Journal of Affective Disorders 146 (2013) 100–105

Contents lists available at SciVerse ScienceDirect

Journal of Affective Disorders

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

Research report

Quality of life among patients with bipolar disorder in primary care versus community mental health settings

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ARTICLE INFO

Article history:
Received 23 August 2012
Accepted 27 August 2012
Available online 12 September 2012

Keywords:
Bipolar disorder
Quality of life
Primary care
Community mental health

ABSTRACT

Introduction: Bipolar disorder is associated with functional impairment across a number of domains, including health-related quality of life (HRQOL). Many patients are treated exclusively in primary care (PC) settings, yet little is known how HRQOL outcomes compare between PC and community mental health (CMH) settings. This study aimed to explore the correlates of HRQOL across treatment settings using baseline data from a multisite, randomized controlled trial for adults with bipolar disorder.
Methods: HRQOL was measured using the SF-12 physical (PCS) and mental (MCS) composite scale scores. Independent sample *t*-tests were calculated to compare differences in HRQOL between settings. Multivariate regression models then examined the effect of treatment setting on HRQOL, adjusting for covariate demographic factors, mood symptoms (Internal State Scale), hazardous drinking (AUDIT-C), and substance abuse.
Results: A total of 384 enrolled participants completed baseline surveys. MCS and PCS scores reflected similar impairment in HRQOL across PC and CMH settings ($p=0.98$ and $p=0.49$, respectively). Depressive symptoms were associated with lower MCS scores ($B=-0.68$, $p<0.001$) while arthritis/chronic pain was strongly related to lower PCS scores ($B=-5.23$, $p<0.001$).
Limitations: This study lacked a formal diagnostic interview, relied on cross-sectional self-report, and sampled from a small number of sites in two states.
Discussion: Participants reported similar impairments in both mental and physical HRQOL in PC and CMH treatment settings, emphasizing the need for integrated care for patients with bipolar disorder regardless of where they present for treatment.

1. Introduction

Bipolar disorder represents a serious mental health problem in terms of morbidity, mortality, health care costs, and suicide (Andlin-Sobocki and Wittchen, 2005; Baldessarini and Tondo, 2003; Peele et al., 2003). Mental health specialty care settings have long been viewed as the standard treatment arena for managing bipolar disorder (Druss and Rosenheck, 2000; Wang et al., 2002), but prescription data from patients with this condition suggest that a substantial proportion of both antipsychotic (Mark et al., 2009) and mood stabilizer prescriptions (Beardsley et al., 1988) are written in primary care (PC) settings, and that this has in fact been the case for many years. Despite the importance of PC in the de facto management of bipolar disorder (Reilly et al., 2012), little is known about potential differences between patients with bipolar disorder seen in mental health (where the bulk of treatment research has been conducted) and PC settings.

This paper aims to fill this gap by comparing the level of functioning of people with bipolar disorder seen across treatment settings. Such an investigation requires a validated measure of overall functioning that is broadly applicable to patients with bipolar disorder. To fill this need, there is a growing body of literature on health-related quality of life (HRQOL), driven by a need to better understand and address the myriad areas of impaired functioning faced by this and other populations suffering from

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0165-0327/$ - see front matter Published by Elsevier B.V.
http://dx.doi.org/10.1016/j.jad.2012.08.045

mental illness (IsHak et al., 2012; Michalak and Murray, 2010). Bipolar disorder is broadly associated with reduced self-reported HRQOL across all phases of illness, including manic or hypomanic episodes, after covariates have been taken into account (Arnold et al., 2000; Michalak et al., 2005; Vojta et al., 2001; Zhang et al., 2006). These studies suggest that reduced HRQOL among people with bipolar disorder encompasses both mental and physical health domains. Furthermore, HRQOL is associated with mortality in people suffering from a variety of mental illnesses, including bipolar disorder (Haring et al., 2011). Given the importance of HRQOL as a broad-spectrum measure of overall functioning (Wilson and Cleary, 1995), it is not surprising that the construct is receiving increasing attention as a pivotal health outcome measure.

The overall goal of this paper was to investigate the characteristics and treatment needs of individuals with bipolar disorder encountered in PC versus community mental health (CMH) clinics. We used physical and mental HRQOL as common summary metrics for measuring overall well-being. Given the clinical and functional importance of HRQOL, a better understanding of its correlates can help inform interventions to improve functioning in this population.

A previous study of HRQOL in bipolar disorder in VA settings (Kilbourne et al., 2010) found that mental HRQOL was higher, and physical HRQOL lower, for those patients seen in PC alone as compared to those seen in multiple treatment settings. We therefore hypothesized a similar result for this study—that patients seen in PC would have higher mental HRQOL and lower physical HRQOL than those seen in CMH settings. Further exploratory analyses aimed to determine the correlates of mental and physical HRQOL both within and across treatment settings.

2. Methods

All study procedures were approved by the Institutional Review Boards of the University of Michigan and University of Colorado, Denver. All patients completed informed consent procedures; those who were unable to do so (e.g. those who were intoxicated) were excluded from the study. Participants at any stage of the study who indicated significant risk issues (e.g. suicidality) were referred to clinical services as appropriate.

2.1. Study overview and participants

Data for the present study were drawn from baseline patient assessments in the Recovery-Oriented Collaborative Care (ROCC) study, which investigated the implementation of the Life Goals Collaborative Care (LGCC) (Bauer et al., 2006; Simon et al., 2006) at five CMH clinics and one PC site in Michigan and Colorado. The PC site itself consisted of two separate clinic locations. ROCC included 384 patients age 18 or over with diagnoses of bipolar disorder (type I, type II, or NOS), identified from billing or outpatient visit data based on ICD-9 criteria. Patients were drawn from sites randomized to enhanced versus standard LGCC implementation support, and additional details on the design can be found elsewhere (Bajor et al., in press; Kilbourne et al., 2012). The study recruitment included those with bipolar II and NOS disorders because those populations can experience high levels of functional impairment (Judd and Akiskal, 2003). Potential participants were excluded if they were living in a nursing home or other long-term care institution or if they were deemed ill enough (medically or psychiatrically) that they could not provide informed consent or undertake basic study procedures. This paper is focused solely on the baseline data collected for the study, rather than the LGCC implementation itself.

2.2. Measures

Baseline patient self-report surveys were administered via computer tablets or traditional paper-and-pencil questionnaires. For patients incapable of self-administration, verbal responses were recorded on their behalf. Brief descriptions of study measures follow.

2.2.1. Health related quality of life—SF-12

The SF-12 is a well-validated measure of HRQOL (Ware et al., 1996), distilled from the longer SF-36 (Gandek et al., 1998). It produces separate subscales for mental HRQOL (the Mental Composite Scale or MCS) and physical HRQOL (the Physical Composite Scale or PCS). The MCS and PCS scores are calibrated so that 50 is the general population norm, with a standard deviation of 10, and higher scores correspond to better HRQOL.

2.2.2. Internal State Scale (ISS)

The ISS is a well-validated measure of bipolar symptoms (Bauer et al., 1991; Glick et al., 2003) that features four subscales relevant to manic/hypomanic phases and depression, including Activation, Well-Being, Perceived Conflict, and the Depression Index. The Activation (range 0–500) and Depression Index (range 0–200) subscales serve as continuous measures of manic and depressive symptoms, respectively, with higher scores corresponding to higher levels of symptoms.

2.2.3. Alcohol Use Disorder Identification Test (AUDIT-C)

The 3-item AUDIT-C is a brief, widely-used self-report measure of hazardous drinking (Dawson et al., 2005; Dawson et al., 2005). Consistent with published studies, hazardous drinking was defined as scoring at least a four (for men) or three (for women) on the AUDIT-C (Bush et al., 1998). For this study, a supplementary item assessed drug use as well, which was defined as using any illicit substance within the past year.

2.2.4. Additional clinical and demographic information

Basic demographic and clinical data were gathered using a custom intake form. Covariates from this form were chosen based on their associations with HRQOL in previous studies. These variables included treatment setting (PC versus CMH, of particular interest for this paper), age, gender, race (White versus non-White), education level (college education versus high school education or less), living situation (living alone versus living with others), employment status (employed versus not employed), any history of being homeless, and medical comorbidities (details below).

2.3. Statistical analyses

Health-related quality of life between PC and CMH settings was compared using an independent-sample *t*-test. We then used a multiple regression model for covariate adjusted comparison of HRQOL between treatment settings, adjusting for age, gender, race, education, living situation, employment status, history of homelessness, physical comorbidities, Activation and Depression Index subscales from the ISS, drug use, and hazardous drinking. All analyses were done separately for the MCS and PCS scores. Follow-up regression models were fit separately for PC and CMH settings to assess for any differential covariate effects across settings.