Psychiatry Research 210 (2013) 50–54

Contents lists available at ScienceDirect

Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres

Declining social support in adolescents prior to first episode psychosis: Associations with negative and affective symptoms

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ARTICLE INFO

Article history:
Received 9 September 2012
Received in revised form
11 January 2013
Accepted 3 February 2013

Keywords:
Social network
Negative symptoms
Mania
Duration of untreated psychosis
Schizophrenia
Archival data

ABSTRACT

Social support for individuals with psychosis is associated with decreased symptom severity, improved outcomes, and recovery. In adolescents, declining social support prior to the first hospitalization has been shown to predict time to relapse, which may have implications for early intervention. Data were collected on adolescents (n=84) following a first hospitalization for a psychotic episode in order to examine how change in social support relates to the duration and type of untreated symptoms. Most adolescents experienced a decline in social support (n=46) prior to index hospitalization. Chi-square analyses showed that declining social support was related to negative symptoms and longer duration of untreated psychosis, whereas stable social support was associated with manic symptoms and diagnosis of Bipolar disorder. When entered together into a logistic regression model, the decline in social support was primarily explained by the type of symptoms, rather than by the duration of untreated symptoms. These findings are relevant for targeting psychosocial treatments toward adolescents who may have particular deficits in social support during the prodromal phase and first episode of psychosis.

1. Introduction

The diathesis-stress model posits that exposure to stress increases the risk of initial onset and subsequent relapse in psychotic disorders (Nuechterlein and Dawson, 1984; Corcoran et al., 2003), although this effect may be attenuated by protective factors such as social support (Buchanan, 1995; Corrigan and Phelan, 2004). Social support has been defined as the subjective evaluation of the adequacy of one's social network, and may buffer the effect of stress exposure on general psychosocial distress and promote positive mental health outcomes (Maulik et al., 2010).

Serious mental illness (SMI) has been associated with smaller social networks (Lipton et al., 1981; Cresswell et al., 1992; Furukawa et al., 1999) and less satisfaction with social networks (Furukawa et al., 1999; Bengtsson-Tops and Hansson, 2001), especially in the areas of instrumental and emotional social support (Kilbourne et al., 2007). The objective size of one's social network, particularly number of friends, has been associated with measures of recovery including confidence and hope, willingness to ask for help, goal-orientation, reliance on others, and not being dominated by symptoms, even though symptom levels themselves were largely unaffected (Corrigan and Phelan, 2004). A prospective study in adult clubhouse members with SMI found a similar association between the size and quality of social networks and measures of recovery over a year later (Pernice-Duca and Onaga, 2009), and insufficient social support was associated with reduced time to readmission following discharge from inpatient treatment (Bergen et al., 1998).

1.1. Social support in early psychosis

The influence of social support may be particularly prominent early in the course of psychosis, with multiple prospective studies demonstrating a protective effect of social support on relapse and functioning following a first-episode of psychosis (FEP) (Erickson et al., 1998; Norman et al., 2005; Alvarez-Jimenez et al., 2011). Specifically, the size and perceived availability of non-familial social support predicts functioning 5-years following FEP but not following first hospitalization for a mood disorder (Erickson et al., 1998). Higher subjective quality of social support likewise predicted reduced positive symptoms and fewer hospitalizations 3 years after FEP, independent of demographic factors and duration of untreated psychosis (Norman et al., 2005). Perceived social support is associated with fewer positive and general symptoms and improved quality of life and psychological well-being in FEP (Uzenoff et al., 2010), and reestablishment of social life was identified by most youth in a qualitative study of FEP as a central indicator of recovery (Eisenstadt et al., 2012). Males in particular appear to have more severe social

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0165-1781/$ - see front matter © 2013 Elsevier Ireland Ltd. All rights reserved.
http://dx.doi.org/10.1016/j.psychres.2013.02.004

disability at illness onset, when controlling for DUP, diagnosis, and age at symptom onset (Bertani et al., 2012). This may reflect the difference in age of onset of psychosis between genders, as schizophrenia onsets later in women (Leung and Chue, 2000) when social networks may be more firmly established, although a similar gender difference is also found among youth at clinical high risk for psychosis (Willhite et al., 2008).

1.2. Changes in social support in psychotic disorders

Several studies have suggested that it may specifically be change in social support that exerts the greatest influence on outcomes in psychosis. Specifically, decline in social support has been shown to occur following psychosis onset (Lipton et al., 1981), and this early decline is associated with later relapse following FEP (Gearing et al., 2009). Furthermore, outcomes in FEP are predicted by social support immediately prior to treatment, not by longstanding social function (Erickson et al., 1998), suggesting that a sudden decline may be important in determining long term outcome regardless of social support prior to that decline. Prior research has demonstrated an association between days of hospitalization in the 2 years following FEP with social withdrawal, a construct related to social support, (Johnstone et al., 1990) whereas increases in size and density of social networks in early psychosis has been associated with reduced negative symptoms and improved global function (Tempier et al., 2012).

1.3. Study aims

Given that social support can potentially be targeted through interventions such as social skills training (Kurtz and Mueser, 2008) employment assistance (Rüesch et al., 2004), or family psychoeducation (Lukens and Thorning, 2010), it would be beneficial to understand what factors are associated with changes in social support early in the course of illness. Poor social support prior to hospitalization for FEP has been shown to be a contributing risk factor in relapse among this adolescent FEP cohort (Gearing et al., 2009). This study will further examine this prominent and clinically significant decline in social support for associations with clinical features. We expect that declining social support will be more common among males than females, and that it will be associated both with the duration of exposure to psychotic symptoms, indicated by duration of untreated illness prior to the first hospitalization for psychosis, and with the qualitative nature of psychotic symptoms, indicated by the presence of manic and depressive mood symptoms and the predominance of positive versus negative symptoms.

2. Method

2.1. Design and participants

Archival data were collected from hospital records of six child and adolescent inpatient psychiatric units in Ontario, Canada. Adolescents were included if they were hospitalized for a first episode of a primary psychotic disorder (non-affective or affective) and discharged between January 1, 1999 and October 31, 2003. Participants must have been under 18 years of age at time of admission, admitted for at least 72 h, and have at least one parent self-identified as English-speaking. Exclusion criteria included psychotic symptoms due to substance use or due to a general medical condition. Families were recruited into the study by mail, followed by telephone contact. Of the 229 eligible participants 87 (38%) agreed to participate and returned the surveys, 58 (25%) did not wish to participate, and 84 (37%) agreed to participate over the telephone but did not return the surveys. Three of the 87 participants were excluded from this study due to missing data on the social support item, leaving a sample of 84 adolescents. This study was approved by the ethical review boards of all six site hospitals the affiliated university.

2.2. Measures

All data were gathered using a chart review data instrument developed for this study based on established published guidelines (Gearing et al., 2006, 2009). This study focused on demographic, diagnostic, and symptom variables of interest selected from the data set. Demographic data included age at admission, gender, and birth country. Social support was classified as declining, stable, or improving during the period prior to hospitalization, based on clinician judgment of peer relationships, incorporating social support and peer relations information from the participants, hospital staff, and collateral contacts. Only declining and stable were included in this study as no respondents endorsed an increased number of peer relationships. Diagnoses were made by child and adolescent psychiatrists and included schizophrenia, schizophreniform disorder, schizoaffective disorder, bipolar disorder with psychotic features, major depressive disorder with psychotic features, psychosis not otherwise specified, and brief psychotic disorder. Schizophrenia, schizophreniform, and schizoaffective were all recoded as "schizophrenia-spectrum" for the purposes of this study. Psychosis not otherwise specific and brief psychotic disorder were collapsed into a single category, "psychosis NOS." Symptom duration was recorded as the duration of untreated psychosis (DUP) in weeks prior to the initial hospitalization. Types of predominant psychotic symptoms were recorded as positive and negative based on child and adolescent psychiatrist judgment according to DSM-IV criteria; the small subset ($n=4$) that had both positive and negative symptoms was coded as positive. Mood symptoms must have been clinically significant but not necessarily of sufficient severity to meet full DSM-IV criteria, and were coded as present or absent for manic symptoms and depressive symptoms.

2.3. Statistics

All analyses for this study were conducted using SPSS version 19 (IBM Corp., 2010). First, univariate effects of social support were examined for demographic and clinical variables using chi square and t-tests; significant variables were then tested for intercorrelations using point-biserial and phi-coefficient correlations and entered together as predictors into a logistic regression model.

Individuals with stable versus declining social support were compared on demographic and clinical variables using chi square (race, gender, diagnosis, and medication at discharge) and Student's independent t-tests (age at hospitalization and duration of untreated psychosis) in order to identify factors associated with change in social support. Associations between significant variables were examined for intercorrelations using point-biserial and phi coefficient correlations. All variables that varied significantly between the declining and stable social support groups were then included as predictors in a logistic regression model with declining versus stable social support as the dependent variable, in order to examine the relative contributions of each predictor in explaining change in social support. Odds ratios (with 95% confidence intervals) were calculated for significant variables in the logistic regression equation, to determine the change in risk for declining social support associated with each particular predictor. All statistical tests were two-tailed with alpha set at 0.05.

3. Results

3.1. Demographics and diagnosis

Participants were all adolescents, were primarily male, and approximately 1/3 were born in a foreign country (see Table 1). There were no group differences by social support status for any demographic variable, specifically age, $t(73)=-0.84$, $p=0.40$, sex (female), $\chi^2(1, n=84)=0.10$, $p=0.75$, or immigration status, $\chi^2(1, n=84)=2.07$, $p=0.15$. Most were diagnosed with psychosis NOS, with approximately 1/5 being diagnosed with each of schizophrenia-spectrum, bipolar disorder, and major depressive disorder. The omnibus chi-square test of group differences in diagnosis was not significant, $\chi^2(3, n=83)=6.93$, $p=0.074$, although those diagnosed with bipolar were more likely to have stable social support preceding hospitalization, $\chi^2(1, n=83)=4.04$, $p=0.04$.

3.2. Clinical measures

Descriptive data for all clinical measures are provided in Table 1. The mean duration of untreated psychosis (DUP) in this sample was 20 weeks (S.D.=28), and adolescents who experienced declining social support had a significantly longer average DUP, $t(78)=2.08$, $p=0.04$. Those with declining social support were more likely to experience primarily negative symptoms,