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Research report

Understanding medication non-adherence in bipolar disorders using a Necessity-Concerns Framework

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ABSTRACT

Background: Medication non-adherence is a major problem in patients with severe mental disorders and is associated with poor clinical outcomes and high resource utilization. This study examined the utility of the Necessity-Concerns Framework for understanding patient attitudes towards and levels of adherence with medications prescribed for bipolar disorders.
Method: A convenience sample of 223 individuals currently prescribed medication for bipolar disorders, recruited by advertisement in a Manic Depression Fellowship newsletter, completed the Beliefs about Medication Questionnaire and the Medication Adherence Report Scale.
Results: Low adherence was reported by 30% ($n=64$) and was predicted by greater doubts about personal need for treatment (OR = .50; 95% CI: .31–.82) and stronger concerns about potential negative effects (OR = 2.00; 95% CI: 1.20–3.34). These predictors were independent of current mood state, illness and demographic characteristics.
Limitations: Participants were a potentially biased sample of volunteers who had been recruited through a patient organisation newsletter. However, clinical characteristics and adherence rates in this study were similar to those reported in other studies conducted in Europe and the USA.
Conclusions: The Necessity-Concerns Framework is a useful theoretical model for understanding key attitudes towards medication in bipolar disorders. Interventions to facilitate adherence should elicit and address patients' beliefs about medication.

1. Introduction

Non-adherence with medication in bipolar disorder is prevalent (Lingam and Scott, 2002; World Health Organisation, 2003), costly (Durrenberger et al., 1999; Knapp et al., 2004) and associated with poor clinical outcome (Keck et al., 1998; Scott and Pope, 2002). Whilst certain demographic and clinical features may identify some patients who as a group may be at high risk of non-adherence (e.g. young males; Maarbjerg et al., 1988) these general characteristics do not help clinicians to identify accurately which specific individuals on their caseload are at risk of becoming non-adherent (Horne, 2007). Treatment studies frequently suggest that the side-effect profile of medications is the main cause of non-adherence. However, this is overly simplistic, as non-adherence rates have not changed since the introduction of the first psychotropic medications in the 1950s, despite vast numbers of new compounds being marketed (Tacchi and Scott, 2005). Furthermore, when patients are asked directly,

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side-effects are ranked only 7th as the most important reason for stopping their medications (Morselli and Elgie, 2003). Increasing evidence from other branches of medicine and recent research in psychiatry has indicated that patient beliefs regarding the 'threat' posed to them by the disorder and their views about medications (e.g. that they are all potentially harmful) are associated with adherence (Clatworthy et al., 2007; Scott, 2002). However, application of these concepts in day to day psychiatric practice is rare. A major barrier to introducing procedures to identify such beliefs has been the lack of a simple, theoretically driven assessment tool that provides reliable and valid results that are clinically meaningful and readily interpretable by non-research staff. An approach which shows promise in a range of persistent medical disorders and in depression (Aikens et al., 2005; Brown et al., 2005; Horne and Weinman, 1999) is the Necessity-Concerns Framework (Horne and Weinman, 1999). This suggests that patients' motivation to begin and continue treatment is influenced by their beliefs about treatment and how they judge their personal *need* for treatment relative to their *concerns* about potential adverse effects. This study is the first to estimate how medication adherence is influenced by the way individuals with bipolar disorders balance perceived need against concerns.

2. Method

2.1. Sample

With ethical approval, the study methodology was piloted with a small sample ($n=16$) of individuals with bipolar disorders. Following minor revisions to the protocol, a convenience sample of individuals prescribed medication for bipolar disorders was recruited via an advertisement placed in a Manic Depression Fellowship: The Bipolar Organisation (MDF) newsletter, distributed to up to 4500 individuals in Spring 2005. Questionnaire booklets were sent to the 259 service users who contacted the research office expressing an interest in participating in the project.

2.2. Measures

2.2.1. Background information

The booklet asked about demographic and clinical details including age at first diagnosis, total number of previous admissions and currently prescribed psychotropic medications.

2.2.2. Current symptoms

The Beck Depression Inventory (BDI) (Beck et al., 1961) and the Altman Self-Rating Mania Scale (ASRM) (Altman et al., 1997) were used to measure depressive and manic symptoms respectively. For each questionnaire item, participants are provided with a series of statements (rated 0–3 in the BDI and 0–4 in the ASRM) and are asked to select the statement that best describes how they have been over the preceding week. The 21-item version of the BDI was used, and a total score of ≥ 14 was regarded as the cut-off for mild depression. The 5-item ASRM was used to measure manic symptoms and a total score of ≥ 6 was regarded as the cut-off for hypomania.

2.2.3. Adherence

The Medication Adherence Report Scale (MARS; Horne, 1997) is a 5-item self-report measure which has been validated against electronic adherence monitors (Cohen et al., 2008) and has demonstrated good psychometric qualities in a range of illnesses (George et al., 2005; Horne and Weinman, 2002; Mardby et al., 2007). Although self-report ratings of adherence have been validated against more objective adherence measures (Garber et al., 2004; Haynes et al., 1980; Morisky et al., 1986; Scott and Pope, 2002) there is a widely held concern that individuals will over-report their level of adherence because of their desire for social conformity. To reduce social acquiescence, the MARS is prefaced with the following text: "Many people find a way of using their medicines which suits them. This may differ from the instructions on the label or from what their doctor had said. Here are some ways in which people have said they use their medicines. For each statement please tick the box that best applies to you". Participants indicate how often they engage in each of five non-adherent behaviours (e.g. "I take less than instructed") on a 1–5 likert scale (always to never). The item scores are summed to indicate overall level of adherence. Patients completed a MARS for each of their medications prescribed for bipolar disorder and a mean score was calculated for each participant. Consistent with previous research (Bowskill et al., 2007; George et al., 2005; Mardby et al., 2007), MARS scores were then dichotomised to give low adherence (LAd, MARS score ≤ 21) and high adherence sub-groups (HAd, MARS score >21).

2.2.4. Treatment beliefs

The Beliefs about Medication Questionnaire: Specific Version (BMQ-Specific; Horne et al., 1999) is an 11-item questionnaire comprising two scales: a 5-item Necessity scale that assesses perceived personal need for the medication and a 6-item Concerns scale that assesses concerns about potential adverse effects such as dependence or side effects. Participants indicate on a five point likert scale their agreement with a series of statements, e.g. "Without this medication I would be very ill" (Necessity) or "I sometimes worry about long-term effects of this medicine" (Concerns). Mean Necessity and Concerns scores, ranging from 1–5, were calculated for each participant. Each individual was categorized into one of four groups according to whether their scores on the Necessity and Concerns scales were above or below three (the midpoint score) for each of these scales. The four subgroups represent different attitudes towards medication (Aikens et al., 2005), namely Skeptical (low Necessity, high Concerns), Ambivalent (high Necessity, high Concerns), Indifferent (low Necessity, low Concerns) and Accepting (high Necessity, low Concerns).

2.3. Analysis

Statistical analyses were undertaken using SPSS Version 15 (SPSS, 2006). In order to reduce the impact of random missing data, scales were pro-rated so that missing values were replaced with the individual's mean scale score providing the participant had answered at least 80% of the items in the scale. Demographic, clinical and health belief variables were compared between HAd and LAd groups using student's t-tests, Mann–Whitney *U* tests and chi-square