Physical and Sexual Assault History in Women With Serious Mental Illness: Prevalence, Correlates, Treatment, and Future Research Directions

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Abstract

An emerging body of research on the physical and sexual abuse of seriously mentally ill (SMI) women documents a high incidence and prevalence of victimization within this population. While causal links are not well understood, there is convergent evidence that victimization of SMI women is associated with increased symptom levels, HIV-related risk behaviors, and such comorbid conditions as homelessness and substance abuse. These abuse correlates may influence chronicity, service utilization patterns, and treatment alliance. This article reviews the research literature on the prevalence, symptomatic and behavioral correlates, and treatment of abuse among SMI women, particularly women with schizophrenia. Within each topic, we discuss relevant research findings, limitations of available studies, and key questions that remain unanswered. We also discuss mechanisms that may underlie the relationship between trauma and schizophrenia-spectrum disorders. We conclude by outlining directions for future research in this area.

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Over the past decade, a large body of empirical evidence has documented the high prevalence and devastating psychological effects of physical and sexual abuse of women. Only recently, however, have researchers investigated violent victimization of seriously mentally ill (SMI) women. This article reviews the emerging body of research literature on the prevalence, correlates, and treatment of physical and sexual assault among women with schizophrenia and other types of major mental illness. Under each of these topics, we will summarize current research findings on abuse in the female population as a whole, since this more general trauma literature provides a context for interpreting findings on SMI women. We also review within each topic the most relevant findings on abuse of women with severe mental illness, discussing the limitations of available studies and key questions that remain unanswered, and discuss mechanisms that may underlie the relationship between trauma and schizophrenia-spectrum disorders. Finally, we suggest directions for future research in this area.

This article is based on a complete review of those studies in which most respondents were diagnosed with an Axis I disorder and at least a significant portion were diagnosed with schizophrenia. We were unable to limit our review to studies of women with schizophrenia because too few published studies report exclusively on this group. The review excludes studies using outpatient samples that were not identified explicitly as severely or chronically mentally ill.

Our purposes are (1) to alert researchers and service providers to what is now known about the role of trauma in the lives of women who have schizophrenia and other serious mental illnesses and (2) to develop a research strategy for illuminating the relationship between trauma, the course of illness, and treatment of schizophrenia in women.

Prevalence of Physical and Sexual Victimization

Definitions. Throughout this article, *physical abuse* is defined as an act intended to produce severe pain or injury, including repeated slapping, kicking, biting, choking, burning, beating, or threatening with or using a weapon. *Sexual abuse* is defined as forcible touching of breasts or genitals or forcible intercourse, including anal, oral, or vaginal sex. Investigators generally define events occurring before either the 16th or the 18th birthday as *child abuse*.

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Problems of Self-Report and Disclosure. As research on the prevalence of victimization becomes more sophisticated, two methodological concerns have been identified: overreporting and underreporting. Overreporting may be related to suggestion or possible secondary gain (Briere 1992). With regard to underreporting, female victims of rape and domestic abuse often do not report such experiences because they feel ashamed, guilty, or fearful; because they wish to protect their perpetrators, with whom they may have ongoing relationships (Della Femina et al. 1990); because they are reluctant to raise or discuss unpleasant memories (Dill et al. 1991); or because they fear such responses as horror, disbelief, denial, or outright rejection (Symonds 1979). Additionally, many victims report periods of amnesia for assaults occurring in childhood (Briere and Conte 1993; Feldman-Summers and Pope 1994). Finally, victims may not label physical or sexual assaults as "abusive" (Berger et al. 1988; Cascardi et al. 1996) and therefore fail to report them in response to questions about abuse per se.

Especially relevant to SMI women, accurate recall of events may be complicated by delusions or hallucinations, pharmacotherapy, or severe substance abuse, all of which affect memory, language, and cognition to varying degrees. With particular regard to schizophrenia, although a variety of cognitive deficits are characteristic of the disorder, memory impairments are among the most common (Saykin et al. 1991; Goldman-Rakic 1994) and may result in the underreporting of traumatic events, even under specific questioning. Thus, assessing the abuse histories of SMI women, and those with schizophrenia in particular, may be especially difficult.

Prevalence of Violent Victimization in Community Samples of Women. In addition to the problems of overreporting and underreporting, accurate prevalence estimates of physical and sexual abuse of women in the general population are somewhat difficult to obtain because of a lack of comprehensive studies and of uniform definitions of physical and sexual assault or abuse (Koss et al. 1994). Nevertheless, data from the largest and most detailed community studies conducted to date suggest that rates of lifetime violent victimization of women are high. Among women, reported rates of adult physical abuse by an intimate range from 21 percent to 34 percent (Russell 1982, 1986; White and Koss 1991; Straus and Gelles 1992). Reported rates of adult sexual abuse range from 14 to 25 percent (Russell 1986; Kilpatrick et al. 1987; Sorenson et al. 1987; National Victims Center 1992; Wyatt 1992). Similarly, reported rates of child sexual abuse in the general female population range from 15 to 33 percent (Wyatt 1985; Russell 1986; Finkelhor et al. 1990; Saunders et al. 1992). Finally, one of the few studies to document child physical abuse in a mixed-gender general community sample reported an incidence rate of 11 percent for parent-to-child abuse in the United States (Straus and Gelles 1992; Wauchope and Straus 1992).

Prevalence of Violent Victimization Among Women With SMI. Table 1 summarizes the findings of studies reporting on the prevalence of physical and sexual abuse among SMI women. In those studies that asked about lifetime abuse, between 51 and 97 percent of women report some form of physical or sexual abuse. In addition, a significant proportion of respondents were multiply traumatized. Cole (1988), using therapist reports, found that 12 percent of her inpatient sample disclosed having experienced three or more forms of abuse. Jacobson and Richardson (1987), relying on interviews, found that 18 percent of their inpatient sample reported three or more forms; and Goodman et al. (1995), also using interviews, found that 75 percent of their outpatient, episodically homeless sample had experienced at least three forms of abuse.

A number of substantive and methodological factors help explain the variation in these rates. First, definitions of abuse were not consistent across studies. Second, despite extensive research documenting that detailed and behaviorally specific questions are necessary to elicit accurate abuse information (Koss et al. 1994), in most of these studies, only a few general questions were asked about each type of abuse; in some, client records were the sole source of data. With the exception of one study (Bell et al. 1988), those that interviewed respondents reported significantly higher rates than those that used charts or therapist ratings. Third, respondents in each of these studies were a heterogeneous group with regard to ethnicity, social class, age, and diagnosis—factors that may influence the epidemiology of violent victimization. For example, the two studies reporting the highest rates of each form of abuse (Goodman et al. 1995; Davies-Netzley et al. 1996) were based on samples of low-income, episodically homeless SMI women.

Despite the variations in definitions, methodologies, and study samples, some patterns do emerge from these data. First, those studies that asked more detailed questions tended to report higher prevalence rates. Second, these rates suggest that a majority of SMI women have experienced violent victimization at some point in the course of their lives. And third, it appears that a large proportion of women with a serious mental disorder are victimized repeatedly in the course of their lives. What remains unclear, however, is whether serious mental illness itself is related to the elevated prevalence rates found

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Table 1. Victimization prevalence among samples of seriously mentally ill women

Study characteristics			Study results						
Study	Sample	Methods	Overall abuse (%)	Child sexual abuse (%)	Child physical abuse (%)	Adult sexual abuse (%)	Adult physical abuse (%)	Child both (%)	Adult both (%)
Carmen et al. (1984)	122 female inpatients at discharge from university teaching hospital (sample included adolescents)[1] *Diagnoses for male and female* subjects (%): 51 affective disorder 18 psychoses 13 personality disorder 18 other	Chart review	53	–	–	–	–	–	–
Beck and van der Kolk (1987)	26 inpatient women, hospitalized at State hospital for ≥ 1 yr Diagnoses: 100% psychoses	Record review, staff interviews	–	46 (incest history)	–	–	–	–	–
Bryer et al. (1987)	66 female inpatients in private psychiatric hospital Diagnoses: not noted	Interview	72	44	38	34	44	59	58
Jacobson and Richardson (1987)	50 female inpatients at university-affiliated county hospital[1] Diagnoses for male and female subjects (%): 32 affective disorder 29 psychoses 29 personality or substance use disorder 10 other	Interview	81[2]	54	44	38	64	57[2]	67
Bell et al. (1988)	220 *female outpatient or day-*treatment clients at public community mental health center Diagnoses: not noted	*Interview*	51	–	–	–	–	–	–
Cole (1988)	254 female inpatients at discharge from university teaching hospital (sample included adolescents)[1] Diagnoses: not noted	Therapist report	62	26.3 (incest history)	36	21 (marital rape)	42	–	–
Craine et al. (1988)	105 female inpatients from 9 State hospitals Diagnoses (%): 41 schizophrenia 22 affective disorder 14 personality disorder 23 other	Interview	–	51	35	–	–	–	–

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Table 1. Victimization prevalence among samples of seriously mentally ill women—*Continued*

	Study characteristics		Study results						
Study	Sample	Methods	Overall abuse (%)	Child sexual abuse (%)	Child physical abuse (%)	Adult sexual abuse (%)	Adult physical abuse (%)	Child both (%)	Adult both (%)
Rose et al. (1991)	39 female intensive case management clients at public community health center[1] Diagnoses: not noted	Interview	–	41 (incest history)	–	–	–	–	–
Muenzenmaier et al. (1993)	78 outpatient women in State hospital-affiliated outpatient clinic Diagnoses (%): 57 schizophrenia or schizoaffective disorder 27 affective disorder 8 personality disorder 8 other	Interview	–	45	51	32	–	74	–
Goodman et al. (1995)	99 episodically homeless intensive case management clients at public community mental health center Diagnoses (%): 59 schizophrenia or schizoaffective disorder 16 personality disorder 14 affective disorder 11 other	Interview	97	65	87	76	87	92	92
Cascardi et al. (1996)	34 female inpatients who had at least 3-mo contact with relative or partner within the last year[1] Diagnoses: 100% Axis I	Interview	–	–	–	–	79.4 (within last year by partner or relative)	–	–
Cloitre et al. (1996)	409 female inpatients at urban private university psychiatric hospital Diagnoses: not noted	Interview	–	31	34	22	–	45	–
Davies-Netzley et al. (1996)	105 homeless women with severe mental illness living on the street or in shelters Diagnoses (%): 47 schizophrenia 22 bipolar disorder 31 major depression	Interview	–	55	60	–[2]	–	77	–

[1]Although male and female subjects were included in the sample, we have reported data obtained from female respondents only. Where we could not distinguish between male and female respondents, we did not report the statistic.
[2]Although these statistics are for male and female subjects combined, the authors reported no significant differences in reported rates of abuse in these categories for male and female subjects.

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in these studies, or whether such factors as poverty and substance abuse—conditions that often accompany severe mental illness—are responsible for the high rates of abuse reported.

Correlates of Physical and Sexual Victimization

Psychiatric Correlates of Abuse in Community Samples. Studies of community samples report a diffuse and overlapping set of symptoms and self-harming behaviors in women with trauma histories. Exposure to physical and sexual violence has been associated with posttraumatic stress disorder (PTSD) (National Victims Center 1992; Kemp et al. 1995), anxiety (Wirtz and Harrell 1987; Follingstad et al. 1991), depression (Sorenson and Golding 1990; Saunders et al. 1993), psychotic symptoms (Mueser and Butler 1987; Butler et al. 1996), personality disorders (Herman et al. 1989; Heard and Linehan 1994), and dissociation (Briere and Runtz 1988; Cole and Putnam 1992). Commonly reported behavioral correlates include suicidal tendencies (Hilberman 1980; Briere 1992), risky sex and drug practices (Cunningham et al. 1994; Zierler et al. 1991), and substance use disorders (Briere and Zaidi 1989; Pribor and Dinwiddie 1992). For a recent review of the literature on child sexual abuse, see Polusny and Follette (1995); for a review of the literature on the sequelae of adult abuse, see Koss et al. (1994).

The PTSD diagnosis—which includes symptoms involving reexperiencing of the trauma, arousal, and avoidance of stimuli related to the trauma—may be the most commonly reported and discussed consequence of a wide range of victimization experiences. It provides a broad framework within which many seemingly disparate symptoms can be incorporated, and it enables researchers and service providers to borrow from the rich body of literature on psychological trauma in general to understand and help women who have been physically or sexually abused. Recent modifications to the PTSD model have been proposed (see, e.g., Herman 1992) to account for the complex set of cognitions, affects, and symptoms that have been reported by victims of ongoing abuse, as opposed to those reported by victims of a single assault.

Symptomatic Correlates of Abuse in SMI Women. The few studies that have examined the relationship between abuse and symptoms among SMI women present a fairly consistent, though incomplete, picture. With two exceptions (Cascardi et al. 1996; Goodman et al. 1997), all published studies have focused on the symptomatic correlates of childhood rather than adult abuse. Beck and van der Kolk (1987) found that inpatient women with a history of childhood incest were significantly more likely than those without such a history to have sexual delusions, depressive symptoms, and major medical problems. Similarly, Muenzenmaier et al. (1993) found that SMI female outpatients with a self-reported history of abuse in childhood had higher levels of both depressive and psychotic symptoms than those without such a history. Bryer et al. (1987) found that among a sample of female inpatients, reported sexual or physical abuse in childhood was significantly associated with somatization, interpersonal sensitivity, depression, anxiety, paranoid ideology, and psychoticism. Also, those with both physical and sexual abuse in childhood reported higher levels of symptoms than those with just one type of abuse. Finally, Craine et al. (1988) found that 66 percent of a State hospital sample of women who reported being sexually abused as children met diagnostic criteria for PTSD, although none had received that diagnosis. By contrast, however, Davies-Netzley et al. (1996) did not find a significant relationship between childhood physical or sexual abuse and PTSD.

Finally, only one study (Ross et al. 1994) has investigated the relationship between reported child abuse (both physical and sexual) and types of symptoms within a sample of respondents (men and women, inpatient and outpatient) specifically diagnosed with schizophrenia. According to this study, respondents who reported a history of child abuse were also significantly more likely to report positive symptoms of schizophrenia, including ideas of reference, commenting voices, paranoid ideation, thought insertion, and visual hallucinations.

With regard to adult abuse, Cascardi et al. (1996) found that 40 percent of female inpatients met the criteria for PTSD in response to physical abuse experienced over the past year. Goodman et al. (1997) investigated the impact of dimensions of victimization across the lifespan, as opposed to child or adult abuse alone. Their study found that frequency of violence across the lifespan, recency, and the addition of child sexual abuse to child physical abuse were associated with a broad range of psychiatric symptoms—including levels of depression, hostility, anxiety, dissociation, somatization, and PTSD.

While these studies provide important information and raise interesting questions for further work in this area, they are too few, too disparate, and too atheoretical to provide a well-grounded understanding of the relationship between trauma and symptoms among mentally ill women. More specifically, almost all of these studies, with the exceptions of Cascardi et al. (1996) and Goodman et al. (1997), focused primarily on the impact of child abuse, rather than on both child and adult abuse; thus, the differential impact of abuse during childhood and adulthood is unknown. Second, most studies did not examine some of the mental health disturbances most

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commonly associated with trauma, such as dissociation and PTSD. With regard to PTSD in particular, although three studies showed a relationship between prior trauma and symptoms of PTSD, only two (Cascardi et al. 1996; Davies-Netzley et al. 1996) used complete enough measures to make definitive PTSD diagnoses. Third, with the exception of Ross et al. (1994), none of these studies addressed the question of whether and how trauma history is related to the exacerbation of diagnosis-specific symptoms, such as hallucinations or delusions. Despite these limitations, the results of these studies indicate that among SMI women, exposure to violence is associated with more severe symptoms overall.

Behavioral Correlates of Abuse in SMI Women. Few researchers have examined the relationship between physical and sexual assault and current behavioral disturbances in SMI women. One early exception was a study of inpatient men and women (Carmen et al. 1984), which found that compared with their nonabused counterparts, female inpatients with histories of child or adult abuse (either physical or sexual) were more likely to remain in the hospital longer, to direct their anger inwardly in a self-destructive fashion, and to have a past history of suicide attempts. Similarly, both Bryer et al. (1987) and Davies-Netzley et al. (1996) found that inpatients with histories of suicidal ideation, gestures, or attempts were more likely to have been abused in childhood. In particular, Davies-Netzley et al. (1996) found that women who had experienced physical and sexual abuse in childhood were just over 5 times more likely to have thoughts about suicide and 5.6 times more likely to have attempted suicide than women with no abuse histories.

With regard to substance abuse, Beck and van der Kolk (1987) found that among women hospitalized for 1 year or longer, those with incest histories were significantly more likely to be substance abusers. Similarly, Craine et al. (1988) found that among a sample of inpatients, child sexual abuse was generally associated with chemical dependence; and Goodman and Fallot (in press) found that among a sample of episodically homeless, mentally ill women, both child sexual abuse and child physical abuse were related to adult abuse of alcohol and cocaine. Although these studies suggest that earlier trauma may be a risk factor for substance abuse in SMI women, the association between trauma and substance abuse in women with schizophrenia remains unclear. This would be an important area for future research, however, given the high rate of substance use disorders in people with schizophrenia (Regier et al. 1990; Cuffel 1996).

Finally, two studies have examined the relationship between victimization and HIV-related risk behavior among SMI women. Although not focusing on risky behaviors, Craine et al. (1988) found that among inpatient women, child sexual abuse was associated with compulsive sexual behavior. Goodman and Fallot (in press) found that among homeless, mentally ill women, child sexual abuse was strongly associated with prostitution and marginally associated with knowingly having sexual relations with risky (i.e., HIV-positive or intravenous-drug-using) partners. While these latter data are quite preliminary, HIV-related risk behaviors are sufficiently common in women with serious mental disorders (Knox et al. 1994) that this issue should be investigated further.

Treatment of Trauma Correlates

General Treatment Models. In recent years, a wide variety of treatment strategies have been proposed to address PTSD and other syndromes related to trauma. Unfortunately, few have been subjected to rigorous outcome research. The few well-evaluated treatment protocols for survivors of violent victimization that do exist (e.g., Foa et al. 1991, 1994; Resick and Schnicke 1992) emphasize cognitive-behavioral treatment strategies and encourage clients to expose themselves to memories and stimuli related to the traumatic event or events in order to decrease anxiety and related symptoms. However, researchers have generally excluded psychotic or substance-abusing women from participation in these protocols, so the suitability of these methods for an SMI population is untested.

Treatment of Trauma in SMI Women. There is currently a paucity of well-articulated and validated treatments for trauma effects in SMI women. However, some writers have suggested the need for such interventions, especially in light of the possible relationship between trauma and current difficulties accepting treatment. Past physical or sexual assault, particularly by a caregiver or partner, may lead to extreme distrust of service providers or even the belief that a supposed "helper" may actually be a potential assailant (Jacobson and Richardson 1987). Additionally, current abuse may lead to an inability to keep appointments or engage in programs because of shame, fear of discovery, or the tight control of an abusive partner.

The association between trauma history and ability to form a therapeutic relationship in women with schizophrenia may be especially important considering the difficulties these women frequently experience with interpersonal relationships. It is possible that early trauma in women who develop schizophrenia interferes with the development of social adjustment, a potent predictor of outcome in schizophrenia (Zigler and Glick 1986; Mueser

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et al. 1990). Following the onset of schizophrenia, poor relationship skills may contribute to a worse course of illness by interfering with both the ability to form therapeutic relationships with treatment providers and the development of social support networks among nonproviders which, in turn, may serve to buffer the psychological effects of stress (Alloway and Bebbington 1987).

It is unclear whether traditional, exposure-based trauma treatment interventions can be used or adapted for women with schizophrenia. Some women might experience substantial stress associated with recalling and focusing on disturbing memories. Such stress might lead to cognitive disorganization, thought disorder, and linguistic failure (Harvey and Serper 1990; Haddock et al. 1995; Barch and Berenbaum 1996), thus interfering with habituation to the feared stimuli. Furthermore, if unchecked, high stress could precipitate symptom relapse. A more graduated approach to extinguishing anxiety might be less stressful for women with schizophrenia, even if it is more time consuming.

Although some women with schizophrenia may benefit from a more gradual form of traditional exposure-based treatment, as with other groups of trauma survivors (Frueh et al. 1995), some portion of this group either will be deemed too fragile to benefit from such treatment or will decline to participate. Thus, alternative interventions should be designed to meet the specific needs of women with schizophrenia. One potentially fruitful approach builds on accumulating research data that support the efficacy of social-learning approaches for individuals with schizophrenia (Penn and Mueser 1996). Applied to trauma, such an approach might involve training women in specific skill areas related to interpersonal relationships.

For example, Harris (1996, 1997) has developed a weekly, 9- to 12-month psychosocial group intervention and accompanying treatment manual for physically or sexually victimized, SMI women. The intervention builds on a social skills training model to address difficulties in three domains likely to be affected by physical and sexual victimization: (1) intrapersonal skills, including self-knowledge, self-soothing, self-esteem, and self-trust; (2) interpersonal skills, including self-expression, social perception and labeling, self-protection, self-assertion, and relational mutuality; and (3) global skills, including identity formation, initiative taking, and problem solving (Harris and Fallot 1996).

Hypothesized Relationships Between Traumatic Victimization and Schizophrenia

It is likely that trauma and symptoms in women diagnosed with schizophrenia are related in complex and reciprocal ways. To sort out causal patterns would require research using highly refined longitudinal designs, close observation, and careful measurement. However, the correlational studies that exist offer several hypotheses about causal relationships among key variables. First, given the high rates of trauma seen in SMI women, we hypothesize that schizophrenia is a risk factor for adult abuse. It seems likely that common cognitive and behavioral manifestations of schizophrenia—such as limited reality testing, impaired judgment, planning difficulties, and difficulty with social relationships—increase an individual's vulnerability to physical abuse or to coercive or exploitative sexual relationships (Fetter and Larson 1990; Kelly et al. 1992).

Second and conversely, abuse may be viewed as a "stressor" that could either precipitate the onset of schizophrenia in vulnerable individuals or trigger relapses in women already diagnosed with schizophrenia. This hypothesis is compatible with the stress-vulnerability model of schizophrenia (Ventura et al. 1989; Norman and Malla 1993), which specifies that stressful life events exert a moderate effect on increasing schizophrenia patients' vulnerability to relapse. Physical and sexual assault are extremely stressful experiences. However, studies of the link between stressful life events and schizophrenic relapse have yet to assess victimization history with adequate instruments and procedures.

Third, in some cases, abuse survivors may be misdiagnosed as having a schizophrenia-spectrum disorder, when a diagnosis of PTSD or a dissociative disorder may be more appropriate. This hypothesis has yet to be tested systematically. However, it is consistent with findings that the more extreme correlates of trauma reported in victimized women include paranoid or other delusions (Oruc and Bell 1995) and that individuals with PTSD can present with both acute and chronic psychotic symptoms, including hallucinations, delusions, and bizarre behavior (Mueser and Butler 1987; Waldfogel and Mueser 1988; Butler et al. 1996). Furthermore, Carmen (1994) has observed that even in the absence of distinct hallucinations or delusions, the amnesia and dissociation that sometimes stem from early abuse may be mistaken for psychosis and may therefore be misdiagnosed and incorrectly treated.

Finally, it is clear that traumatic abuse is also a major risk factor for several of the more severe comorbidities of schizophrenia: homelessness (Feitel et al. 1992; Browne 1993), substance use disorder (Burnam et al. 1988), and HIV infection (Cunningham et al. 1994; Goodman and Fallot, in press). Thus, even if trauma does not directly exacerbate schizophrenia symptoms, it may well affect the course of the illness through these other routes.

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Research Directions

Our emergent awareness of the scope and significance of the victimization of SMI women raises many questions and challenges for services researchers. Fully understanding and addressing the problems raised in this review require epidemiological studies, clinical research, and services research.

First, the extent and nature of victimization in this population require further investigation. To address this goal, measures will have to be developed that are reliable and valid for this particular population. This task will be complex because of the cognitive deficits common among SMI women. The reliability of these measures could be established with test-retest procedures to determine the extent to which self-reports vary with the mental status of the respondent. Assessment of a measure's validity will be much more difficult and may ultimately require researchers to seek some form of external corroboration (Krinsley et al. 1996).

New measures may need to be developed that better reflect the language and cultural constructions of violence held by those SMI women who are unable to take advantage of available educational opportunities and may be excluded from mainstream culture. To help potentially delusional respondents to attend and comprehend the questions, measures should be kept simple and concrete and should be administered by an interviewer rather than as paper-and-pencil questionnaires. Additionally, standard definitions and assessment procedures should be developed, and measures should ask about multiple forms of abuse within a particular sample in order to place one type of abuse within the context of lifespan victimization.

To tease out some of the confounds associated with both serious mental illness *and* victimization, prevalence studies should systematically examine differences among women based on ethnic group, class, geographic region, residential status (homeless or not), diagnoses, and levels of functioning.

Second, more thorough investigation of abuse correlates in women with schizophrenia is clearly needed. Studies should use comprehensive past and current trauma assessments and reliable, valid methods of diagnosis. Careful assessment will be needed to identify possible comorbid disorders, such as PTSD, in a population that may have overlapping and potentially masking symptoms associated with their primary psychiatric disorder.

Third, as with research on prevalence, such potential confounds as poverty, substance abuse, homelessness, and stigma—phenomena that co-occur with both victimization and serious mental illness—should be considered among theoretical formulations and choices of comparison groups or covariates to examine. Additionally, because so many SMI women appear to have suffered multiple types of trauma across their lifespan and because most have complex psychiatric histories, cross-sectional or retrospective research may be unable to detect the links between specific types of trauma and specific types of psychological effects. Prospective research could begin to identify such links, as well as some of the mechanisms by which traumatic events affect this population.

Fourth, trauma treatment models are needed to address the special needs of this population. Two approaches should be considered. First, the effectiveness of existing protocols could be evaluated for their usefulness for a population of SMI women. Second, new treatment models specifically designed for SMI women should be developed and tested. It is important to note, however, that specific treatment protocols are only one part of the picture. As Harris (1996) and Redner and Herder (1992) point out, program planners and clinicians must go beyond a single intervention to modify all aspects of an SMI client's milieu, if they are to address the multiple and complex consequences of abuse.

In conclusion, current research suggests an extremely high incidence and prevalence of violent victimization among women with schizophrenia and other major mental illnesses. While causal links are not well understood, there is convergent evidence that victimization of women with schizophrenia and other serious mental illnesses is related to symptom levels, risky behavior, and such comorbid conditions as homelessness and substance abuse. Left untreated, these abuse correlates may influence chronicity, service utilization patterns, and treatment alliance. Mental health providers should identify clients' abuse experiences and acknowledge the potentially complex relationships among abuse, symptom severity, and self-harming behaviors. Systematic empirical inquiry is also crucial for disentangling the causes and effects of abuse in this population, as well as for evaluating effective interventions.

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