Clinical correlates of loss of insight in bipolar depression

Correlatos clínicos da perda de *insight* no transtorno bipolar

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Abstract

Introduction: Affective state may influence insight, especially regarding mania. Nevertheless, studies have so far suggested that depression seems not to significantly impair insight. To the best of our knowledge, this study pioneers the evaluation of how insight variations in bipolar depression correlate with clinical variables.

Method: A group of 165 bipolar patients, 52 of whom had depressive episodes according to DSM-5 criteria, were followed during a year. All patients underwent clinical assessment, and insight was evaluated through the Insight Scale for Affective Disorders (ISAD). Repeated-measures ANOVA was calculated comparing scores on the four ISAD factors (insight into symptoms, the condition itself, self-esteem and social relationships) in order to investigate differences in insight according to different objects. Correlational analysis explored which clinical symptoms were linked to reduced insight.

Results: Worse total insight correlated with suicide attempt/ideation and fewer subsyndromal manic symptoms such as mood elevation, increased energy and sexual interest. Worse self-esteem insight was associated with not only suicide ideation/attempt but also with activity reduction and psychomotor retardation. Worse symptom insight also correlated with psychomotor retardation. Better insight into having an affective disorder was associated with more intense hypochondria symptoms. Finally, worse insight into having an illness was associated with psychotic episodes.

Conclusion: Our study found that symptoms other than psychosis – suicide ideation, psychomotor retardation and reduction of activity and work – correlate with insight impairment in bipolar depression.

Keywords: Insight, bipolar depression, bipolar disorder.

Resumo

Introdução: O estado afetivo pode influenciar o *insight*, especialmente a mania. No entanto, até o momento os estudos mostram que a depressão parece não prejudicar significativamente o *insight*. De acordo com o conhecimento dos autores, este estudo é pioneiro em avaliar como as alterações de *insight* na depressão bipolar se correlacionam com variáveis clínicas.

Método: Um grupo de 165 pacientes bipolares, com 52 pacientes apresentando episódios depressivos de acordo com os critérios do DSM-5, foi acompanhado por um ano. Os pacientes foram submetidos a avaliação clínica, e o *insight* foi avaliado utilizando-se a Insight Scale for Affective Disorders (ISAD). Diferenças no *insight* de acordo com o objeto foram investigadas utilizando-se ANOVA de medidas repetidas, comparando os escores dos quatro fatores da ISAD (*insight* sobre sintomas, sobre sua condição, autoestima e relações sociais). Análises de correlação exploraram quais sintomas clínicos estiveram associados a redução de *insight*.

Resultados: Pior *insight* total correlacionou-se com ideação/tentativa de suicídio e com sintomas subsindrômicos de mania (elevação do humor, energia aumentada e interesse sexual). Pior *insight* sobre autoestima associou-se não somente a ideação/tentativa de suicídio, mas também a redução de atividade e alentecimento psicomotor. Pior *insight* sobre sintomas também mostrou correlação com alentecimento psicomotor. Melhor *insight* sobre ter uma doença afetiva associou-se a sintomas hipocondríacos mais intensos. Finalmente, pior *insight* sobre a condição esteve associado a sintomas psicóticos.

Conclusão: O estudo mostrou que, além da psicose, outros sintomas parecem se correlacionar com prejuízo de *insight* na depressão bipolar, como ideação suicida, redução de atividade e alentecimento psicomotor.

Descritores: *Insight*, depressão bipolar, transtorno bipolar.

Introduction

Insight in patients with bipolar disorder (BD) has been the focus of many studies, as better or worse awareness about being ill, having symptoms or having psychosocial impairments may affect treatment adherence and the course of the illness.[1,2]

Studies usually approach insight as a binary variable – present vs. absent – and investigate a possible relationship between insight and clinical characteristics of BD.[3,4] Other studies, nevertheless, try to establish a more complex understanding of insight not as a binary variable, but as a multidimensional phenomenon. Multidimensional scales have actually been widely used in research on insight. Olaya et al.[5] have, for example, developed a multidimensional scale, the Insight Scale for Affective Disorders (ISAD), a hetero-evaluation instrument for patients with mood disorders. The dimensions evaluated include insight into the illness, treatment needs and social consequences.[6] It allows for a more complete assessment of insight, addressing BD in a comprehensive manner whilst at the same time investigating insight into several specific symptoms.

Affective states, especially mania, may influence insight. Studies seem unanimous in declaring that there is significant impairment of insight in mania.[3,7] A broad study on insight in mania recently showed that worse insight level specifically regarding symptoms is correlated with higher levels of energy/agitation, which suggests the existence of a psychomotor core in mania causing insight impairments.[8]

By contrast, studies have so far indicated that depression is not associated with significant impairment of insight. Several of those studies included patients with bipolar and unipolar depression in the same sample, which limits specific findings about insight in bipolar depression.[4,7] To the best of our knowledge, the current study pioneers the evaluation of how insight variations in bipolar depression correlate with clinical variables. This study aims at evaluating how the several dimensions of insight may be affected in bipolar depression as well as exploring correlations between insight and depressive symptomatology.

Methods

Sample

This study was performed at the BD outpatient research clinic at Instituto de Psiquiatria, Universidade Federal do Rio de Janeiro (IPUB/UFRJ), Rio de Janeiro, Brazil, between July 2014 and June 2015.

Inclusion criteria were diagnosis of BD type I or type II, having had at least one episode of depression during the research period and being 18 years old or older. Since patients could be evaluated more than once during the study period, thus potentially presenting with more than one depressive episode, only the first depressive episode of each patient was considered for the analysis of results. Additionally, patients were included only in case their depressive episode showed insight alteration – defined as a score ≥ 2 in at least one of the 17 items of ISAD. Exclusion criteria were refusal to participate in the research, non-cooperation during the application of assessment instruments and presence of severe non-psychiatric illness.

This study was approved by the local ethics committee and all participants provided written informed consent.

Clinical evaluation

Psychiatric diagnosis was formulated according to criteria from the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)[9] through clinical assessment performed by a psychiatrist. The affective state of each patient was also evaluated according to DSM-5 criteria. The following scales were used: Hamilton Depression Scale (HAM-D),[10] Young Mania Rating Scale (YMRS),[11] Positive and Negative Syndrome Scale – positive symptom subscale (PANSS-p),[12] and Clinical Global Impressions Scale for use in bipolar illness – depression subscale (CGI-BP-d).[13] HAM-D is a 17-item scale that evaluates the main depressive symptoms. YMRS has 11 items, which assess manic symptoms. PANSS-p allows detecting the presence and intensity of psychotic symptoms as well as other positive symptoms. In this study, affective episodes were considered psychotic when at least one delusional narrative or hallucination of any kind was detected. CGI-BP consists of a global score measuring the severity of the affective episode.

Patients were also assessed with the ISAD, developed by Olaya et al.[5] It was translated into Portuguese and adapted for use in Brazil by Silva et al.[14] The instrument, based on the Scale to Assess Unawareness in Mental Disorders (SUMD),[15] is a multidimensional assessment consisting of 17 items. Scores may range from 1 (absence of symptom or full insight) to 5 (no insight) for each item, meaning that any score above 1 indicates insight alteration for that item. ISAD total scores and subscores based on the four factors of the scale (insight into symptoms, the condition itself, self-esteem and social relationships)[14] were generated for the analysis. Full details about the psychometric properties of the scale and the factor analysis can be found in Silva et al.[14]

Statistical analysis

A repeated-measures ANOVA was calculated comparing scores obtained on the four ISAD factors (insight into symptoms, the condition itself, self-esteem and social relationships) in order to investigate differences in insight according to the object. Post-hoc comparisons were calculated using Student's t tests adjusted with Bonferroni-Hochberg corrections.[16] Because each ISAD factor varies in number of items, a mean score was generated dividing subscale scores by the corresponding number of items.

Correlational analysis explored which clinical symptoms were linked to reduced insight. For that purpose, correlations were calculated between ISAD total or subscale scores and each individual item of the YMRS, HAM-D and PANSS-p. Considering the ordinal characteristic of the scales, Spearman rho (ρ) correlations were calculated. To investigate the relationship between psychotic episodes and insight, point-biserial correlations were calculated. Considering the exploratory nature of the analyses, α was set at 0.05.

Results

Sample characteristics

Among the 138 patients with BD followed along the study period, 68 had at least one depressive episode. Among those, 52 were selected for having had a minimum of one depressive episode in which insight was altered in at least one item evaluated by ISAD. Four patients had a psychotic episode, according to the criterion defined above. The sample comprised 40 women and 12 men, all diagnosed with BD type I. Sample characteristics are shown in Table 1.

Insight according to object

A repeated-measures ANOVA did not indicate any significant differences in insight according to the object ($F_{3,153} = 0.66$, p = 0.580, $\eta_p^2 = 0.01$).

Correlations between insight and depression symptoms

Results can be seen in Table 2. There were significant moderate correlations between ISAD total scores ($\rho = 0.30$, p = 0.028) or insight into self-esteem ($\rho = 0.43$, p = 0.001) and suicidal ideation/attempt (HAM-D #3). In addition, loss of insight into self-esteem correlated moderately with reduced activity (HAM-D #7; $\rho = 0.44$, p = 0.001) and psychomotor retardation (HAM-D #8; $\rho = 0.34$, p = 0.013). Insight into symptoms also showed a significant, but weak, correlation with motor retardation (HAM-D #8; $\rho = 0.29$, p = 0.040). A significant, weak negative correlation was found between loss of insight into social relationships and early insomnia (HAM-D #4; $\rho = -0.28$, p = 0.045).

A significant moderate negative correlation between loss of insight and hypochondria was also observed ($\rho = -0.36$, p = 0.008). There were moderate positive correlations between insight as measured by the HAM-D and ISAD total scores ($\rho = 0.31$, p = 0.026), insight into symptoms ($\rho = 0.32$, p = 0.021) and insight into social relationships ($\rho = 0.34$, p = 0.015).

Correlations between insight and mania symptoms

Results can be seen in Table 3. ISAD total scores showed moderate negative correlations with elevated mood (YMRS #1; $\rho = -0.33$, p = 0.045), increased energy (YMRS #2; $\rho = -0.40$, p = 0.045) and sexual interest (YMRS #3; $\rho = -0.36$, p = 0.045). There was a moderate positive correlation between ISAD total scores and insight as measured by the YMRS (#11; $\rho = 0.30$, p = 0.045). Worse insight into social relationships correlated with unkempt appearance (YMRS #10; $\rho = 0.28$, p = 0.045), but the strength of the association was weak. Insight into symptoms, condition or self-esteem did not show any significant correlations.

Table 1 - Clinical and demographic characteristics of patients

Variable	Patients in depression (n = 52)
Age	51.8 (12.7) / 19-83
Years of education	11.8 (4.0) / 0-17
Gender (male/female)	12/40
Hamilton Rating Scale for Depression	13.7 (5.1) / 6-28
Hamilton Rating Scale for Depression	3.2 (3.5) / 0-18
Insight Scale for Affective Disorders	25.2 (7.8) / 18-59
Positive and Negative Syndrome Scale – Positive	8.1 (2.5) / 7-23
Clinical Global Impression – Bipolar / Depression	3.8 (1.0) / 3-7

Data presented as mean (standard deviation) / minimum-maximum values, unless otherwise specified.

Correlations between insight and psychotic symptoms

Results can be seen in Table 4. PANSS-p items did not correlate significantly with insight (p > 0.05). By contrast, loss of insight into the condition showed a moderate positive correlation with psychotic episodes (r_{pb} = 0.42, p = 0.002).

Discussion

The current study found several correlations between the level of insight impairment and the intensity of manic or depressive symptoms in patients with BD during a depressive episode. Higher ISAD total scores (i.e., worse insight) correlated with higher rates of

Table 2 - Correlations between insight and depression symptoms

	ISAD scores				
	Total ρ	Factor 1 ρ	Factor 2 ρ	Factor 3 ρ	Factor 4 ρ
HAM-D #1 – Depressed mood	0.07	0.13	-0.10	0.06	-0.20
HAM-D #2 – Guilt	0.02	0.01	0.01	0.23	-0.08
HAM-D #3 – Suicide	**0.30***	0.23	-0.01	**0.43†**	-0.03
HAM-D #4 – Insomnia early	-0.12	-0.02	-0.06	-0.11	**-0.28***
HAM-D #5 – Insomnia middle	-0.08	-0.03	-0.14	-0.12	-0.08
HAM-D #6 – Insomnia late	-0.14	-0.16	0.08	-0.13	-0.05
HAM-D #7 – Work/activities	0.27	0.09	0.15	**0.44†**	-0.02
HAM-D #8 – Slowness	0.23	**0.29***	-0.09	**0.34***	-0.20
HAM-D #9 – Agitation	-0.12	0.04	-0.07	-0.12	-0.17
HAM-D #10 – Psychological anxiety	-0.26	-0.08	-0.23	-0.08	-0.23
HAM-D #11 – Somatic anxiety	-0.14	-0.03	0.04	-0.20	-0.08
HAM-D #12 – Eating	0.01	0.06	0.05	-0.07	-0.10
HAM-D #13 – Somatic symptoms	-0.02	0.06	-0.11	0.01	0.09
HAM-D #14 – Sexual changes	0.08	-0.03	0.17	0.15	0.22
HAM-D #15 – Hypochondria	-0.03	0.07	**-0.36†**	0.07	0.25
HAM-D #16 – Loss of weight	0.07	0.01	0.07	0.10	0.10
HAM-D #17 – Insight	**0.31***	**0.32***	-0.03	0.13	**0.34***

Significant results in bold.
ρ = Spearman rho; Factor 1 = Symptoms; Factor 2 = Condition; Factor 3 = Self-esteem; Factor 4 = Social relationships; HAM-D = Hamilton Rating Scale for Depression; ISAD = Insight Scale for Affective Disorders.
* p < 0.05; † p < 0.01.

Table 3 - Correlations between insight and mania symptoms

	ISAD scores				
	Total ρ	Factor 1 ρ	Factor 2 ρ	Factor 3 ρ	Factor 4 ρ
YMRS #1 – Elevated mood	**-0.33***	-0.12	-0.19	-0.22	-0.17
YMRS #2 – Increased energy	**-0.40†**	-0.06	-0.26	-0.26	-0.25
YMRS #3 – Sexual interest	**-0.36†**	-0.20	-0.14	-0.17	-0.13
YMRS #4 – Sleep	0.09	0.01	0.09	0.06	-0.16
YMRS #5 – Irritability	-0.24	-0.15	0.04	-0.13	-0.13
YMRS #6 – Speech	-0.19	0.01	-0.15	-0.10	-0.17
YMRS #7 – Language/thought disorder	0.09	0.18	-0.21	0.18	-0.10
YMRS #8 – Thought content	-0.09	-0.05	0.09	-0.12	-0.20
YMRS #9 – Aggressive behavior	0.07	0.04	0.13	0.03	-0.13
YMRS #10 – Appearance	0.04	0.16	0.01	0.01	**0.28***
YMRS #11 – Insight	**0.30***	0.24	0.27	0.10	0.20

Significant results in bold.
ρ = Spearman rho; Factor 1 = Symptoms; Factor 2 = Condition; Factor 3 = Self-esteem; Factor 4 = Social relationships; ISAD = Insight Scale for Affective Disorders; YMRS = Young Mania Rating Scale.
* p < 0.05; † p < 0.01.

suicide ideation/attempt and with fewer subsyndromal manic symptoms such as mood elevation, increased energy and sexual interest. Worse insight into self-esteem was associated not only with suicide ideation/attempt, but also with psychomotor retardation and decrease in work and activity. Worse insight into symptoms was also correlated with psychomotor retardation. Worse insight into having a disorder was associated with psychotic episodes.

At least six studies have evaluated insight in bipolar depression.[3,4,7,17-19] In all of them, insight in mania was more impaired than in bipolar depression. Bressi et al.[3] reported a higher level of insight among depressed patients than among those with mixed episodes. Yen et al.[7] found no differences in level of insight between euthymic and depressed bipolar patients. These previous studies performed limited evaluations of insight: a few used binary variables, while others used multidimensional scales, though unable to evaluate insight specifically related to depressive symptomatology.[6,20] To the best of our knowledge, no other study has evaluated the correlation between insight and depressive symptoms. It is worth noting that the correlations found in the current study (bipolar depression) were generally weaker than those reported for bipolar mania,[8] which may reflect a more limited contribution of symptoms to loss of insight in bipolar depression or a reduced variance of insight into this condition.

In bipolar mania, insight into symptoms, represented by Factor 1 of the ISAD, is more impaired than insight into having BD (Factor 2), social relationships (Factor 4) and self-esteem (Factor 3).[8] In contrast with bipolar mania, the current study found that insight in bipolar depression did not fluctuate according to the object.[8] It is possible that insight in bipolar depression is influenced by a general factor, such as a negative bias in appraisal of self-ability that does not change with different objects.

The association between suicidal ideation/attempt and loss of insight reinforces previous findings.[21] It is possible that limited self-awareness about well-being (i.e., insight into self-esteem) is specifically linked to suicidal behavior. Loss of insight into self-esteem also correlated with reduced ability to work and psychomotor retardation, which indicates potential functional and behavioral consequences of reduced self-awareness. One alternative interpretation is that insight impairment is associated with alterations in psychomotor activity, which is reinforced by the correlation between insight into symptoms and psychomotor retardation; in bipolar mania, increases in psychomotor activity are associated with loss of insight.[8] The relationship between hypochondria and more preserved insight into having a condition may be explained by over-reporting of problems in hypochondriacs, which may be perceived by others as more preserved insight. Finally, the association between ISAD total/subscale scores and the insight item of the HAM-D provides further confirmation of the validity of the former scale.

Lower ISAD scores (better insight) were correlated with more severe subsyndromal manic symptoms. Findings are counterintuitive, considering that increased manic symptoms are typically correlated with worse insight in BD, including mixed states. It is possible that subsyndromal manic symptoms in bipolar depression results in a slightly reduced negative bias when evaluating self-ability, which may lead to more realistic self-appraisal.

Psychotic episodes were associated with increased loss of insight into having a condition. This may indicate

Table 4 - Correlations between insight and positive symptoms

	ISAD scores				
	Total ρ	**Factor 1 ρ**	**Factor 2 ρ**	**Factor 3 ρ**	**Factor 4 ρ**
PANSS-p #1 – Delusions	0.18	-0.06	0.13	0.14	0.20
PANSS-p #2 – Conceptual disorganization	0.06	-0.06	0.06	0.25	0.03
PANSS-p #3 – Hallucinations	0.18	-0.02	0.23	0.22	0.09
PANSS-p #4 – Excitement	-0.09	-0.05	-0.02	-0.13	-0.01
PANSS-p #5 – Grandiosity	-0.06	-0.07	0.06	-0.14	-0.10
PANSS-p #6 – Suspiciousness	0.14	0.02	0.14	-0.06	0.11
PANSS-p #7 – Hostility	-0.14	-0.05	0.07	-0.09	-0.08
Presence of psychotic symptoms*	0.06	-0.13	**0.42**[†]	0.13	0.11

Significant results in bold.
ρ = Spearman rho; Factor 1 = Symptoms; Factor 2 = Condition; Factor 3 = Self-esteem; Factor 4 = Social relationships; ISAD = Insight Scale for Affective Disorders; PANSS = Positive and Negative Syndrome Scale.
* Point-biserial correlation.
[†] p < 0.01.

that patients with BD and with problems in reality monitoring have worse insight into having a psychiatric disorder and its consequences. Nevertheless, none of the positive symptoms on the PANSS correlated with loss of insight, so it is possible that the negative symptoms in psychosis influence insight in BD. This is in accordance with findings that indicate that apathy is a strong marker of insight impairment in other conditions, such as dementia.[22] However, it is also possible that the limited variance in PANSS scores has led to the absence of significant correlations. This may be particularly relevant considering that there was an association with psychotic depression, which was defined as the presence of at least one delusion or hallucination, and was present in only four patients of the sample.

This study has a few limitations related to sampling. Although a large sample of bipolar patients was followed, the final sample, consisting of patients with at least one depressive episode, was relatively smaller. Similarly, the criteria for psychotic depression exclusively included positive symptoms, and included only four patients. Therefore, studies with larger samples are advisable. Moreover, the fact that the study was performed at a university hospital may have led to the selection of subjects with more severe conditions. Future studies in different settings are important to generalize the current findings.

Conclusion

The current study found that symptoms other than psychosis, such as suicide ideation, decreased work and activity, and psychomotor retardation, correlate with insight impairment in bipolar depression. Differently from mania, insight in bipolar depression does not vary according to specific objects.

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Disclosure

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