

Original Paper

Psychological trauma and post-traumatic stress disorder among women in community mental health aftercare following psychiatric intensive care

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Abstract

Psychological trauma and post-traumatic stress disorder (PTSD) are prevalent among adults with severe mental illness, but their impact on the psychosocial and physical health-related impairment of women with major mental illnesses is not known. A sample of 35 low-income urban women receiving community mental health services for severe and chronic mental illness was assessed with psychometrically validated structured interview instruments for psychiatric diagnosis, lifetime history of exposure to traumatic stressors, PTSD, substance use, health-related impairment, and complex psychosocial problems. Exposure to multiple types of traumatic stressors was reported by 98% of respondents, and more than half met criteria for lifetime PTSD (44% for current PTSD). Current PTSD prevalence was highest (>56%) when traumatic loss, sexual abuse, physical abuse, traumatic assault, or community violence were reported. A history of childhood sexual abuse or PTSD or both were associated with use of multiple substances and complex psychosocial problems. Assessment and treatment of complex PTSD appears warranted in psychiatric intensive care and community aftercare for women with severe mental illness.

Keywords

Women; psychiatric illness; trauma; PTSD; physical health; substance use

INTRODUCTION

Severe psychiatric disorders affect an estimated 3% of the adult population, typically involving chronic deteriorating impairment in psychological, social, and vocational functioning and recurrent episodes of costly emergency and intensive hospital-based treatment (Angst et al., 2003; Mueser & McGurk, 2004). For example, a 5-year follow-up study of schizophrenic patients reported that most experienced at least

one acute psychotic episode and that deteriorated functioning and residual symptoms occurred after at least one-third of these episodes (Shepherd et al., 1989). Similarly, adults with bipolar I (Miller et al., 2004) or bipolar II disorder (Hadjipavlou et al., 2004) or severe unipolar depression (Solomon et al., 2004), often experience progressive symptomatic deterioration and acute crises that result in admission to emergency and intensive psychiatric services. Those who are placed in psychiatric intensive care units commonly have multiple problems in addition to their primary psychiatric diagnoses, including substance misuse, aggressive or 'challenging' behaviour, and social isolation or homelessness (Pereira et al., 2005), as well as physical

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health problems that are likely to be undetected unless medical examinations are conducted in addition to psychiatric evaluation (Beer & Sebastian, 2005). These 'complex needs' (Pereira et al., 2005) may be intrinsic to the mental illness, but they may be the product of (or be exacerbated by) psychological traumatization.

Recent findings indicate that 99% of people with severe mental illness report having experienced at least one, and typically several, exposures to traumatic stressors (Mueser, Rosenberg et al., 2002) particularly to childhood abuse (32–53% versus 10–20% in community samples; Kessler et al., 1995) and lifetime victimization (43–81% versus 20–25% in community samples; Kessler et al., 1995). By comparison to the 7% prevalence of post-traumatic stress disorder (PTSD) among adults in the community, adults receiving psychiatric intensive care have a 40% or higher prevalence of PTSD when thoroughly assessed with reliable and validated interview assessments (Mueser, Rosenberg et al., 2002; Mueser, Salyers et al., 2001). PTSD has been shown to increase the severity of impairment associated with major mental illnesses such as schizophrenia (Lysaker et al., 2001) and bipolar disorder (Leverich et al., 2002), including a heightened likelihood and severity of problems with agitation, impulse dyscontrol, social isolation, and substance misuse. A history of psychological trauma in childhood (Felitti et al., 1998) or as an adult (Calhoun et al., 2006), and PTSD (Schnurr & Green, 2004), are associated with increased risk and severity of a range of medical conditions including chronic and acute illnesses. The conjunction of PTSD, serious mental illness, and problems with hostility appears to be particularly detrimental to physical health (Ouimette et al., 2004). Thus, unrecognized trauma histories and undetected PTSD may place persons with psychiatric disorders at risk for crises or episodes of dyscontrol (e.g. aggression) that often require costly admissions to psychiatric intensive care units.

Many women (51–88%) report experiencing psychological trauma, with higher prevalence than men of rape, childhood abuse or neglect (Kessler et al., 1995; Norris, 1992; Resnick et al., 1993; Seedat et al., 2005; Stein et al., 2000), domestic violence victimization (Fishbach &

Herbert, 1997; Roberts, 2000), and post-traumatic stress disorder (PTSD) (Breslau, 2002; Bromet et al., 2000; Kessler et al., 1995; Seedat et al., 2005). A large recent study reported that almost 25% of inner city women (approximately two-thirds of whom were Black) met criteria for PTSD, and that a history of either child abuse or rape in adulthood increased their chances of having PTSD sixfold; further, having experienced *both* abuse and rape increased the likelihood of PTSD 17 times (Schumm et al., 2006). Studies of women who were homeless or living in low-income housing found that most of these women report multiple traumatic experiences beginning in childhood and extending to their current lives (Browne & Bassuk, 1997; Rayburn et al., 2005). A history of childhood sexual or physical abuse, physical assault, and the death or injury of a friend or relative, as well as living in a shelter, were independent risk factors for depression in one representative sample of impoverished women (Rayburn et al., 2005). Although women were included in some studies of adults with severe mental illness, the prevalence and impact of trauma exposure for women with major mental illnesses is not known. This study was therefore conducted to provide a psychometric assessment of trauma history, PTSD, physical and mental health-related functioning, and substance use problems with a sample of low-income urban women receiving community mental health services for major mental illnesses.

The study hypotheses were as follows:

- (1) Trauma exposure is hypothesized to be reported by >90% of low-income women with major mental illnesses; more than 50% are expected to report a history of multiple forms of psychological trauma exposure in childhood as well as in adulthood (Schumm et al., 2006).
- (2) 25–45% of low-income women with major mental illness will meet criteria for PTSD (Mueser, Rosenberg et al., 2002; Mueser, Salyers et al., 2001; Schumm et al., 2006).
- (3) Extent of exposure to psychological trauma and severity of PTSD are expected to be positively correlated with each of the following, independently of the severity of the participant's mental illness: (a) poorer overall

physical and mental health; (b) greater extent of substance use; and (c) increase severity of complex psychosocial problems and needs (Guay et al., 2006; Schumm et al., 2006).

METHOD

Participants

Participants were 35 women recruited at an urban community mental health center for a study of the stressors experienced by women with psychiatric disorders. Participants had one or more chart diagnoses of schizophrenia, schizoaffective disorder, psychosis NOS, bipolar disorder, or major depression with psychotic features. In addition, the research interviewer established that the following number of respondents met Structured Clinical Interview for DSM-IV (First et al., 1996) criteria for: somatization disorder ($N = 4$); obsessive compulsive disorder ($N = 2$); social phobia, panic disorder, or agoraphobia ($N = 6$); and binge eating disorder ($N = 2$). Respondents were comparable to other samples of adults with major mental illness (Mueser, Rosenberg et al., 2002; Mueser, Salyers et al., 2001) and other samples of urban low-income women (Rayburn et al., 2005; Schumm et al., 2006) in age, ethnicity (i.e. predominantly African American or Hispanic), income (i.e. less than \$20,000 per year), marital status (i.e. primarily living alone), and employment (i.e. primarily unemployed or employed part-time) (see Table 1). The sample was somewhat better educated than other samples of adults with major mental illness or urban low-income women. All participants had histories of multiple episodes of inpatient psychiatric intensive care treatment.

Measures

Study measures were administered in a two-hour structured interview by the study authors following a protocol approved by the Institutional Review Boards of the University of Connecticut Health Center and Connecticut State Department of Mental Health and Addictions Services.

Traumatic Events Screening Inventory (TESI)

This structured interview adapts validated adult (Goodman et al., 1998) and childhood (Daviss

Table 1. Descriptive characteristics of study participants

Participant Characteristic	Range = 29–68	Median = 41
Age (in years)		
Race		
African American	$N = 17$	48%
Hispanic	$N = 5$	14%
Caucasian	$N = 13$	38%
Education		
High School or less	$N = 22$	63%
Attended College	$N = 13$	37%
Income		
Less than \$10,000 per year	$N = 22$	63%
\$10-20,000 per year	$N = 13$	37%
Employment		
Unemployed	$N = 18$	53%
Employed Part-time	$N = 15$	41%
Marital Status		
Single	$N = 18$	53%
Separated, Divorced, Widowed	$N = 13$	36%
Living with Partner	$N = 4$	11%

et al., 2000) measures to assess lifetime history of exposure to psychological trauma as defined by the American Psychiatric Association (1994) within 10 discrete trauma categories (see Table 2).

Clinician Administered PTSD Scale (CAPS)

This structured interview (Blake et al., 1995) is the gold standard structured interview for the assessment of PTSD (including the frequency and intensity of the 17 DSM-IV symptoms of PTSD), with well documented psychometric reliability and validity (Weathers et al., 2001) in a range of adult clinical and community populations. In the present sample, independent inter-rater reliability was checked for 33% of the interviews with 85% agreement ($Kappa = 0.68$).

Brief Psychiatric Rating Scale (BPRS)

The BPRS is a 24-item interviewer-rated measure that reliably and validly assesses severity of psychopathology (Overall & Gorham, 1988). In the present sample, independent inter-rater reliability was checked for 33% of the interviews with an intraclass correlation of 0.53 reflecting acceptable inter-rater agreement.

SF-12

This brief self-report measure developed by the Medical Outcomes Study (Ware et al., 1996) is a reliable and validated measure of impairment in physical and mental health. Two scores are

Table 2. Lifetime trauma exposure among women with severe mental illness

Trauma Type	Prevalence Estimate <i>N</i> (%)	Lifetime PTSD Prevalence <i>N</i> (%)	Prevalence of Use of 2+ Substances <i>N</i> (%)	SF-12 Physical Component <i>M</i> (<i>SD</i>)	SF-12 Mental Component <i>M</i> (<i>SD</i>)
Full Sample	NA	18 (51%)	21 (60%)	44.9 (9.6)	43.4 (10.0)
In a Traumatic Accident	14 (40%)	6 (43%)	7 (50%)	43.3 (8.5)	44.8 (8.5)
Witness Traumatic Accident	19 (54%)	10 (53%)	11 (57%)	44.8 (9.5)	44.4 (9.7)
Medical Trauma	18 (51%)	10 (55%)	13 (72%)	43.0 (9.2)	44.1 (11.0)
Traumatic Physical Assault	30 (86%)	17 (57%)	20 (67%)	45.0 (9.3)	43.2 (10.1)
Domestic Violence	18 (51%)	10 (55%)	12 (67%)	43.7 (9.5)	43.2 (10.4)
Community Violence	21 (60%)	12 (57%)	15 (71%)	43.9 (9.0)	42.2 (10.6)
Childhood Sexual Abuse	8 (23%)	5 (63%)	5 (63%)	46.4 (8.9)	41.4 (9.8)
Childhood Physical Abuse	17 (48%)	9 (56%)	12 (70%)	46.5 (9.5)	40.8 (9.8)
Trauma Due to a Drunk Driver	9 (26%)	3 (33%)	4 (44%)	44.0 (9.7)	43.3 (11.0)
Traumatic Loss	4 (11%)	3 (75%)	4 (100%)	42.5 (9.8)	49.0 (8.8)

Note: *N* = number of participants; % = % of participants; *M* = Mean Score; *SD* = Standard Deviation

calculated from raw data, a ‘physical component’ score and a ‘mental component’ score, each of which is a standardized score with a range of 0–100 and weighted such that 50 is the average score based upon extensive normative epidemiological studies that have been conducted with the SF-12.

Alcohol, Smoking and Substance Involvement Screening Test (ASSIST)

This structured interview reliably and validly screens for lifetime and past three month substance use and misuse (Newcombe et al., 2005; WHO ASSIST Working Group, 2002). A count was made of the number of types of substances (i.e. alcohol, marijuana, cocaine, stimulants, sedatives, opioids) for which the respondent reported any past use. In the present sample, independent inter-rater reliability was checked for 33% of the interviews with an intraclass correlation of 0.85 reflecting strong inter-rater agreement.

Structured Interview for Disorders of Extreme Stress (SIDES)

This structured interview (Pelcovitz et al., 1997) assesses associated features of PTSD that are likely to exacerbate psychiatric symptomatology (Leverich et al., 2002; Lysaker et al., 2001) and to be negative prognostic factors for psychiatric treatment (Ford et al., 2005): emotion dysregulation; dissociation; somatization; shame and self-loathing; conflicted and unstable relationships; and a loss of sustaining beliefs (i.e. alienation).

Statistical analyses

Study analyses were conducted with Statistical Package for the Social Sciences (SPSS Version 14.0) software. Bivariate (unadjusted) logistic regression analyses were first conducted to compare single independent variables in relation to a dependent variable. When significant findings were obtained in unadjusted analyses, a multivariate logistic regression analysis was conducted including the BPRS severity score as well as the original independent variable, in order to determine if the relationship is better explained by severity of mental illness than by psychological trauma or PTSD. With no more than two independent variables in any multivariate logistic regression analysis, the subject-to-variable ratio is >15:1, as is recommended in order to achieve stable regression results (Osborne, 2000).

RESULTS

History of exposure to psychological trauma (Hypothesis 1)

All respondents reported at least one type of exposure to traumatic stressors; trauma exposure thus had a prevalence of 100% (Table 2). All but one (98%) indicated multiple trauma categories.

Prevalence of PTSD (Hypothesis 2)

Current PTSD prevalence was almost as high (44%) as that for lifetime PTSD prevalence

(53%). Thus, for most of these women with major mental illness, PTSD was chronic and ongoing. Lifetime PTSD prevalence was highest (>56%) when traumatic loss, sexual abuse, physical abuse, traumatic assault, or community violence was reported (Table 2), but risk of PTSD was not statistically significantly elevated for any trauma type.

Physical and mental health (Hypothesis 3a)

Respondents on average (Table 2) reported less than normative levels of functioning related to physical as well as mental health (i.e. <50, the population normative average). No specific type of past psychological trauma exposure was associated with poorer physical or mental health-related functioning, nor was PTSD diagnosis associated with poorer physical or mental health on the SF-12.

Polysubstance use (Hypothesis 3b)

The majority (60%) of participants reported having used at least two substances ($M = 2.5$, $SD = 1.5$), most often alcohol (93%) with either marijuana (60%), cocaine (33%), or both. No specific type of past psychological trauma exposure was associated with polysubstance use. However, women who met criteria for a diagnosis of PTSD were more likely (94%) than those without PTSD (50%) to report using two or more substances (Odds Ratio [OR] = 14.0, 95% Confidence Interval [CI] = 1.5–133.4, $p < 0.01$), as were respondents with high (>35, based on a median split) BPRS scores (OR = 11.3, 95% CI = 1.9–60.1, $p < 0.01$). A multivariate logistic regression analysis entering PTSD and BPRS simultaneously as predictors of polysubstance use showed that BPRS was significantly related to the use of two or more substances (OR = 8.1, 95% CI = 1.1–59.3, $p < 0.05$) and PTSD was marginally related (OR = 9.8, 95% CI = 0.9–108.1, $p = 0.06$). A final logistic regression analysis was conducted testing the interaction of PTSD diagnosis and BPRS as a predictor of use of two or more substances, and the interaction was statistically significant (OR = 6.0, 95% CI = 1.0–36.1, $p = 0.05$). Inspection of the data showed that women with low BPRS scores and no PTSD were unlikely (33%) be polysubstance

users, while most women (75%) with either a high BPRS score or PTSD diagnosis were polysubstance users, as were *all* (100%) women who had *both* a high BPRS score and PTSD.

Complex PTSD (Hypothesis 3c)

A PTSD diagnosis was associated with complex psychosocial problems and needs as assessed by the SIDES sub-scales for negative self-perceptions (i.e. viewing oneself as damaged and powerless; OR = 12.0, 95% CI = 2.37–60.65, $p < 0.001$), alienation and loss of sustaining beliefs (OR = 5.6, 95% CI = 1.18–26.85, $p < 0.001$), unexplained or untreatable somatic problems or pain (OR = 24.2, 95% CI = 2.60–227.25, $p < 0.001$). Participants with a PTSD diagnosis almost universally (i.e. >95%) reported severe problems with the regulation of emotion and impulses and with chaotic and conflicted relationships, but the association with PTSD was not statistically significant because patients without PTSD also commonly (although less often, i.e. 40–67%) reported these problems.

DISCUSSION

Exposure to traumatic stressors and post-traumatic stress impairment appear to be pervasive and chronic among low-income urban women receiving community mental health services for severe mental illness. Consistent with prior studies that have included women in psychiatric (Leverich et al., 2002; Lysaker et al., 2001; Mueser, Rosenberg et al., 2002; Roth et al., 1997) and community (Bromet et al., 2000; Felitti et al., 1998; Kessler et al., 1995; Resnick et al., 1993; Rosenman, 2002) samples, PTSD was associated with risky behaviors (i.e. use of multiple substances) and a range of complex psychosocial problems (e.g. somatization, alienation) that are likely to exacerbate serious mental illness and increase the risk of psychiatric crises. Therefore, systematic assessment of trauma history and PTSD appear warranted as a basis for identifying women in community mental health and psychiatric intensive care programs who may benefit from specialized PTSD treatment.

In addition, assessing PTSD appears to be more important than assessing specific trauma history

when identifying female patients who are at risk for use of multiple substances. Moreover, PTSD and symptoms of severe mental illness each appear to contribute to the risk of use of multiple substances by women in psychiatric intensive care. Among women for whom PTSD and severe mental illness symptoms co-occurred, there was a 100% certainty of multiple substance use.

In this sample of women with extensive histories of psychiatric intensive care, PTSD was also associated with complex psychosocial problems and needs that included extremely negative views of the self, demoralization (i.e. loss of sustaining beliefs), and somatization. Although many women in the sample also reported substantial problems with emotion dysregulation and dissociation which may be associated with severe mental illness *per se*, these problems were almost universal in the sub-sample with PTSD. The complex forms of PTSD identified in this study require treatment that is informed not only by general principles and techniques of evidence-based PTSD psychotherapy, but also by expertise in addressing the challenges posed by severe dissociation, emotion dysregulation, somatization, disturbed self-perceptions, and relational and spiritual alienation (Ford et al., 2005; Herman, 1992).

Study strengths and limitations

Although the present study had several strengths – including the use of psychometrically robust structured interview measures, the systematic assessment of multiple potential types of traumatic stressors, and the inclusion of persons of low-income and African-American and Hispanic women (who often are underserved and under-studied) – limitations should be noted as well. The sample was small and was obtained by self-selection; as a result the findings are preliminary and in need of replication. Type I error (failing to identify significant relationships) may have occurred due to the small sample size (e.g. the apparent relationship between traumatic loss with PTSD and polysubstance use, and between PTSD and impaired physical health, affect dysregulation, and dissociation, may have failed to reach statistical significance due to low statistical power associated with the small overall and sub-group sample *N*s). All of the participating women had been psychiatrically hospitalized

multiple times in the past, often on a long-term basis, but all were also currently sufficiently stable to live independently or in group homes; therefore, replication with women currently in psychiatric intensive care is needed. Finally, the SF-12 measure of health-related functioning is well validated but may not be sufficiently sensitive to distinguish between the impairments due to severe mental illness and those specifically due to physical illness in populations with major mental illness; further investigation with more extensive measures of physical health and health-related functioning (including physician examinations as well as self-report) is needed.

Implications for psychiatric intensive care

In conclusion, the findings of this structured interview study suggest that women with severe mental illness and histories of extensive psychiatric intensive care are likely to also have extensive histories of psychological trauma that place them at risk for PTSD and for potentially debilitating psychosocial and substance use problems that are additionally associated with PTSD. Psychiatric intensive care programs and providers should therefore become familiar with systematic validated approaches to the safe and effective assessment and treatment of PTSD and its complex associated features (Zlotnick et al., 2001) when working with women with severe mental illness (Harris, 1996). Promising approaches to psychosocial and pharmacological treatment are being developed for women with severe mental illness and complex forms of PTSD (Ford et al., 2005) which may warrant broader adoption by psychiatric intensive care and community aftercare programs and providers.

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