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M. Jane Suresky

Case Western Reserve University

Jaclene Zauszniewski

Case Western Reserve University

Abir K. Bekhet

Marquette University, abir.bekhet@marquette.edu

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Factors Affecting Disruption in Families of Adults with Mental Illness

M. Jane Suresky

Psychiatric and Mental Health Nursing, Frances Payne Bolton School of Nursing, Case Western Reserve University, Cleveland, Ohio

Jaclene A. Zauszniewski

Community Health Nursing, Frances Payne Bolton School of Nursing, Case Western Reserve University, Cleveland, Ohio

Abir K. Bekhet

College of Nursing, Marquette University, Milwaukee, Wisconsin

Abstract

Purpose

This study examined relationships between vulnerability/risk and protective factors, and family functioning in women family members of adults with serious mental illness.

Design and Methods

Using a descriptive, correlational design, this secondary analysis examined characteristics of the family member with mental illness (e.g., diagnosis, level of care) and measures of caregiver stigma and strain, client dependence, family disruption, sense of coherence, and resourcefulness.

Findings

Family disruption was greatest in women who provided direct care and whose family member had major depression, followed by bipolar disorder, schizophrenia, and panic disorder. Sense of coherence and resourcefulness were associated with lower family disruption, but did not mediate the effects of caregiver strain.

Practice Implications

Interventions restricted to one family member may be insufficient for improving the family functioning.

Mental illnesses are increasing significantly in the United States. In 2010, the census estimated that 45.9 million adults aged 18 years and older had a diagnosable mental illness, representing 20% of U.S. adults or one in five (National Survey on Drug Use and Health [NSDUH], 2012). The 2010 census estimated that 11.4 million adults aged 18 years and older, or 5% of all adults in the United States, had a serious mental illness (SMI) (NSDUH, 2012), which is defined as a mental, behavioral, or emotional disorder that is of sufficient duration to meet the DSM-IV (*Diagnostic and Statistical Manual of Mental Disorders*, fourth edition) criteria and which results in serious impairment in function and interferes with the person's ability to take care of major life activities (NSDUH, 2012; Zauszniewski, Bekhet, & Suresky, 2009).

With deinstitutionalization and psychotropic medications the treatment of persons with mental illness has shifted from acute care settings to the community. As a result, many families are taking care of relatives with mental illness (Hasson-Ohayon, Levy, Kravetz, Vollanski-Narkis, & Roe, 2011; Pollio, Noth, Reid, Miletic, & McClendon, 2006) and one to two thirds of persons with SMI are living in the same house with their caregivers (Dyck, Short, & Vitaliano, 1999).

While mental disorders place burdens on all caregivers, the burdens are significantly greater among those who care for persons who experience disability as a result of SMI (National Institute of Mental Health, 2008). Two thirds of family caregivers of persons with SMI are female (Kohn-Wood & Wilson, 2005; Tung & Gillett, 2005) and a study by Fleishmann and Klupp (2004) has found that female caregivers reported greater burden and poorer quality of life than male caregivers.

The effects of mental illness on family disruption are well documented in the literature and can range from minor to severe disruptions (Navidian & Bahari, 2008; Williams & Mfoafo-M'Carthy, 2006; Zauszniewski, Bekhet, & Suresky, 2010). Family disruptions include changes in household routines, strained social relations, decreased opportunities for leisure activities, worry about the future, and deteriorating finances (Navidian & Bahari, 2008). Caregivers can experience disruptions both in their relationships with other family members and with people outside their families (Williams & Mfoafo-M'Carthy, 2006). Karanci (2004), who studied 60 family caregivers, found that the most frequently cited challenges were family conflicts and disruptions of family life mentioned by 57% of caregivers.

However, little is known about how caring for a family member with SMI leads to family disruptions or why some families appear to overcome the problems. Therefore, this descriptive and exploratory study examined the relationships between vulnerability, risk and protective factors, and family functioning in a sample of women family members of adults with SMI.

Theoretical Framework

Resilience theory provided the framework for the study. According to this theory, resilience involves interactions among vulnerability factors, risk factors, and protective factors in relation to a specified outcome (Patterson, 2002). When applied to families, vulnerability factors are characteristics that predispose the family to risk factors and intensify their effects; risk factors may include both demands and strains, and protective factors include resources and coping strategies. The outcome may be adaptation to a stressor or adjustment following a crisis, either of which may be reflected in family functioning (McCubbin, McCubbin, Thompson, Han, & Allen, 1997). In this study, vulnerability factors included the characteristics of the family member with mental illness (diagnosis, years since diagnosis, and need for assistance with personal care). Risk factors were caregiver strain, client dependence, and stigma by association. Protective factors included sense of coherence (SOC), defined as a belief that one's world is comprehensible, manageable, and meaningful (Antonovsky, 1993), and resourcefulness, defined as a set of cognitive-behavioral skills involving self-help and help-seeking strategies for coping with adversity (Zauszniewski, 2012). In this study, family functioning was indicated by the level of family disruption.

Vulnerability Factors Affecting Family Disruption

Family member's diagnosis, time since first diagnosed, and personal care needed were vulnerability factors in this study. Previous research has shown that caregivers may experience disruptions in their daily activities depending on the amount of care and support needed by the person with SMI (Fleishmann & Klupp, 2004; Zauszniewski et al., 2010). The family member's diagnosis may predispose the family to risk factors and intensify their effects. Most previous studies have focused on the experiences of family caregivers of persons with schizophrenia (Dorian, Garcia, Lopez, & Hernandez, 2008; Mohamad, Zabidah, Fauziah, & Sarnon, 2012; Saunders, 2003; Saunders & Byrne, 2002). Chadda, Singh, and Ganguly (2007) found that caregivers of persons with schizophrenia and bipolar affective disorder had similar patterns of burden (Chadda et al., 2007). However, no studies have compared different diagnoses such as schizophrenia, bipolar disorder, major depression, and panic disorder in relation to family disruption. Time since first diagnosis was also of interest in this study since it is not clear whether length of diagnosis contributes to more resilience or more burden for caregivers. While some studies have found that caregivers of persons with SMI become resilient over time (Luthar & Brown, 2007; Richardson, 2002; Zauszniewski et al., 2009), others have found that the health and the quality of life of caregivers are severely compromised over time (Walton-Moss, Gerson, & Rose, 2005).

Risk Factors for Family Disruption

Stigma by association, caregiver strain, and client dependence were considered as risk factors in this study. Research has shown that caregivers of persons with SMI face major lifelong challenges (Aschbrenner, Greenberg, Allen, & Seltzer, 2010). One is the stigma associated with mental illness (Hasson-Ohayon et al., 2011; Muhlbauer, 2002; Rose, Mallinson, & Gerson, 2006; Zauszniewski et al.,

2009). Much of the caregiving stress and burden comes from the stigmatizing attitudes of the public toward persons with mental illness (Tsang, Tam, Chan, & Cheung, 2003); this can be internalized as “self-stigma” by which caregivers adopt the stigmatizing views held by others (Hasson-Ohayon et al., 2011; Lysaker, Roe, & Yanos, 2007). The effects on caregivers of stigma by association are real and strong (Chang & Horrocks, 2006), including negative effects on caregivers' social relationships and their ability to relate to others (Tsang et al., 2003). Furthermore, stigma can lead to anxiety, frustration, low self-esteem, and reduction in leisure activities (Muhlbauer, 2002; Rose et al., 2006), which in turn can lead to family disruptions. Caregivers' strains can be subjective and/or objective (Williams & Mfoafo-M'Carthy, 2006). While objective strains include specific tasks and financial obligations, subjective strains include caregivers' emotional reactions and cognitive appraisal of the caregiving situation (Saunders, 2003; Williams & Mfoafo-M'Carthy, 2006). Previous research has suggested that caregivers of persons with SMI experience many challenges especially during times when their care recipients are dependent on them as a result of debilitating psychotic symptoms (Aschbrenner et al., 2010). Research has also pointed out that this can be an obstacle to caregivers' social and occupational functioning, which can lead to family disruptions (Aschbrenner et al., 2010).

Protective Factors Affecting Family Disruption

Resourcefulness and SOC were considered protective factors in this study. Resourcefulness includes cognitive behavioral skills that can be used by the caregiver to overcome negative thoughts and feelings (personal resourcefulness) and to obtain help from others when the caregiver is unable to function independently (social resourcefulness). Both forms of resourcefulness are important for caregivers' well-being and quality of life. A previous study found that resourcefulness attenuated the effects of stressful life events on caregiver burden in a sample of 81 caregivers of persons with schizophrenia (Wang, Rong, Chen, Wei, & Lin, 2007).

SOC refers to the belief held by family members of persons with SMI that the world is comprehensible, manageable, and meaningful and they can influence the course of events (Greef, Vansteewegen, & Ide, 2006). A previous study found a positive relationship between SOC and family functioning in a sample of 365 Korean caregivers (Han, Lee, & Park, 2007). In another study, SOC was found to have a direct negative effect on caregiver burden in a sample of 556 Thai family caregivers of persons with schizophrenia. Further, SOC was found to be an indicator of adaptation in a sample of 30 caregivers of persons with mental illness in Belgium (Greef et al., 2006).

This study used data collected as part of a larger study of women family members of adults with SMI (Zauszniewski et al., 2010). That study focused on resourcefulness and quality of life of the women but did not examine the effects of characteristics of the family member with mental illness, the strains and demands of caregiving, or women's resourcefulness and SOC on family functioning. Therefore, in this study, we examined vulnerability factors, risk factors, protective factors, and family disruption. The following research questions were addressed:

- Which vulnerability factors (family member's diagnosis, time since first diagnosed, and personal care needed) are associated with family disruption?
- Which risk factors (stigma by association, caregiver strain, and client dependence) are associated with family disruption?

- Which protective factors (caregiver SOC and resourcefulness) are associated with family disruption?
- Are the effects of risk factors on family disruption mediated by protective factors?

Methods

Design and Sample

This secondary analysis used a descriptive, exploratory, correlational design (Zauszniewski, Bekhet, & Suresky, 2008).

Sixty women family members, ages 23–65, of adults (ages 18–65) with schizophrenia (45%), bipolar disorder (45%), major depression (8%), and panic disorder (2%) participated in the study. There were 30 Caucasian and 30 African American women, all of whom lived in Northeastern Ohio. Prior to subject identification and recruitment, approval was obtained from the University Institutional Review Board. Potential participants responded to flyers describing the research that were posted in community mental health centers, churches, and places of business (e.g., grocery stores, department stores, restaurants, coffeehouses, bookstores, libraries, etc.), or given to support groups for family members with SMI (Zauszniewski et al., 2008).

Although the sample was small, it was considered sufficient for examining substantial correlations ($r = .50$) among the vulnerability, risk, and protective factors and family disruption at a significance level of $r = .05$, and power of $B = .80$ (Cohen, 1992).

Instruments

Four measures were used for the analysis: a demographic questionnaire on characteristics of the family member with mental illness and scales measuring perceived burden (with subscales of stigma, caregiver strain, client dependence, and family disruption), SOC, and resourcefulness.

Vulnerability Factors

Vulnerability factors examined included characteristics of a family member with mental illness: diagnosis of mental illness, time since first diagnosed (in years), and personal care provided (yes or no). This information was obtained from open-ended questions answered by the woman family member who participated in the study.

Risk Factors

Risk factors for this analysis included stigma, caregiver strain, and client dependence; the *outcome* was family disruption. These four variables were measured by the four subscales of the 27-item Overall Caregiver Burden Scale (Biegel, Milligan, Putnam, & Song, 1994). The scale contains 6 stigma items, 5 caregiver strain items, 4 client dependence items, and 11 family disruption items; one item is a filler item. Responses are given on a 5-point Likert scale ranging from 0 (*never*) to 4 (*always*).

Internal consistency estimates have been reported for the four subscales as follows: stigma ($\alpha = .83$), family disruption ($\alpha = .79$), client dependence ($\alpha = .67$), and caregiver strain ($\alpha = .64$). Low alphas on short scales are generally associated with the small number of items on the scales (DeVellis, 2003). Confirmatory factor analysis revealed four factors reflecting the four dimensions. Construct validity

was supported by significant correlations between each subscale and the total scale, and moderate correlations with other subscales, ranging from $r = .37$ to $.56$ (Biegel et al., 1994). Alphas for the four subscales in this study sample were stigma ($\alpha = .91$), client dependence ($\alpha = .46$), caregiver strain ($\alpha = .75$), and family disruption ($\alpha = .88$).

Protective Factors

Protective factors included SOC and resourcefulness. SOC was measured by the 13-item Sense of Coherence Scale (SOC-13) (Antonovsky, 1993). Alpha values in 127 studies using the SOC-13 have ranged from $.70$ to $.92$ (Eriksson & Lindstrom, 2005). Construct validity for the scale has been supported by significant correlations with theoretically related constructs in the expected directions: self-esteem ($r = .65, p < .001$), mastery ($r = .68, p < .001$), adequacy of attachment ($r = .37, p < .001$), and psychopathology ($r = -.44, p < .001$) (Bengtsson-Tops & Hansson, 2001). Cronbach's alpha in this study was $.86$.

Resourcefulness

Resourcefulness was measured by the 28-item Resourcefulness Scale (Zauszniewski, Lai, & Tithiphontumrong, 2006), which contains 16 items reflecting personal resourcefulness and 12 reflecting social resourcefulness. Subjects indicate the degree to which each item describes their behavior, ranging from 0 (*extremely nondescriptive*) to 5 (*extremely descriptive*). Scores may range from 0 to 140, with higher scores indicating greater resourcefulness (Zauszniewski et al., 2006). Cronbach's alpha of $.83$ for the total scale has been reported (Zauszniewski et al., 2006). Construct validity and the presence of the two dimensions of resourcefulness were suggested by confirmatory factor analysis. Construct validity was further supported by substantial intercorrelations between the subscales reflecting personal and social resourcefulness ($r = .41, p < .001$), which are believed to be theoretically related constructs (Zauszniewski et al., 2006). In this study, Cronbach's alpha for the total resourcefulness scale was $.82$.

Results

Correlational analyses were used to examine associations among the vulnerability, risk, and protective factors measured as continuous variables and family disruption. An independent t test or one-way analysis of variance (ANOVA) was done for vulnerability factors measured at the nominal level (personal care needed and diagnosis of mental illness).

Vulnerability Factors and Family Disruption

One-way ANOVA showed significant differences in family disruption by diagnosis of the family members with mental illness, $F(3, 59) = 3.16; p = .03$. Post hoc comparisons revealed that women with a family member diagnosed with major depression had higher mean disruption scores ($M = 25.0, SD = 7.11$) than those family members of persons with schizophrenia ($M = 16.3, SD = 8.53$), bipolar disorder ($M = 22.2, SD = 9.34$), and panic disorder ($M = 9.0$). Because only five family members were diagnosed with major depression and one with panic disorder, the analysis was repeated with the deletion of these six cases to determine whether women who had a family member with schizophrenia differed in family disruption from women with a family member diagnosed with bipolar disorder.

A second one-way ANOVA showed significant differences in family disruption between women family members of adults with schizophrenia and those with bipolar disorder, $F(1, 53) = 5.93; p = .02$. Women with a family member diagnosed with bipolar disorder experienced significantly greater family disruption than women who had a family member diagnosed with schizophrenia.

The number of years since diagnosis was not associated with family disruption ($r = -.18; p = .16$). An independent sample t test was then conducted to determine whether women who provided personal care to their family members with mental illness experienced greater family disruption than those who did not. The 41 women who provided personal care had significantly higher scores on family disruption than the 19 who did not, $t(1, 58) = -2.36; p = .02$.

Risk Factors and Family Disruption

Three risk factors were examined in relation to family disruption: stigma by association, caregiver strain, and client dependence. Pearson's correlations were used to determine the strength and direction of associations between these risk factors and family disruption. All three risk factors were highly correlated with family disruption in a positive direction, indicating that greater stigma by association, caregiver strain, and client dependence were associated with greater family disruption (Table 1). However, because we found the client dependence subscale had a very low alpha (.46), indicating questionable reliability, we omitted it from further analyses.

Table 1. Correlations Between Risk and Protective Factors and Family Disruption

Risk factors	Correlation	Significance
Stigma by association	$r = .65$	$p < .001$
Caregiver strain	$r = .82$	$p < .001$
Client dependence	$r = .65$	$p < .001$
Protective factors	Correlation	Significance
Sense of coherence	$r = -.37$	$p < .03$
Resourcefulness	$r = -.28$	$p < .01$

Protective Factors and Family Disruption

Two protective factors were examined in relation to family disruption: SOC and resourcefulness. Again, Pearson's correlations were used to determine the strength and direction of associations between these factors and family disruption. Both protective factors were significantly correlated with family disruption in a negative direction (Table 1). Thus, greater SOC and greater resourcefulness were associated with less family disruption.

Tests of Mediation by Protective Factors

To test the mediating effects of SOC and resourcefulness on the relationship between the risk factors and family disruption, correlations between the risk factors and protective factors were examined. Table 2 shows only caregiver strain was significantly correlated with SOC and resourcefulness: greater caregiver strain was associated with lower SOC and lower resourcefulness. Although client dependence was significantly associated with SOC, at the .05 level, the scale operationalizing this variable had questionable reliability, and therefore mediation with this variable was not tested.

Table 2. Correlations Between Risk Factors and Protective Factors

Protective factors → Risk factors	Sense of coherence		Resourcefulness	
	Correlation	Significance	Correlation	Significance
Stigma by association	$r = -.24$	$p = .06$	$r = -.19$	$p = .15$
Caregiver strain	$r = -.31$	$p = .02$	$r = -.44$	$p < .001$
Client dependence	$r = -.26$	$p = .05$	$r = -.24$	$p = .07$

Mediating Effects of SOC

To examine whether the effects of caregiver strain on family disruption were mediated by SOC (Table 3), caregiver strain was entered in the first step of the regression model and SOC was entered in the second step. The initial model was significant, $F(1, 59) = 87.47; p < .001$, and caregiver strain accounted for 78% of the variance in family disruption. When SOC was added in step 2, the model remained significant, $F(2, 59) = 43.26, p < .001$, and the incremental R^2 remained the same. There was a very small drop in the beta weight of caregiver strain from $B = .78$ to $.76$ when SOC entered the equation. However, the main effect of caregiver strain on family disruption continued to be highly significant, suggesting that the effect of caregiver strain on family disruption was not mediated by the woman's SOC.

Table 3. Tests for Mediation Effects of Protective Factors on Family Disruption

Equation	Predictors	Step 1	Step 2
1	Caregiver strain	$B = .775 (p < .001)$	$B = .762 (p < .001)$
	Sense of coherence		$B = .041 (p = .64)$
	F value (significance)	$F = 87.47 (p < .001)$	$F = 43.26 (p < .001)$
	Total R^2	$R^2 = .601$	$R^2 = .603$
	Adjusted R^2	$R^2 = .594$	$R^2 = .589$
2	Caregiver strain	$B = .775 (p < .001)$	$B = .761 (p < .001)$
	Resourcefulness		$B = .033 (p = .73)$
	F value	$F = 87.47 (p < .001)$	$F = 43.13 (p < .001)$
	Total R^2	$R^2 = .601$	$R^2 = .602$
	Adjusted R^2	$R^2 = .594$	$R^2 = .588$

Mediating Effects of Resourcefulness

To determine whether the effects of caregiver strain on family disruption were mediated by resourcefulness (Table 3), caregiver strain was entered in the first step of the regression model and resourcefulness was entered in the second step. The initial model was significant, $F(1, 59) = 87.47; p < .001$, and caregiver strain accounted for 78% of the variance in family disruption. When SOC was added in step 2, the model remained significant, $F(2, 59) = 43.13; p < .001$, and the incremental R^2 remained the same. Again, a very small drop in the beta weight of caregiver strain from $B = .78$ to $.76$ occurred when resourcefulness was entered into the equation. The effects of caregiver strain on family disruption continued to be highly significant, suggesting that these effects were not mediated by the women's resourcefulness.

Discussion

This study was the first to investigate vulnerability factors, risk factors, and protective factors in relation to family disruption and in caregivers of those with SMI. The results suggested that women family members of persons with schizophrenia are less vulnerable to family disruption than those who have family members diagnosed with bipolar disorder or major depression. These results were different from the findings of Chadda et al. (2007), who found no differences in perceived burden between caregivers of persons with schizophrenia and caregivers of persons with bipolar affective disorder (Chadda et al., 2007). One possible explanation of the current study finding of greater family disruptions among caregivers of persons with bipolar and depressive disorders might be related to the course of these diseases, which is characterized by high risk of attempted or completed suicide (Angst, Angst, Gerber-Werder, & Gamma, 2005; Chessick et al., 2009). Previous research has found that over time caregivers of those persons with bipolar disorder reported lower quality of life, higher stress, worsening health, depressed mood, and poorer general health than other caregivers (Gallagher & Mechanic, 1996; Perlick, Hohenstein, Clarkin, Kaczynski, & Rosenheck, 2005; Perlick et al., 2007; Perlick et al., 2008). Previous research has also indicated that caregivers of persons with mood disorder feel distressed by their care recipients' depression and suicidal thoughts or behaviors (Dore & Romans, 2001; Ostacher et al., 2008).

This study provides evidence that giving personal care to family members with mental illness is associated with family disruption. This is consistent with previous findings that disruptions in the activities and routines of family caregivers depended on the amount of care being delivered to their family members and ranged from minor to severe disruptions, including usual household routines, and decreasing leisure activities and social relationships (Karanci, 2004; Navidian & Bahari, 2008; Williams & Mfoafo-M'Carthy, 2006; Zauszniewski et al., 2010). The current study also indicates that the length of time since first diagnosis is unrelated to family disruption. So it seems that family disruption does not get any better or worse over time.

All three risk factors studied in this research, caregiver strain, stigma by association, and client dependence, were highly correlated with family disruption. This is consistent with resilience theory and with previous research, which found that the stigma of mental illness can be internalized by caregivers, producing shame and guilt that hinders caregivers from seeking professional help and can lead to increasing social isolation, increased burden, and family disruption (Hasson-Ohayon et al., 2011). Previous research has also indicated that caregivers' subjective and objective strains can affect family disruptions, which is consistent with our findings (Saunders, 2003; Williams & Mfoafo-M'Carthy, 2006). Finally, previous studies have indicated that client dependence is associated with family disruption, especially during times of exacerbated psychotic symptoms when the care recipient is totally dependent on the caregiver (Aschbrenner et al., 2010).

This study found that the effects of the risk factors on family disruption were not mediated by either SOC or resourcefulness. One explanation for this is that the measures of SOC and resourcefulness reflected these qualities in only one family member, the woman, but intervening with only one family member may not be sufficient for improving family functioning. Family interventions might be essential

Major limitations of the study were the use of secondary data and the relatively small sample size, which might have interfered with the detection of significant findings. Despite its limitations, the study provides a better understanding of the relationships among major components of resilience theory, risk, vulnerability, and protective factors, and also shows the need for further research using the family as the unit of analysis and a larger sample.

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