

The Relation Between Social Stressors and Inpatient Admissions Among Bipolar Disordered Clients Experiencing a Manic Episode: A Pilot Study

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Abstract

Little empirical research has been conducted on inpatient predictors among bipolar disordered persons experiencing a manic episode, in part because it is difficult to access this highly vulnerable patient population. Due to the often dangerous nature of manic episodes, for preventive and treatment purposes it is clinically important to better understand non-biological triggers of inpatient admissions. This study investigated whether social stressors predicted inpatient admissions among patients currently experiencing a manic episode. Multiple regression analyses ($N = 56$) showed that current interpersonal relationship problems and family environment problems both significantly correlated with the need for inpatient admissions. Initial evidence of this pilot study supports the possibility that inpatient admissions can be predicted by specific psychosocial stressors evaluated during a clinical interview.

Keywords

Bipolar Disorder, Mania, Inpatient Admission, Predictor

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1. Introduction

According to the National Institute of Mental Health (NIMH, 2009), approximately 5.7 million American adults or about 2.6% of the adult population, are diagnosed with bipolar disorder each year. Bipolar I disorder is a specific type of mood disorder that includes manic episodes that are defined as a discrete time period lasting at least one week, or any period if hospitalization is required. The social and environment context of persons with bipolar I disorder frequently mandates hospitalization “because of aggression, excessive spending, or engaging in disinhibited behavior likely to severely damage the person’s reputation” (Mitchell et al., 2003). Individuals who experience these problems tend to have recurring episodes, as well as social impairments

between episodes such as unemployment, truancy, divorce, arrest, and suicide attempts, often resulting in the need for re-hospitalizations (Leahy, 2007). Approximately 23% of persons with bipolar disorder are admitted to psychiatric hospitals within the previous 12 months. During a significant proportion of these instances hospitalizations are involuntary because the patient is not aware of the need for stabilization or treatment. Hospitalization can protect patients and others from the damage that may result from the impaired judgment associated with the illness (Mitchell et al., 2003).

Although inconclusive, some literature suggests that life stressors among persons with bipolar disorder directly leads to a heightened risk of hospitalization. It has also been found in prior research that some important factors leading to hospitalization include the presence of psychosis, suicidality,

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and homicidality (Schnyder *et al.*, 1999). However, limited research has focused on the disability-related impact of psychosocial stressors among persons with bipolar disorder, such as the occurrence of stressful life events (Kennedy *et al.*, 1983). In this regard additional research is warranted. For example, one of the few studies found to date on this topic correlated the time period of social stressors and the risk for inpatient admissions (Kessing *et al.*, 2004).

2. Research Significance

It is possible that stress is influential in the course of bipolar disorder and resultant hospitalizations (Leahy, 2007). However, no empirical research found to date has investigated whether problems in family relationships, family environment, work or school, interpersonal relationships, or social traumatic stress lead to inpatient admissions among persons with bipolar disorder. In particular, these variables have not been researched among bipolar disordered persons experiencing a manic episode, a time when clients are most at risk of hospitalization due to the often extreme negative consequences for one's self and others. The purpose of this study was to identify whether social stressors lead mental health providers to recommend inpatient admissions for bipolar disordered patients currently experiencing a manic episode. If an association between clinically significant social impairments and the need for inpatient admissions can be found, clinicians and researchers may be better able to tailor preventive and treatment interventions. The research question posed here was 'Do specific social stressors, including impairments related to family relationships, family environment, work or school, interpersonal relationships, and social traumatic stress, predict inpatient admission decisions among bipolar disordered persons experiencing a manic episode?'

3. Procedures and Methods

3.1. Participants

Participants included 56 clients selected from a 12-county community mental health agency in a southeastern state. Participants lived in rural to semi-urban areas. Participants ranged in age from 22 to 73 years ($M = 45.27$, $SD = 12.46$). Twenty-seven (48.2%) were male and 29 (51.8%) were female; 47 (83.9%) were Caucasian and 9 (16.1%) were African American. All participants met DSM-IV-TR (American Psychiatric Association [APA], 2000) criteria for bipolar I disorder. During the study period all participants actively met the criteria for a manic episode as defined by DSM-IV-TR. To promote sample generalizability participants were not delimited based on age, race/ethnicity,

income, physical disabilities, prior treatment history, or living status (e.g., homeless, supported living). The only delimitations were a confirmed psychotic disorder diagnosis and an age above 18 years.

3.2. Procedures

All patients presenting at community mental health center over a four month period participated in a comprehensive psychosocial evaluation, including the gathering of demographic information, a medical history, a treatment history, and a social history. These data were specifically outlined on a standardized intake assessment form, providing clinicians with important information for rating the variables tested in this study.

Participants were first interviewed using the Structured Clinical Interview for DSM-IV (SCID; First *et al.*, 1995). The SCID is a semi-structured interview approach specifically designed to guide clinicians in accurately assessing, evaluating, and diagnosing DSM mental disorders. Then, all participants were diagnosed using criteria from the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition (DSM-IV-TR; APA, 2000). Diagnoses were determined by licensed master's and doctoral-level clinicians trained in the assessment of mental disorders, and were verified by board-certified psychiatrists. Only those clients with confirmed bipolar I disorder diagnoses were included in the sample population. Clinicians then completed the Structured Clinical Interview for the Functional Assessment Rating Scale (SCI-FARS; Ward *et al.*, 1995) to evaluate severity of psychosocial problems included in this study. The SCI-FARS is a semi-structured interview used to gain detailed information about the severity of 18 different psychosocial impairments (including but not limited to mania, interpersonal problems, family relationship problems, and current need for inpatient admission). Immediately following each interview clinicians completed ratings on the Functional Assessment Rating Scale (FARS; Ward & Dow, 1994). Total duration of the interview process was approximately 60-90 minutes. All clinicians were blind to the protocol of the study.

3.3. Instruments

The FARS is an 18-item standardized instrument that assesses the severity of psychiatric symptoms and psychosocial impairments (Ward & Dow, 1994; Ward *et al.*, 2006). Items are defined in operational terms and represent an evaluation of current impairments in psychosocial or role functioning. Each FARS item is rated using a nine-point scale (1 = *no current problem*, 3 = *slight problem*, 5 = *moderate problem*, 7 = *severe problem*, 9 = *extreme problem*). Higher scores indicate more severe impairment related to

those symptoms, and ratings are based on currently manifested symptoms. This study used the FARS to evaluate severity of current security/management needs, family relationship problems, family environment problems, work/school problems, interpersonal relationship problems, and recent traumatic stress.

Security/management needs were operationalized as the current need for inpatient admission due to imminent risk of harm to self or others, in this case due to manic symptoms impairing the patient's ability to control his or her behaviors. Family relationship problems included recent arguments with family members, physically fighting with family members, feeling disconnected or estranged from family members, and family members having negative emotional reactions to one another (e.g., revenge, resentment, anger). Family environment problems were operationalized as having recent child custody issues, in divorce proceedings, not having contact with family members despite the desire, and housing stability-related problems such as homelessness. Work or school-related problems included inability to maintain employment or enrollment in school, reprimands at work or school, conflicts with co-workers or peers, and conflicts with supervisors or instructors. Interpersonal relationship problems were operationalized as recent problems with friends or maintaining friendships, lack of social supports, and social skill deficits in interpersonal communication. Recent trauma-related symptoms were categorized as the intrusion of upsetting memories, night terrors, hypervigilance when close to places or persons related to a traumatic event, avoidance of places that reminded the client of a past trauma, and flashbacks related to traumatic experiences.

The FARS has good interrater and stability reliability, and good construct validity, particularly among persons with severe mental illnesses. Ward and Dow (1994) report good overall interrater agreement on FARS items, ranging from $r = .76$ to $r = .89$. They also report good stability reliability and good construct validity. In a study of FARS psychometric properties, Schwartz (1999b) reported interrater reliability correlations of $r = .88$, mean stability reliability correlations of $r = .86$ two weeks after initial assessments, mean concurrent reliability correlations of $r = .89$ (when compared with the Positive and Negative Syndrome Scale for schizophrenia), and good construct validity as evidenced by average counselor ratings of 1.3 on a 1 to 5 likert-type scale (1 = extremely accurate/useful, 2 = accurate/useful, 3 = somewhat accurate/useful, 4 = inaccurate/not useful, 5 = extremely inaccurate/not useful). In this study, interrater agreement on FARS items ranged from $r = .78$ to $r = .96$ when two counselors simultaneously interviewed and rated the same participant.

4. Data Analysis and Ethical Approval

The dependent variable for this study was ratings of security/management needs (i.e., inpatient admission need) as measured by the FARS. Five independent variables were tested in this study, including FARS ratings of family relationship problems, family environment problems, work/school problems, interpersonal relationship problems, and recent traumatic stress. First, data were pre-screened for missing values, outliers, and statistical assumptions related to multiple regression analyses (Mertler & Vannatta, 2002). Because the goal of this study was to test whether the combination of independent variables significantly predicted current need for inpatient admission, a multiple regression analysis was then conducted. Standard multiple regression was chosen as the means of incorporating independent variables into the regression equation. This method is appropriate for analyses that attempt to discover the unique influence of each independent variable without being guided by a particular theory (i.e., hierarchical multiple regression) or solely by a statistical program for exploratory purposes (i.e., stepwise multiple regression) (Aron and Aron, 1999; Mertler and Vannatta, 2002). An alpha level of $p < .05$ was used to interpret statistical results. The research design for this study was approved by the Institutional Review Board of a large state-supported university prior to collection of data.

5. Results

Frequency distributions revealed that ratings on current need for inpatient admissions were "moderate" ($M = 3.5$, $SD = 2.4$) and were the highest-rated variable among those assessed. This result is reasonable given that participants were experiencing a manic episode. A mild level of current interpersonal relationship problems ($M = 3.3$, $SD = 2.3$), work/school problems ($M = 3.2$, $SD = 2.0$), family relationship problems ($M = 2.8$, $SD = 2.1$), and family environment problems ($M = 2.4$, $SD = 2.0$), and a slight degree of recent traumatic stress ($M = 1.7$, $SD = 1.5$) was reported.

Multiple regression results indicated that the overall regression model significantly predicted need for an inpatient admission, $R^2 = .56$, $F(5, 44) = 7.92$, $p < .001$. This model accounted for approximately 56% of the variance in need for an inpatient admission. A summary of regression coefficients is presented in Table 1. Only two of the five variables, interpersonal relationship problems ($t = 2.81$, $p = .007$) and family environment problems ($t = 2.06$, $p = .046$), significantly contributed to the prediction model. These results indicated that as bipolar disordered clients with

symptoms of mania experienced more severe interpersonal and family environment problems, they were significantly more likely to need an inpatient admission. Degree of current

family relationship, work/school or trauma-related problems did not predict inpatient decisions. Table 1 shows complete multiple regression results.

Table 1. Multiple Regression Analysis Predicting Need for Inpatient Admissions (*N* = 56).

Variable	B	B	t	p	Bivariate r	Partial r
Interpersonal Rel Problems	.41	.38	2.81	.007*	.56	.39
Famil Env Problems	.52	.25	2.06	.046*	.60	.30
Work/School Problems	-.11	-.09	-.58	.56	.39	-.09
Traumatic Stress	.07	.04	.31	.76	.31	.05
Family Rel Problems	.06	.05	.25	.81	.56	.04

* *p* < .05

6. Discussion

The results of this pilot study indicated that interpersonal relationship problems and family environment issues significantly predicted hospitalization for bipolar I disordered clients experiencing a manic episode. Consistent with our findings, prior authors have asserted that mania may contribute to the loss of a relationship or problems in the family environment (Leahy, 2007). Kessing et al. (2004) explains that there is a relationship between onset of mania and life events in the family environment, such as death of a loved one. On the other hand, Wellman (2007) asserts that behavior during manic episodes can result in difficulty maintaining interpersonal relationships. Therefore, although the present study used interpersonal and family environment problems as predictors of inpatient admissions, it is possible that clients’ manic symptoms resulted in social disability. Clinicians should be aware that individuals experiencing a manic episode may require hospitalization during or after relational problems, regardless of which precipitated the disability (Leahy, 2007). Contrary to our findings, other studies identified correlations between manic episodes and stressful events such as family relationship and work-related problems. However, Johnson and Roberts (1995) and Kessing et al. (2004) concluded that in some cases methodological issues compromised the findings of such studies and produced contradictory results.

Although this study was the first found to date investigating this topic using a prospective research design among persons in an active manic state, the study had several limitations which may have influenced research findings. First, participants were from a convenience sample in a Southeastern state. It is unclear whether the social stressors investigated here are similar in other regions, or whether these results may generalize to dissimilar populations (e.g., persons from different ethnic groups or cultural heritages). In addition, we were not able to control for degree of manic symptoms. Therefore, we do not know if these results generalize to persons with bipolar I disorder not in a manic

episode, or to those with bipolar II disorder. Finally, although statistically we found that family environment and interpersonal relationship problems predicted current need for inpatient admissions, we do not know the sequence of events that led to participants presenting at the assessment site. At least one prior study showed that, in general, psychosocial impairments increase incrementally with manic symptom severity (Judd et al., 2005). However, we cannot conclude definitively that this is the case for our sample. Results found here seem encouraging, however additional research is warranted. We therefore encourage future researchers to investigate how social stressors correlate with inpatient admissions among bipolar disordered persons from different demographic backgrounds experiencing differing severities of symptomatology. In addition, we recommend retrospective qualitative research analyses with patients after stabilization from a manic episode. That is, after patients’ manic symptoms have lessened to a degree that allows effective interpersonal communication and insight into the consequences of their illness, we recommend patients be interviewed by clinicians. A mixed-methods research design may allow future investigators to better understand the psychosocial triggering nuances that family environment and interpersonal problems have on manic symptoms and risk of inpatient admissions.

7. Summary and Conclusion

This empirical pilot study found that ratings related to degree of family environment and interpersonal problems significantly predicted clinicians’ ratings of patients’ need for an immediate inpatient admission during a manic episode. The positive correlation found indicated that, during a manic episode, patients experiencing greater family environment and interpersonal problems also showed a significantly increased need for inpatient admission as protection from harm to self or others. These findings demonstrate initial evidence that social stressors and resultant impairments can help clinicians better identify bipolar disordered patients’ need for inpatient admissions. If replicated these results may

have preventive or treatment benefits. For example, family members and clinicians could focus attention on family and interpersonal problem escalation during hypomanic episodes in order to help prevent worsening manic-like symptoms and therefore possibly prevent more invasive interventions. In addition, social skills training and family therapy may prove to serve a remediation function for patients, as these two variables seem to be most strongly associated with inpatient interventions.

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