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Brief report

Mismatch between self-reported quality of life and functional assessment in acute mania: A matter of unawareness of illness?

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Abstract

Background: Studies addressing self-reported quality of life (QoL) in acute mania are scarce and inconsistent. While it has been suggested that there is some disagreement between objective measures and subjective QoL as reported by acutely manic patients, this issue has not been systematically studied. This study aims to investigate the self-reported QoL in manic, depressed, and euthymic BD subjects, as compared to matched healthy controls.
Methods: One-hundred and twenty type-I bipolar patients (40 manic, 40 depressed, and 40 euthymic) and 40 matched controls were studied. Self-reported QoL was assessed using the World Health Organization's Quality of Life Instrument-Short Version (WHOQOL-BREF). Objective functioning was assessed using the Global Assessment of Functioning (GAF), and depressive and manic symptoms were assessed using the Hamilton Depression Rating Scale-17 items (HDRS) and the Young Mania Rating Scale (YMRS), respectively.
Results: Manic patients presented the lowest GAF measures but reported same overall QoL as euthymic patients and controls, and better QoL than depressed patients. Within the manic subgroup, there was a significant inverse correlation between psychological QoL and GAF scores ($r=-0.54$; $p=0.001$).
Limitations: The cross-sectional design and the lack of control for potential comorbid conditions are the major limitations of the present study.
Conclusions: Our findings suggest that this mismatch between objective and subjective measures during acute mania may be associated with a lack of insight or awareness of their own illness.
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Keywords: Anosognosia; Bipolar disorder; Insight; Mania; Psychosis; Quality of life

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1. Introduction

Bipolar disorder (BD) is estimated to affect about 1% of the population (Weissman et al., 1996) but when less severe forms of the disorder are considered, this prevalence raises to up to 6% (Judd and Akiskal, 2003). Recently, increasing attention has been drawn to the impact of the illness on quality of life (QoL) (Yatham et al., 2004; Goldberg and Harow, 2005). In clinical research the assessment of QoL has been considered a useful measure of both functional (Yatham et al., 2004) and symptomatic (Thunedborg et al., 1995) recovery and impairment in mental care settings. The assumption that self-reported QoL relates to functioning may be true for a number of situations where mental illnesses do not impair one's ability to perceive disordered behavior. However, this may not be true in situations where patients' ability to recognize their disorder and its consequences is hampered, such as in acute mania.

The literature is sparse in terms of the impact of manic symptomatology on self-reported QoL. Particularly in terms of patients at the manic stage of the illness, data on QoL are limited and derive from studies with small sample size (Michalak et al., 2005). The present study aims to assess self-reported QoL scores in a well-characterized sample of manic, depressed, and euthymic BD subjects, as compared to matched healthy controls. Our main hypothesis is that a mismatch between self-reported QoL and objective functioning takes place in mania but not in other phases of BD.

2. Methods

2.1. Subjects

One-hundred and twenty type-I bipolar patients (40 manic, 40 depressed, and 40 euthymic) were consecutively recruited from the Bipolar Disorders Program, Federal University of Rio Grande do Sul, Porto Alegre, Brazil, and the Psychiatric Unit, University Hospital of Santa Maria, Santa Maria, Brazil. Subjects underwent a Structured Clinical Interview for DSM-IV–Axis I (SCID-I) (American Psychiatric Association, 2000) for clinical diagnosis, and a standardized protocol to assess socio-demographic, psychopathological and clinical features, such as rapid cycling, age of onset, years of illness, number of hospitalizations, history of suicide attempts, and number of years undiagnosed (Gazalle et al., 2005). Global functioning was assessed using the Global Assessment of Functioning (GAF) scale (American Psychiatry Association, 2000). Depressive and manic symptoms were assessed using the Hamilton Depression Rating Scale-17 items (HDRS) (Hamilton, 1960) and the Young Mania Rating Scale (YMRS) (Young et al., 1978), respectively. The control group was composed of 40 healthy subjects that accompanied the patients in the outpatient clinic of our University Hospital in order do better match for socio-demographic status. For those that agreed in participating we performed a careful psychiatric investigation using the SCID-I, non-patient version, to rule out any psychiatric disorder, and a medical history to exclude general medical conditions. Controls did not have history of major psychiatric disorders, dementia, mental retardation or cancer in their first-degree relatives. Control subjects were non-smokers and were not on medication. This study was approved by the local ethics committee and all the subjects provided written informed consent before the study entry.

2.2. Qol assessment

QoL was assessed using the cross-culturally validated version of World Health Organization's Quality of Life Instrument-Short Version (WHOQOL-BREF) (The Whoqol Group, 1998). The WHOQOL-BREF is a self-administered, multidimensional scale used to assess physical, psychological, social, and environmental QoL. The WHOQOL-BREF instrument was validated in Portuguese, and showed good internal consistency and test–retest reliability in our population (Fleck et al., 2000).

2.3. Statistical analysis

Descriptive analyses included the calculation of proportions and respective 95% confidence intervals for categorical variables, as well as mean, standard deviation, and percentiles for continuous variables. Histograms and the Kolmogorov–Smirnov test were used to check variables for normality. Chi-square test was used in order to test differences in proportions between the groups, while t-test and one-way ANOVA were employed to compare means between the groups. Tukey HSD post hoc was used to detect differences between specific groups when ANOVA was significant. Statistical significance was set at $p<0.05$. In order to test the hypothesis that there would be a discrepancy between self-reported QOL and functional (objective) measures in manic patients, we also used the Pearson correlation coefficient expecting a negative

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Table 1
Characteristics of bipolar disorder patients and healthy controls

	Healthy controls (N=40)	Manic patients (N=40)	Euthymic patients (N=40)	Depressed patients (N=40)	p value
Mean age, years (S.D.)	40.7 (12.1)	40.1 (12.6)	40.3 (12.0)	40.7 (9.3)	0.997*
Gender, male	34.5%	56.8%	37.5%	28.6%	0.162**
Mean years of schooling (S.D.)	8.7 (3.6)	7.7 (3.7)	9.9 (4.8)	7.5 (4.8)	0.177*
Mean age of first mood episode (S.D.)	–	27.2 (10.9)	23.1 (11.4)	21.2 (13.9)	0.320*
Length of illness, years (S.D.)	–	12.8 (9.6)	17.3 (11.9)	19.5 (14.2)	0.209*
Presence of Current Psychosis	–	86.2%$	21.1%	12.3%	0.032**
Presence of Lifetime Psychosis	–	86.7%	81.3%	81.0%	0.765**
Presence of Rapid Cycling	–	43.9%	18.5%	44.4%	0.130**
Number of suicide attempts (S.D.)	–	2.3 (2.2) $	1.1 (1.5)	1.2 (0.8)	<0.01*
Number of hospitalizations (S.D.)	–	2.5 (3.0)	3.5 (4.1)	3.8 (5.3)	0.730*
Number of Years Undiagnosed (S.D.)	–	11.8 (10.9)	9.5 (11.3)	12.6 (12.0)	0.270*
GAF, mean (S.D.)	–	39.0 (11.6)$	68.3 (13.1)	57.6 (10.8)	<0.01*
HDRS, mean (S.D.)	–	5.2 (3.4)	4.3 (4.2)	22.8 (4.4)$$	<0.01*
YMRS, mean (S.D.)	–	34.5 (7.1)$	3.2 (5.4)	5.1 (3.2)	<0.01*

*One-way ANOVA; **Chi-square test; $significantly different from euthymic and depressed patients; $$significantly different from manic and euthymic patients; GAF = Global Assessment of Functioning; HDRS = Hamilton Depression Rating Scale; YMRS = Young Mania Rating Scale.

correlation between psychological QOL and GAF scores.

3. Results

BD patients and control group did not differ in terms of socio-demographic characteristics (see Table 1). Manic patients had significantly lower GAF scores than euthymic (p<0.001; Tukey HSD post hoc) and depressed patients (p<0.001), while GAF scores did not differ between euthymic and depressed patients. Manic patients had more number of lifetime suicide attempts than depressed and euthymic patients (p<0.01), while euthymic and depressed patients did not differ in terms of lifetime suicide attempts. These results indicate that the group of manic subjects had worse objective global functioning and perhaps a more severe course of illness. In addition, manic patients presented higher prevalence of current psychosis (p=0.032). Number of hospitalizations and number of years undiagnosed did not differ between groups.

In the psychological and physical QoL domains, one-way ANOVA revealed a significant difference between groups (p=0.001; Fig. 1A–B). Post hoc analysis showed that both depressed and euthymic BD patients reported lower psychological and physical QoL scores, while manic subjects did not differ from controls (p>0.05). In the social domain, there was a significant

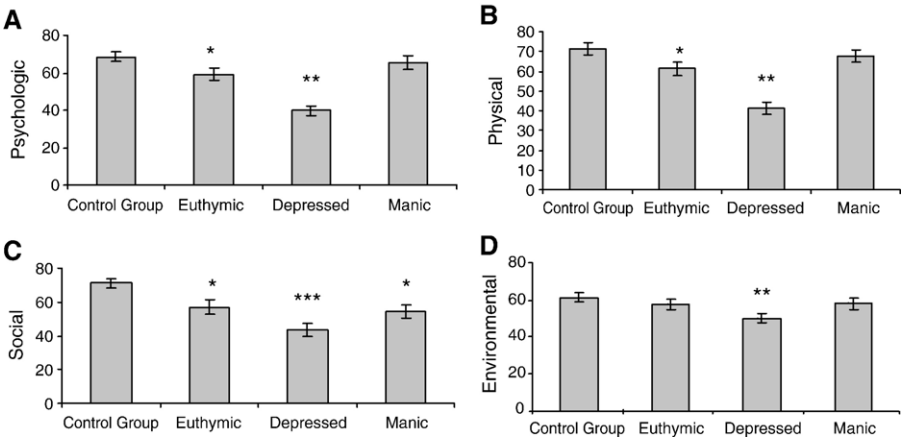

Fig. 1. Psychological (A), physical (B), social (C), and environmental (D) quality of life in manic, depressed, euthymic, and healthy subjects. * Significantly different than control group (p<0.05); ** Significantly different than all groups (p<0.05); *** Significantly different than euthymic and control group (p<0.05).

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difference between the groups ($p=0.001$; Fig. 1C). All BD subgroups reported lower social QoL than the control group, while depressed patients reported the lowest score ($p<0.05$). In the environmental domain, the significant difference between groups ($p=0.001$; Fig. 1D) was accounted by the depressed group that scored less than all the other groups ($p<0.05$). Within the manic subgroup, Pearson correlation coefficient showed a significant negative correlation between psychological QoL and GAF scores ($r=-0.54$; $p=0.001$).

As a secondary analysis, we compared the patients' scores on the YMRS specific "insight" item, and we found that (a) manic patients had higher (poorer) scores than depressed and euthymic patients ($p<0.001$) in the YMRS "insight" item, but (b) depressed and euthymic patients did not differ on this "insight" item ($p=0.98$). Further, the YMRS "insight" item positively correlated with psychological ($r=0.32$; $p<0.01$) and physical ($r=0.35$; $p<0.01$) domains of QoL.

4. Discussion

In the present study we found that acute manic patients reported better overall QoL than depressed patients, and self-reported QoL did not differ between manic and euthymic subgroups. Further, whereas euthymic patients reported lower physical and psychological QoL, manic subjects did not differ from healthy controls. Given the fact that manic patients had lower functional (GAF) scores than the other groups, our findings add to the notion that a mismatch between objective and subjective measures takes place during acute mania (Burdick et al., 2005; Russo et al., 1997). Ghaemi and Rosenquist (2004) reported insight as consistently worsened in mania and improving with the resolution of the acute episode, suggesting that insight is state- rather that trait-related in BD. Poor insight may lead into a state of unawareness of illness (Flashman et al., 2000) and, consequently, to a defective appraisal of illness-related problems. Certain neuropsychiatric conditions lead to a particular lack of ability to perceive ill-functioning of self capabilities, which is termed anosognosia (Lele and Joglekar, 1998). Recent studies identified neurobiological correlates of poor insight indicating that cerebral changes in the right hemisphere are correlated with impaired insight (Shad et al., 2004, 2006) and anosognosia (McGlynn and Schacter, 1989). Interestingly, studies of mania secondary to organic causes have shown that abnormalities in the right, but not in the left hemisphere may lead into manic states (Goodwin and Jamison, 1990; Starkstein et al., 1991; Starkstein and Robinson, 1997). Unfortunately, the neurobiological correlates of insight in BD are largely unknown.

We also believe that the higher prevalence of current psychosis within the manic subgroup may partly explain the present findings. In a recent study conducted with schizophrenic and schizoaffective subjects, Hasson-Ohayon et al. (2006) found that general insight into having a mental disorder was negatively correlated with emotional well-being, economic satisfaction, and vocational status. In fact, other investigators have argued that insight, which is known to be affected in psychotic patients (David et al., 1995), might have a negative impact on QoL (Atkinson and Caldwell, 1997; Kravetz et al., 2000). Our results are in line with previous studies showing that manic subjects reported higher QoL than depressed patients (Ritsner et al., 2002; Vojta et al., 2001) but diverge from Vojta et al. (2001) study, which has demonstrated higher self-reported QOL in euthymic as compared with manic/hypomanic subjects. Here, it is noteworthy that Vojta et al. recruited only outpatients, and grouped the hypomanic and manic subjects together, whereas we recruited a more severe sample of manic patients, most of them inpatients and currently psychotic.

There has been some concern about the feasibility (completion) and the reliability (accuracy) of self-report QoL measures by BD subjects, especially during the manic phase (Michalak et al., 2005). Although we and others (Vojta et al., 2001) have had high rates of completion using different QoL instruments in manic and hypomanic patients, this might not be true in studies of larger samples of severely ill subjects (Russo et al., 1997). As far as the accuracy of the scores is concerned, one can argue that manic subjects may overestimate their life satisfaction (Atkinson and Caldwell, 1997) driven by subjective feelings of euphoria and excitement while inner feelings of worthlessness and pessimism might influence bipolar depressives to underestimate their aspects of QoL (Yatham et al., 2004). Just a few clinical trials have included QoL as an outcome after pharmacological intervention (Revicki et al., 2005). Interestingly, while it has been observed a positive effect of olanzapine and olanzapine+fluoxetine on QoL of manic and depressive BD patients, respectively (Namjoshi et al., 2002; Shi et al., 2004), the effect of treatment on QoL measures seems to be slower than the effects on manic symptomatology (Namjoshi et al., 2002), which further support the impact of manic state on self-reported QoL.

Some limitations of the present study should be considered. First, there is no specific functioning or QoL scales designed for BD population, and GAF's assessment includes issues related to the clinical status of the patient, mixing functional and clinical issues. The

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development of more disease-oriented functioning and QoL instruments addressing particular aspects that are relevant in course of BD is a necessary step in understanding the subjective burden of the bipolar illness. As a cross-sectional study we could not estimate the relative contribution of the time being symptomatic, or the time necessary in remission on distinct QoL domains. Longitudinal studies following the same subjects across distinct phases of the illness could help to investigate these issues. Also, we did not control for the potential influence of comorbid substance abuse, anxiety disorders, and recent significant life events on QoL results. Furthermore, manic patients had significantly higher rates of lifetime suicide attempts. This unexpected finding might suggest that manic patients had a more severe course of illness than the other subgroups, and raises concern about the representativity of the sample. Finally, it can be argued that controls were not only devoid of BD, but also biased towards a better QoL and functioning. Nevertheless the main results of this report, which relate to the differential QoL and functioning in manic, depressed, and euthymic BD patients, are not likely to be changed even if the selection criteria for the control population were less strict.

In conclusion, we showed that severely manic patients report overall QoL rates which are similar to euthymic subjects and healthy controls, and better than those reported by patients with bipolar depression. The severity of manic and psychotic symptomatology may account for this mismatch between subjective and objective measures. Longitudinal studies are warranted to further elucidate the impact of manic and depressive symptoms on QoL in the course of BD.

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