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Research report

The prognostic role of perceived criticism, medication adherence and family knowledge in bipolar disorders

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ABSTRACT

Background: In schizophrenia, high levels of critical comments by significant others are associated with early relapse, especially if medication adherence is sub-optimal. Levels of criticism may be influenced by family knowledge about both the disorder and its treatment. No study has explored whether this combination factors influence outcome in adults with bipolar disorders.

Methods: Medication adherence was assessed in 81 individuals with bipolar disorder of whom 75 rated perceived criticism by an identified 'significant other' as well as their own perceived sensitivity. 33 (of the 75) had a close family member who agreed to completed an assessment of their knowledge and understanding of bipolar disorders. Psychiatric admissions were then recorded prospectively over 12 months.

Results: Perceived criticism and medication adherence were significant predictors of admission. In the patient–family member dyads ($n=33$), the odds ratio (OR) for admission was 3.3 (95% confidence intervals 1.3–8.6) in individuals with low levels of medication adherence, high perceived criticism, and a family member with poor knowledge and understanding.

Limitations: The small sub-sample of patient–family member dyads means those findings require replication. Sensitivity to criticism by professional caregivers may not equate to that by relatives.

Conclusions: Perceived criticism may be a simple but robust clinical predictor of relapse in mood disorders. High levels of perceived criticism, poor understanding of bipolar disorder by a significant other, and sub-optimal treatment adherence are risk factors for hospitalization in adults with bipolar disorders that are potentially modifiable through the use of strategic psychosocial interventions.

1. Introduction

Even with optimal pharmacological treatment, about 50% of individuals with bipolar disorders (BD) experience a relapse in the year after an index episode (e.g. Gitlin et al., 1995; Scott et al., 2006). This suggests that individual psychosocial and environmental variables may also be important risk factors for relapse (Reinares et al., 2006; Scott, 1995; Scott and Colom, 2005; Vieta and Colom, 2004). In schizophrenia, high levels of 'critical comments' within a family are associated with early relapse, especially if the patient is poorly adherent with medication (Vaughan and Leff, 1976). Furthermore, family 'emotional environment' may be influenced by their knowledge about schizophrenia and its treatment (Sellwood et al., 2003).

Research has highlighted how individual beliefs and expectations about BD and its treatment can directly influence the likelihood of medication adherence, which will modify relapse risk (Scott and Pope, 2002a; Clatworthy et al., 2009). The beliefs and attributions of a patient's family may also impact on the patient's adherence with medication and relapse rates (Tacchi and Scott, 2005; Velligan et al., 2009). Perlick et al. (2001, 2004) showed that the family's beliefs and coping level significantly predicted family burden and that burden predicted the outcome of BD at follow-up. Furthermore, this effect was mediated by the affective response in the family and patient levels of medication adherence. However, research on emotional environment in BD and its relationship to BD medication adherence is less well developed than in schizophrenia or unipolar disorders (Butzlaff and Hooley, 1998).

In unipolar disorders, expressed emotion and a related construct, perceived criticism, are robust predictors of depressive relapse (Hayhurst et al., 1997; Hooley and Licht, 1997; Hooley and Teasdale, 1989). In BD, Yan et al. (2004) demonstrated that negative emotional environment was especially predictive of depressive relapses in 47 individuals with BD I. Other studies have demonstrated an association between negative affective style and a poor response to lithium prophylaxis or admission (O'Connell et al., 1991; Preib et al., 1989; Honig et al., 1997). Simoneau et al. (1998) showed that BD families with more 'toxic' emotional environments had more negative interpersonal

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interactions, whilst Tompson et al. (2000) noted that high expressed emotion families were less likely to engage in family therapy. Miklowitz et al. (2009) highlight that familial expressed emotion moderates the effects of family therapy for adolescents with BD. However, only one small study ($n=17$) has specifically explored the interaction between affective style, emotional environment, medication adherence and relapse rates in a homogenous clinical sample of BD cases (Miklowitz et al., 1988). The study showed that negative affective style and high expressed emotion predicted poor outcome, especially in non-adherent cases.

We have previously explored the relationship between likelihood of medication adherence and patient attitudes to both BD and BD treatment (Colom et al., 2005a, 2005b; ; Scott and Pope, 2002b; Tacchi and Scott, 2005; Clatworthy et al., 2009). We believe that it is now important to clarify in a clinical BD cohort (a) the correlations among medication adherence, family knowledge about BD and emotional environment (as assessed by patient ratings of perceived criticism) and (b) the association of each of these variables with the adverse outcome of psychiatric admission during the next 12 months.

2. Methods

2.1. Sample

We received ethical approval from the Joint Hospital and University ethics committee of Newcastle upon Tyne to interview individuals with BD and, where appropriate, their nominated significant other. As described previously (Scott and Pope, 2002a, 2002b,) potential recruits to the cohort were identified from a list of cases with a probable diagnosis of mood disorder participating in clinical plasma monitoring of mood stabilizers. Between 1998 and 2003, patient records were screened to identify individuals who were aged 18 years or over; met the Structured Clinical Interview for DSM IV—Clinician Version criteria (First et al.,1997) for any BD; and were having plasma level monitoring of a recognized mood stabilizer e.g. lithium, carbamazepine or sodium valproate. Individuals were excluded if their consultant psychiatrist did not wish us to approach the patient or if the patient was currently an inpatient; currently in a manic or mixed state; had an organic brain disorder or other cognitive impairments; had a significant co-morbid axis 1 or substance misuse disorder; or declined to complete the questionnaires.

Eighty one subjects entered the sampling frame (85% had BD I disorder), including 57 living with a significant other. Forty two of the 57 gave permission to us to invite their significant other to an interview with the research team. Thirty three of these 42 (a) gave written informed consent, (b) had no evidence of mental disorder and (c) were able to attend a face to face meeting. These 33 participated in an assessment of their knowledge about and understanding of BD. On the basis of the limited demographic and clinical data available, we did not establish any significant differences between subjects or significant others who did or did not participate in the study.

2.2. Measures

2.2.1. Subject assessment

Patients took part in a 1.5–2 h, semi-structured clinician administered interview during which the following data was collected.

1. Basic demographic and illness information including diagnosis, current mental state and treatment, and past psychiatric history.
2. Each subject was then asked to complete the following
   a) Internal State Scale (ISS) (Bauer et al., 1991): The ISS was developed to allow simultaneous assessment of the severity of manic and depressive symptoms. It is a 16-item scale, with each question rated on a 0–100 mm Likert scale. We included the Activation Scale and Depression Scale scores in this study as Bauer et al. (1991) have previously shown that scores on these subscales are correlated significantly with established interview assessments and/or observer-rated measures of mania and depression respectively.
   Perceived Criticism (PC) and Perceived Sensitivity (PS): the family emotional environment was assessed via patient self-report of their perception of criticism of them by their 'significant other' (as identified by the patient). The PS scale was used as a 'balance' to the PC assessment, trying to take into account how individuals vary in their level of sensitivity to criticism by a significant other. The 10-point Likert scales of the PC and PS were anchored respectively with the words 'not at all critical' and 'very critical', or 'not at all sensitive' and 'very sensitive'.
   The instructions for the PC stated that the person rated by the patient could be: a spouse or partner, another close family member, or a person they had regular contact with (at least once per week) and whom the patient regarded as their closest confidante. Previous research has demonstrated that the emotional content of each of these types of relationship is relevant to a patient's likelihood of relapse and wellness (Barrowclough et al., 2001; Berry et al., 2010). A small number of patients ($n=6$) did not complete the PC or PS because they did not feel there was anyone appropriate to rate.
   b) Tablet Routines Questionnaire (Stephenson et al., 1993)— a modified version of this questionnaire (Adams and Scott, 2000) was used. This classifies subjects according to the proportion of their prescribed medication taken during the previous month and has been shown to have high sensitivity and specificity compared with plasma levels (Scott and Pope, 2002a). As suggested by previous studies (for a review see Tacchi and Scott, 2005), subjects were categorized as adherent (taking $>70\%$ medication; ADH) or partially adherent (taking $\leq 70\%$; PADH).

2.2.2. Significant other assessment

The Knowledge about Affective Disorders Interview (KADI) was derived directly from the equivalent questionnaire, the Knowledge About Schizophrenia Interview (KASI; Barrowclough and Tarrier, 1990) which was originally developed for use in comparable studies of schizophrenia. A series of open-ended questions are used to elicit subjective information, along with closed questions to elicit specific direct responses. All of this information is used to estimate knowledge about six key areas: (1) diagnosis, (2) symptoms, (3) aetiology, (4) treatment (mainly medication), (5) course and prognosis, and (6) management. Scores for each item were rated from 1 to 4 according to the following established criterion: incorrect knowledge or potentially harmful attitudes=1; limited correct knowledge=2; overall correct knowledge, with some realistic and positive attitudes=3; and confidently presented correct knowledge and additional spontaneous information about attitudes and behaviour which would be of benefit to the patient=4. The overall KADI score also ranges from 1 to 4 as it represents the mean of the scores for all six items.