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Original Article

Mood self-assessment in bipolar disorder: a comparison between patients in mania, depression, and euthymia

Autoavaliação do estado de humor no transtorno bipolar: uma comparação entre pacientes em mania, depressão, e eutimia

Rafael de Assis da Silva,[1] Daniel C. Mograbi,[2] Luciana Angélica Silva Silveira,[3] Ana Letícia Santos Nunes,[3] Fernanda Demôro Novis,[3] Paola Anaquim Cavaco,[3] J. Landeira-Fernandez,[4] Elie Cheniaux[5]

Abstract

Background: Some studies indicate that mood self-assessment is more severely impaired in patients with bipolar disorder in a manic episode than in depression.
Objectives: To investigate variations in mood self-assessment in relation to current affective state in a group of individuals with bipolar disorder.
Methods: A total of 165 patients with a diagnosis of bipolar disorder type I or type II had their affective state assessed using the Clinical Global Impressions Scale for use in bipolar illness (CGI-BP), the Positive and Negative Syndrome Scale (PANSS), and the Global Assessment of Functioning (GAF). In addition, participants completed a self-report visual analog mood scale (VAMS). Patients were divided into three groups (euthymia, mania, and depression) and compared with regard to VAMS results.
Results: Manic patients rated their mood similarly to patients in euthymia in 14 out of 16 items in the VAMS. By contrast, depressed patients rated only two items similarly to euthymic patients.
Conclusion: Patients with bipolar disorder in mania, but not those in depression, poorly evaluate their affective state, reinforcing the occurrence of insight impairment in the manic syndrome.
Keywords: Insight, mood, self-assessment, bipolar disorder.

Resumo

Contexto: Alguns estudos indicam que a capacidade de autoavaliação do estado de humor está mais comprometida em pacientes com transtorno bipolar na mania do que na depressão.
Objetivo: Estudar variações na autoavaliação do humor em relação ao estado afetivo atual em indivíduos com transtorno bipolar.
Método: Um total de 165 pacientes com diagnóstico de transtorno bipolar tipo I ou tipo II tiveram seu estado afetivo avaliado utilizando os instrumentos Clinical Global Impressions Scale for use in bipolar illness (CGI-BP), Positive and Negative Syndrome Scale (PANSS) e Global Assessment of Functioning (GAF). Além disso, foi aplicada um instrumento de autoavaliação, a escala visual analógica do humor (EVAH). Os pacientes foram divididos em três grupos (eutimia, mania e depressão) e comparados quanto aos resultados da EVAH.
Resultados: Dos 16 itens da EVAH, 14 foram avaliados pelos pacientes em mania de forma semelhante aos pacientes em eutimia. Em contraste, em apenas dois itens, os deprimidos mostraram escores semelhantes aos eutímicos.
Conclusão: Pacientes bipolares em mania, mas não os deprimidos, avaliam de forma não fidedigna seu estado afetivo, o que reforça o comprometimento do *insight* na síndrome maníaca.
Descritores: *Insight*, humor, autoavaliação, transtorno bipolar.

[1] Instituto Municipal Philippe Pinel (IMPP), Rio de Janeiro, RJ, Brazil. Instituto de Psiquiatria – Universidade Federal do Rio de Janeiro (IPUB/UFRJ), Rio de Janeiro, RJ, Brazil. [2] Pontifícia Universidade Católica do Rio de Janeiro (PUC-Rio), Rio de Janeiro, RJ, Brazil. [3] IPUB/UFRJ, Rio de Janeiro, RJ, Brazil. [4] PUC-Rio, Rio de Janeiro, RJ, Brazil. Universidade Estácio de Sá (UNESA), Rio de Janeiro, RJ, Brazil. [5] IPUB/UFRJ, Rio de Janeiro, RJ, Brazil. School of Medical Sciences, Universidade do Estado do Rio de Janeiro (UERJ), Rio de Janeiro, RJ, Brazil.

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Introduction

Self-report scales are rarely used to assess manic states. Cognitive impairment (affecting primarily attention, insight, and criticism), the lack of cooperation, and the negation observed in patients in manic states make self-assessment unreliable.[1] Platman et al.[2] observed that, among individuals with bipolar disorder, mood self-assessment results more frequently overlapped with objective measurements made by investigators when patients were in depression than when they were in mania. Jamison et al.,[1] in turn, investigated self-perceived mood states in 69 patients with bipolar disorder. In that study, patients were tested using 22 pairs of opposite adjectives (e.g., good/bad, weak/strong, complex/simple), presented as extreme opposites over a continuum. Self-assessment of patients in depression, but not of hypomanic patients, showed significant differences in relation to the results obtained for euthymic patients. The authors concluded that self-assessment is substantially compromised in manic states, but not in depression. These results have been published in a book chapter, but not in a journal article, to the best of the authors' knowledge.

The present study was designed to prospectively assess mood self-assessment in individuals with bipolar disorder in relation to current affective state, i.e., euthymia, mania, or depression. Our null hypothesis was that patients in mania, but not those in depression, would self-assess their mood similarly to euthymic patients.

Method

Sample

Our sample comprised 165 patients with a diagnosis of bipolar disorder (154 type I and 11 type II). All patients received treatment at the outpatient unit of Instituto de Psiquiatria, Universidade Federal do Rio de Janeiro, over a 2-year period, from November 2008 to November 2010. The following inclusion criteria were taken into consideration: being 18 years old or older; having a diagnosis of type I or type II bipolar disorder; and agreeing to sign an informed consent form. Personal and sociodemographic data were collected from each patient. The research protocol was approved by the local research ethics committee.

Clinical assessment

The psychiatric diagnosis of bipolar disorder was established using the Structured Clinical Interview for DSM Disorders (SCID) according to criteria from the Diagnostic and Statistical Manual of Mental Disorders, 4th edition, Text Revision (DSM-IV-TR).[3]

At each visit, the patient's affective state was assessed using the Clinical Global Impressions Scale for use in bipolar illness (CGI-BP),[4] with scores ranging from 1 (normal) to 7 (very severely ill). In order to be considered euthymic, the patient had to present a score below 3, which corresponds to minimally improved in both the mania and the depression subscales. A diagnosis of mania or depression therefore required a minimum score of 3. At each visit, the patient's affective state was determined as either euthymia, mania, depression, or a mixed state. The occurrence of manic and depressive episodes and their severity were assessed using the CGI-BP, considering the highest severity score as the final result. Assessments determining mixed states were disregarded.

Two additional instruments were used to assess illness severity, namely, the positive symptom subscale of the Positive and Negative Syndrome Scale (PANSS-p)[5] and the Global Assessment of Functioning (GAF).[6] PANSS-p scores range from 1 (absent) to 7 (extreme), and the instrument was useful to assess the presence and severity of psychotic symptoms among patients. In the present study, psychosis was considered to be present when delirium or hallucinations were observed. The GAF scale, in turn, assesses social, occupational, and psychological functioning over a continuum that ranges from 1 (poor functioning) to 100 (best functioning).

In parallel, a self-report instrument was applied to assess the occurrence of mood swings, namely, the visual analog mood scale (VAMS),[7] which has been translated into Brazilian Portuguese and adapted to the Brazilian reality.[8] This scale comprises 16 items, each including two adjectives with opposite meanings, as follows: alert-drowsy, calm-excited, strong-feeble, clear-headed-muzzy, well-coordinated-clumsy, energetic-lethargic, contented-discontented, tranquil-troubled, quick-witted-mentally slow, relaxed-tense, attentive-dreamy, proficient-incompetent, happy-sad, amicable-antagonistic, interested-bored, and gregarious-withdrawn. In the VAMS, each adjective is separated from its opposite by a 10 cm line on which the subject has to mark the point which best describes his feelings at the time. In this type of scale, responses are given over a continuum rather than following predetermined intervals.

The main analysis of our study involved the investigation of possible relationships between different affective states, as assessed by CGI-BP, and VAMS results. With this goal in mind, patients were divided into three groups, namely, euthymia, mania, depression. Each patient was assigned to one single group only. The following criteria were taken into consideration: 1) euthymia, only patients classified as euthymic at

all visits, and only the first VAMS results used in the analysis; 2) mania, patients who showed at least one episode of mania throughout the study period, first VAMS results obtained during a manic episode used in the analysis; and 3) depression, patients who showed at least one episode of depression and no episode of mania throughout the study period, first VAMS results obtained during a depressive episode used in the analysis.

Statistical analysis

Differences between the groups in terms of VAMS scores were explored using one-way analysis of variance (ANOVA). Cases showing differences in ANOVA were adjusted for pairwise comparisons with Bonferroni correction.

Differences observed in sociodemographic and clinical characteristics across the groups were also tested. Educational level, age, and scores obtained on PANSS-p, GAF, and CGI-BP were assessed using one-way ANOVA, whereas gender and frequency of psychotic symptoms were tested using the chi-square test. Again, pairwise comparisons following Bonferroni adjustment were carried out whenever differences were observed in the initial analyses.

Results

Of the 165 patients assessed, only 16 were classified as euthymic, manic, and depressive at different moments. One hundred patients presented the same affective state at all assessments: 59 in euthymia, 15 in mania, and 26 in depression. Moreover, 15 patients were euthymic and showed episodes of mania but no depressive episodes, and 26 were euthymic and showed episodes of depression but no manic episodes. Finally, only eight patients showed both manic and depressive episodes but were never classified as euthymic.

Patient distribution according to the criteria previously established was as follows: 59 in the euthymia group, 54 in the mania group, and 52 in the depression group.

Demographic and clinical data obtained for each group are presented in Table 1. Sociodemographic variables were statistically similar across the three groups. Notwithstanding, gender showed a trend toward difference, with a higher female-to-male ratio in the depression group when compared with the other two groups. A higher frequency of psychotic symptoms and higher PANSS-p scores were observed in manic patients when compared with euthymic and depressed ones. Analysis also showed higher CGI-BP and lower GAF scores in patients in mania and depression when compared with euthymic individuals.

One-way ANOVA revealed significant differences between the groups for the following variables on VAMS: alert-drowsy, $F(2, 162) = 9.47$, $p < 0.001$; calm-excited, $F(2, 162) = 10.80$, $p < 0.001$; strong-feeble, $F(2, 162) = 19.86$, $p < 0.001$; clear-headed-muzzy, $F(2, 162) = 7.28$, $p = 0.001$; well-coordinated-clumsy, $F(2, 162) = 15.15$, $p < 0.001$; energetic-lethargic, $F(2, 162) = 15.40$, $p < 0.001$; contented-discontented, $F(2, 162) = 21.50$, $p < 0.001$; tranquil-troubled, $F(2, 162) = 7.80$, $p = 0.001$; quick-witted-mentally slow, $F(2, 162) = 10.30$, $p < 0.001$; relaxed-tense, $F(2, 162) = 5.73$, $p = 0.004$; attentive-dreamy, $F(2, 162) = 11.87$, $p < 0.001$; proficient-incompetent, $F(2, 162) = 17.47$, $p < 0.001$; happy-sad, $F(2, 162) = 18.99$, $p < 0.001$; interested-bored, $F(2, 162) = 30.50$, $p < 0.001$; gregarious-withdrawn, $F(2, 162) = 17.60$, $p < 0.001$. The amicable-antagonistic variable did now show significant differences: $F(2, 162) = 0.93$, $p = 0.397$.

As shown in Table 2, 14 of the 16 items comprising the VAMS showed similar scores in the euthymia and mania groups. Of these 14 items, 11 showed differences between euthymia/mania and depression, two did not show differences across the three groups, and one showed similar results for mania and depression, but differences between euthymia and depression. In only two of the 16 items, differences were found between the euthymia and mania groups: in the interested-bored item, the euthymia group showed differences also in relation to the depression group; in the calm-excited item, euthymic patients performed similarly to depressive ones. As a result, the depression group was similar to the euthymia group in only two of the 16 items comprising the VAMS.

Table 1 – Comparison between the three groups of patients according to sociodemographic and clinical characteristics

Variable	Euthymia (n = 59)	Mania (n = 54)	Depression (n = 52)	p
Gender (female/male), %	54.2/45.8	68.5/31.5	75.0/25.0	0.061
Educational level (years), mean ± SD (mv: 5)	11.8±4.2	12.3±2.8	11.6±4.1	0.645
Age (years), mean ± SD (mv: 1)	42.9±13.9	45.8±11.3	46.4±12.5	0.300
GAF (total score), mean ± SD	76.7±12.5	54.4±11.9	59.0±9.8	< 0.001
CGI-BP (total score), mean ± SD	1.5±0.5	3.7±0.7	3.7±0.8	< 0.001
PANSS-p (total score), mean ± SD	7.7±1.4	13.5±4.4	8.2±1.8	< 0.001
Frequency of psychotic symptoms, %	3.4	35.2	11.5	< 0.001

CGI-BP = Clinical Global Impressions Scale for use in bipolar illness; GAF = Global Assessment of Functioning; mv = missing values; PANSS-p = Positive and Negative Syndrome Scale, positive symptom subscale; SD = standard deviation.

Table 2 – Comparison between the groups of patients in euthymia (n = 59), mania (n = 54), and depression (n = 52) with regard to the mean results obtained in the visual analog mood scale (VAMS)

Scale item	Group	Mean ± standard
Alert-drowsy	Euthymia	3.23±2.84†
	Mania	3.67±3.13†
	Depression	5.67±3.34*
Calm-excited	Euthymia	2.74±2.78
	Mania	5.42±3.16*†
	Depression	3.88±3.27
Strong-feeble	Euthymia	3.38±2.56†
	Mania	3.79±2.67†
	Depression	6.47±3.07*
Clear-headed-muzzy	Euthymia	7.28±2.76†
	Mania	5.90±3.27
	Depression	4.93±3.75*
Well-coordinated-clumsy	Euthymia	2.92±2.92†
	Mania	3.35±3.01†
	Depression	5.90±3.20*
Energetic-lethargic	Euthymia	6.48±2.86†
	Mania	6.86±2.84†
	Depression	3.84±3.46*
Contented-discontented	Euthymia	3.94±3.15†
	Mania	3.59±3.25†
	Depression	7.16±2.85*
Tranquil-troubled	Euthymia	5.30±3.42†
	Mania	4.46±3.36†
	Depression	2.80±3.28*
Quick-witted-mentally slow	Euthymia	6.27±2.93†
	Mania	5.94±3.04†
	Depression	3.76±3.40*
Relaxed-tense	Euthymia	5.43±3.08†
	Mania	4.12±3.07
	Depression	3.44±3.35*
Attentive-dreamy	Euthymia	3.29±2.91†
	Mania	3.19±2.92†
	Depression	5.81±3.61*
Proficient-incompetent	Euthymia	7.28±2.43†
	Mania	7.14±2.82†
	Depression	4.33±3.49*
Happy-sad	Euthymia	3.69±3.00†
	Mania	3.51±3.32†
	Depression	6.74±2.77*
Amicable-antagonistic	Euthymia	6.89±2.84
	Mania	6.10±3.40
	Depression	6.60±3.07
Interested-bored	Euthymia	3.09±2.99†
	Mania	1.77±2.01*†
	Depression	6.03±3.44*
Gregarious-withdrawn	Euthymia	6.13±3.25†
	Mania	7.27±3.03†
	Depression	3.62±3.43*

* Different from euthymic patients ($p < 0.05$).
† Different from depressive patients ($p < 0.05$).

Discussion

In our study, most of the items assessed in the VAMS were scored similarly by patients in mania and euthymia, whereas depressive patients self-assessed their mood differently than manic and euthymic patients. These results confirmed our expectations and are in line with those reported by Jamison et al.[1] In that study, of a total of 22 pairs of opposite adjectives, only two showed significant differences in the self-assessment of hypomanic vs. euthymic bipolar patients.

Another study, conducted by Platman et al.,[2] also found that, among individuals with bipolar disorder, mood self-assessment is more reliable during depression than during mania. Eleven patients were assessed using the Emotions Profile Index, a scale designed to assess primary emotions. Self-reported results obtained in depressed patients overlapped with objective assessments made by members of the healthcare team. Nevertheless, a great level of disagreement was observed between self-assessment made by manic patients and the team's objective measures.

It seems evident that patients in mania do not reliably assess their own affective state, probably as a result of insight impairment, a phenomenon that is not observed in depressive episodes in the same extent.[9-16] In a study involving 156 patients with bipolar disorder, insight impairment was assessed according to different affective states using the Scale for Manic States. A higher degree of insight impairment was observed in mania when compared with depression, euthymia, or mixed states.[9] A similar study assessed 54 patients with mood disorder, including bipolar and unipolar depression, in both manic and depressive states, using the Spanish version of the Manual for the Assessment and Documentation of Psychopathology. The authors observed that patients in mania had more severely impaired insight when compared with patients in depression. Conversely, patients with psychotic depression showed more severe insight impairment than those with depression and no psychotic features. Notwithstanding, the presence or absence of psychotic symptoms did not reveal differences among manic patients.[16] Another study used the Scale to Assess Unawareness of Mental Disorder (SUMD) to assess 147 bipolar patients and 30 patients with unipolar depression with psychotic features.[17] Those authors concluded that insight was related with episode polarity, where patients in a manic episode showed a higher degree of insight impairment than patients in mixed episodes or in bipolar/unipolar depression.[12]

Insight impairment is also observed in other mental disorders. Some studies[17-19] have compared schizophrenic, schizoaffective, and bipolar patients with regard to their insight into illness using the SUMD. Amador et al.[17] and Pini et al.[18] observed more severe insight impairment in patients with schizophrenia. Pini et al.,[19] in turn, found that schizophrenic patients showed more severely impaired insight when compared with schizoaffective patients and those with unipolar depression with psychotic features. Conversely, the insight of schizophrenic patients was as severely compromised as that of bipolar patients.

The unreliability of mood self-assessment as measured by the VAMS in patients in mania could be related to certain clinical characteristics observed in these individuals, such as cognitive impairment, particularly related to attention and executive functions,[20] in addition to impulsivity.[21] In this sense, the manic patients assessed in our study may have filled the scale too fast, without much reflection. From a different perspective, however, it remains unclear why their self-assessment errors, induced by impulsivity and hurry, have specifically reproduced the results obtained with euthymic patients rather than random results.

One possible limitation of our study is the fact that the group of patients in mania showed more frequent and more severe psychotic symptoms when compared with patients in depression or euthymia. Because the presence of psychotic symptoms is associated with increased insight impairment,[16] the possible influence of these symptoms on the less reliable self-assessment results obtained in manic patients should not be discarded. Another limitation relates to the fact that the same patient was not assessed while in different affective states. A longitudinal study[13] involving patients with bipolar disorder assessed using the SUMD reported insight improvement after the resolution of manic episodes. Another similar study following 65 patients with bipolar disorder over 2 years also reported more severe insight impairment in a patient during a manic episode and less severe impairment in the same patient during euthymia or depression.[10] The instrument used in that study was the Schedule of Assessment of Insight-Expanded version (SAI-E). The same study showed that insight returned to pre-episode levels in patients who had experienced only one manic episode, but not in patients with multiple episodes of mania, suggesting that insight could become increasingly impaired as a result of successive affective episodes.

Látalova[20] found an association between higher levels of insight and improved treatment response in bipolar disorder. According to that author, this relationship is probably mediated by a higher level of adherence to drug treatment, resulting in improvement of psychopathological symptoms and consequently to less severe insight impairment. These findings underscore the importance of psychoeducation in bipolar disorder, leading to increased treatment adherence as a result of improved insight.

Conclusion

Our findings suggest that patients with bipolar disorder in manic episodes, but not those in depressive episodes, do not reliably assess their mood state, which probably reflects the more severe insight impairment observed in the manic syndrome. Future studies that control for the occurrence of psychotic symptoms and that assess the same individual at different phases of bipolar disorder are warranted and would greatly contribute to corroborate our findings.

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Correspondence
Rafael de Assis da Silva
Rua Largo do Machado, 29/411, Catete
22221-020 - Rio de Janeiro, RJ - Brazil
E-mail: rafaelpsiq@gmail.com