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Research report

Affective temperaments are associated with specific clusters of symptoms and psychopathology: A cross-sectional study on bipolar disorder inpatients in acute manic, mixed, or depressive relapse

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ABSTRACT

Background: The aim of this study was to assess whether different affective temperaments could be related to a specific mood disorder diagnosis and/or to different therapeutic choices in inpatients admitted for an acute relapse of their primary mood disorder.
Method: Hundred and twenty-nine inpatients were consecutively assessed by means of the Structured and Clinical Interview for axis-I disorders/Patient edition and by the Temperament Evaluation of Memphis, Pisa, Paris, and San Diego auto-questionnaire, Young Mania Rating Scale, Hamilton Scale for Depression and for Anxiety, Brief Psychiatry Rating Scale, Clinical Global impression, Drug Attitude Inventory, Barratt Impulsiveness Scale, Toronto Alexithymia Scale, and Symptoms Checklist-90 items version, along with records of clinical and demographic data.
Results: The following prevalence rates for axis-I mood diagnoses were detected: bipolar disorder type I (BD-I, 28%), type II (31%), type not otherwise specified (BD-NOS, 33%), major depressive disorder (4%), and schizoaffective disorder (4%). Mean scores on the hyperthymic temperament scale were significantly higher in BD-I and BD-NOS, and in mixed and manic acute states. Hyperthymic temperament was significantly more frequent in BD-I and BD-NOS patients, whereas depressive temperament in BD-II ones. Hyperthymic and irritable temperaments were found more frequently in mixed episodes, while patients with depressive and mixed episodes more frequently exhibited anxious and depressive temperaments. Affective temperaments were associated with specific symptom and psychopathology clusters, with an orthogonal subdivision between hyperthymic temperament and anxious/cyclothymic/depressive/irritable temperaments. Therapeutic choices were often poorly differentiated among temperaments and mood states.
Limits: Cross-sectional design; sample size.
Conclusions: Although replication studies are needed, current results suggest that temperament-specific clusters of symptoms severity and psychopathology domains could be described.

1. Introduction

Mood disorders are currently categorized in well-defined diagnostic classes within the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, (APA, 1994) and the tenth edition of the WHO International Classification of Diseases (ICD-10, (WHO, 1992). However, clinical and molecular studies, mostly on therapeutic approaches to the disease, often challenge this view (de Bartolomeis and Perugi, 2012). Indeed, pharmacological targets frequently lie at the crossroads of multiple signaling cascades, putatively implicated in the pathophysiology of several symptom and psychopathological domains relevant to mood disorders

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(de Bartolomeis et al., 2013; Dell'aversano et al., 2009; Iasevoli et al., 2013; Tomasetti et al., 2011).

It has been suggested that mood disorders may rather belong to a broad bipolar spectrum where individual temperaments, personality and psychopathology merge in multiple complex clinical phenotypes (Akiskal, 2003). According to this view, both the study of individual temperaments in mood disorder patients and the characterization of how they associate with mood-related symptoms have gained increasing attention in recent years. The investigation of individual temperaments has been greatly enhanced by the development of the Temperament Evaluation of Memphis, Pisa, Paris, and San Diego autoquestionnaire (TEMPS-A), which was specifically designed for measuring a range of affective temperaments, i.e. the depressive, anxious, irritable, cyclothymic, and hyperthymic ones (Akiskal and Akiskal, 2005; Akiskal et al., 2005). The use of this instrument has allowed to strongly deepening and refining the subdivision of mood disorders in different clinical forms, with considerable prognostic impact and putative therapeutic implications. It has been observed that the cyclothymic subscale score is elevated in bipolar compared to unipolar depressed patients (Mendlowicz et al., 2005). Cyclothymic temperament may represent a risk factor for bipolarity, possibly predisposing to recurrence and mania even in patients diagnosed with unipolar depression (Mechri et al., 2011). Similar findings have also been reported for the hyperthymic temperament (Evans et al., 2005; Goto et al., 2011). Moreover, TEMPS-A has been utilized in a nonclinical sample to examine the risk of bipolar disorder. In a recent work on 1200 young adult students, a subgroup of 145 participants at risk for bipolar disorder was selected, in order to evaluate their scores on TEMPS-A and on other structured and self-report questionnaires (Walsh et al., 2012). The choice of this sample allowed to explore the association of temperamental traits with symptoms and psychopathological dimensions inherent to bipolar spectrum (Walsh et al., 2012). The same Authors utilized TEMPS-A in another non-clinical sample to investigate the expression of affective temperaments in daily life (Walsh et al., 2013). Therefore, the investigation of affective temperaments may help to better define the type of mood disorder a patient suffers from, with strong prognostic value (Perugi et al., 2011b; Pompili et al., 2012b), and may have predictive value on the risk of developing bipolar spectrum diseases in non-affected subjects (Walsh et al., 2012).

Despite this accumulating body of evidence, the actual value of affective temperaments for predicting mood-related symptoms and general psychopathology as well as for guiding therapeutic choice in mood disorder patients needs further characterization. This aim is even more relevant to bipolar inpatients, since there are only few studies on this population at present.

An evaluation of the association between affective temperaments and multiple psychopathological and personological measures in bipolar disorder type I (BD-I) outpatients pointed out a connection between impulsivity, separation anxiety, and interpersonal sensitivity on one side and both anxiety disorder and cyclothymic temperament on the other side (Perugi et al., 2011a). A similar investigation carried out on BD-I outpatients allowed to isolate two distinct temperamental dispositions in these patients (Perugi et al., 2012). Focusing on inpatient cases, a recent report has investigated the correlations between score factors emerging from the factorial analysis of the Brief Psychiatric Rating Scale (BPRS) and TEMPS-A in BD-I cases, finding support for a reconsideration of mixed state diagnosis (Pacchiarotti et al., 2013).

However, the largest part of studies has focused on outpatients. Thus, an extensive depiction of the interconnections between affective temperaments and symptoms, psychopathology, and therapy in bipolar inpatients remains still elusive, especially for those experiencing an acute relapse and with a potential higher severity of their disease.

Therefore, the aim of this study, which focuses on patients hospitalized for an acute relapse of their mood disorder, was to evaluate whether: (i) predominant affective temperaments according to the TEMPS-A scale could differently distribute throughout DSM-IV mood disorder diagnoses; (ii) TEMPS-A scores and predominant affective temperaments could be predictive of symptomatology and psychopathology; (iii) specific predominant temperaments could be more likely associated with treatment by a specific class of psychiatric drugs.

2. Methods

2.1. Study sample

The study was carried out in three Italian centers: the "Villa San Giuseppe" hospital of Ascoli Piceno, the Psychiatric ward of the University "Federico II" of Naples, and the Psychiatric ward of the University "G. d'Annunzio" of Chieti. Inpatients enrolled in this study were those consecutively admitted at these three centers within January and December 2011, upon acute relapse of a primary mood disorder (i.e. BD-I, bipolar disorder-type II [BD-II], bipolar disorder not otherwise specified [BD-NOS], major depressive disorder [MDD], and schizoaffective disorder [SAD]—independently on the polarity of current episode), aged between 18 and 65 years. Diagnoses were made by trained psychiatrists using the Structured Clinical Interview for Diagnosis for axis-I disorders/Patient edition (SCID-I/P, (First et al., 2002). Patients were also screened for their response to drug treatments, to evaluate whether the acute episode was due to acute relapse or to incomplete treatment response, e.g. treatment resistance (Poon et al., 2012a). All patients had an optimal response to treatment and were in symptomatic remission before acute relapse.

Exclusion criteria were: (i) severe neurological or medical disorders; (ii) mental retardation or cognitive impairment; (iii) comorbid axis-I disorders other than current substance use disorder (SUD)—alcoholic abuse only—or mood disorders due to a medical condition or substance misuse (including alcohol). Patients were adequately informed of all aspects regarding the participation and the purpose of the study, providing a written informed consent prior of being enrolled. All procedures carried out in the present study complied with the principles laid down by the World Medical Association Declaration of Helsinki (as amended by the 59th General Assembly, Seoul, the Republic of Korea, October 2008).

2.2. Material and methods

Demographic and clinical data from all patients were collected at their hospital admission. Rating instruments included: the Italian version of the 110-item TEMPS-A (Pompili et al., 2008); the Young Mania Rating Scale (YMRS, (Young et al., 1978); the Italian version of the 24-item BPRS (Roncone et al., 1999); the 21-item Hamilton Scale for Depression (HAM-D, (Hamilton, 1967); the Hamilton Scale for Anxiety (HAM-A, (Hamilton, 1959); the Clinical Global Impression-Severity (CGI, (Guy, 1976) scale; the Italian version of the Barratt Impulsiveness Scale (BIS-11, (Fossati et al., 2001); the Toronto Alexithymia Scale (TAS-20, (Bressi et al., 1996); the 10-item Drug Attitude Inventory (DAI-10, (Rossi et al., 2001) scale; the Italian version of the Symptoms Checklist (SCL-90-R, (Prunas et al., 2012).

The following demographic data were recorded: age at first mood disorder diagnosis; duration of pathology (i.e. years from the first mood disorder diagnosis); current pharmacological treatments.