insecurity, and interpersonal conflict to promote women's recovery from the trauma of violence and to prevent women's revictimization (Choe et al., 2008; Khalifeh & Dean, 2010). Notably, a key modifiable factor noted in the literature reviewed for this study was substance abuse. Choe et al. (2008) posit that addressing substance abuse could reduce the risk of other environmental risk factors, and thereby, reduce the risk of victimization.

One example of research on modifying interventions and targeting modifiable risk factors is the Women Co-Occurring Disorders and Violence Study (WCDVS; www.wcdvs.com/), which was funded by SAMHSA. The WCDVS included nine sites, each of which was required to integrate trauma services into a range of services for women with histories of interpersonal abuse and exposure to violence. Each study site provided a range of services, including mental health and substance abuse treatment, trauma-specific services, outreach and engagement, screening and assessment, parenting skills training, resource coordination, advocacy, crisis services, and peer-run services (Cocozza et al., 2005; McHugo et al., 2005). The sites were also required to involve peers, who were referred to as consumer/survivor/recovering persons because of both their lived experiences with sexual and physical abuse and their experiences with the systems and agencies from which clients seek services. Although the WCDVS study population might differ from SMI and violence survivor populations, readers aiming to modify treatments for women with SMI who are experiencing IPV and/or SA victimization could examine the well-documented WCDVS results, including the successes, challenges, and lessons learned from the interventions (Cocozza et al., 2005; McHugo et al., 2005; Morrissey et al.,2005; Noether, Finkelstein, VanDeMark, Savage, & Moses, 2005; Reed & Mazelis, 2005).

Implications for research

The results of this meta-review underscore that the research community should extend its focus from research focused on incidence and prevalence to research identifying risk factors for women's victimization. Although research to pinpoint valid and reliable incidence and prevalence estimates should continue, future research should also seek to identify the mediating and moderating relationships among women's mental health symptoms, their environmental and social context, and IPV and/or SA victimization (Choe et al., 2008; Friedman & Loue, 2007; Goodman et al., 1997; Khalifeh & Dean, 2010).

A second goal for the research community is to develop standardized definitions of core concepts (Choe et al., 2008; Goodman et al., 1997). Indeed, among the studies we reviewed, the range of prevalence rates of IPV and/or SA varied from 2.6% to 97%, depending on the definitions applied in the systematic reviews (Choe et al., 2008; Goodman et al., 1997). In the context of research studies, investigators should also aim to gather data about both IPV specifically and interpersonal

violent victimization specifically. As this review showed, women with SMI are vulnerable to both IPV and SA specifically and interpersonal violence (e.g., assaults by strangers) generally. Although the interventions for preventing these two types of violence can overlap, the different forms of violence also require distinct approaches. Thus, researchers should aim to investigate and distinguish between the various forms of violence that women with SMI might experience to better inform interventions for this vulnerable group. One such resource in this regard is the *Intimate Partner Violence Surveillance: Uniform Definitions and Recommended Data Elements* manual, which is a set of recommendations from the Centers for Disease Control and Prevention designed to promote consistency in measurement among those involved with IPV research (Saltzman, Fanslow, McMahon, & Shelley, 2002).

Likewise, researchers are encouraged to apply consistent definitions of SMI that reflect diagnosis, duration, and disability (Goldman, Gattozzi, & Taube, 1981). Such definitions must be operationalized into observable or measurable quantities that practitioners and researchers can consistently identify. Without uniform definitions, critical differences among study samples will continue to lead to wide variation in samples, sample characteristics, and results across studies. Such wide variation makes it difficult to compare results across intervention and prevalence studies or to generalize findings. Findings from the current meta-analysis illustrate this problem. Each of the 10 systematic reviews aimed to estimate the prevalence rates of IPV or physical and SA victimization. Nonetheless, not one of the 168 empirical studies appeared in each of the 10 systematic reviews.

Clarity about what constitutes IPV or SA and SMI will also aid in the development of valid and reliable screening tools specific to women with SMI. Although the compendium mentioned earlier (Basile et al., 2007) offers a helpful resource for screening women for IPV and/or SA in general, no available IPV or SA screening tools are specific to women with SMI. IPV and SA screening instruments specific to women with SMI are important because this vulnerable group of women experience unique forms of violent victimization. For example, a violent intimate partner might prevent a woman with a SMI from accessing her psychiatric medications or from attending a support group that is meaningful to her. Such specific types of abuse would not be captured in any existing screening instruments, but these abusive tactics could substantially affect the well-being of a woman with SMI. Thus, screening tools with demonstrated reliability and validity that help identify individuals with SMI who are experiencing IPV and/or SA should be developed, rigorously tested, and integrated into routine screening and assessment procedures by both mental health and DV services staff (Goodman et al., 1997; Howard et al., 2010). When standard screening procedures and instruments specific to this vulnerable group of women become available, clinicians will be better able to assess violent victimization among their clients. In turn, earlier and more accurate identification will reduce under reporting and will help clinicians to develop service plans that effectively address the needs of women with SMI who are experiencing violent victimization.

To understand the intersection of mental health and IPV and/or SA services, we also call on researchers to examine the experiences of service providers and clients. The perspectives of those who provide mental health services and IPV and/or SA services represent a rich source of information about the individual- and service-level challenges of providing care to women with SMI and histories of IPV and/or SA. In addition, learning about the service needs from women with SMI who are experiencing IPV and/or SA is of paramount importance in designing effective interventions for this population. In turn, it is essential to obtain information directly from the women for whom such interventions are designed. Insights from the women who receive these interventions will help guide service development toward acceptable, feasible, and helpful approaches for working with this population.

In making these research recommendations, we hope the field can collectively build a robust evidence base to inform the development of prevention interventions as well as safety and response interventions for women with SMI who have also experienced IPV and/or SA. Likewise, we encourage the development of such evidence so that practitioners and researchers can work together to develop prevention programs to reduce IPV and/or SA perpetration against women with SMI.

Limitations

In our meta-review, we conducted an extensive and interdisciplinary search of systematic reviews from a number of different electronic databases. In applying the inclusion and exclusion criteria, it is possible that a relevant study was missed. In addition, our study focused only on systematic reviews published in English. Consequently, relevant findings from unpublished studies and research published in languages other than English were not included. Despite these limitations, this meta-review summarizes a large body of research about the prevalence of mental illness among women experiencing IPV and SA, and proposes a framework for understanding a number of risk mechanisms for victimization.

Conclusion

Women with SMI are at increased risk for IPV and SA. Community- and system-level prevention and response interventions are particularly important for reducing violent victimization among people with SMI. Moreover, research on risk and protective factors at the community, social, and ecological levels is needed to help in the development of evidence-based policy recommendations that can prevent victimization and improve responses to IPV and SA victimization among women and men with SMI.

Ethics

This study did not require approval by an institutional review board because it did not involve human subjects.

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