Original article

Psychopathological characteristics and adverse childhood events are differentially associated with suicidal ideation and suicidal acts in mood disorders

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A R T I C L E   I N F O

A B S T R A C T

Background: Depression is an important risk factor for suicide. However, other dimensions may contribute to the suicidal risk and to the transition from ideas to acts. We aimed to test the relative involvement of hopelessness, temperament, childhood trauma, and aggression in suicide risk in a large sample of patients with mood disorders.
Methods: We assessed 306 patients with major depressive and bipolar disorders for clinical characteristics including hopelessness, temperament, childhood trauma, and aggression. We tested their associations with suicidal ideation and acts using standard univariate/bivariate methods, followed by multivariate logistic regression models.
Results: In multivariate analyses, the loss of expectations subscore of the hopelessness scale was associated with lifetime suicidal ideation but not suicide attempt. Childhood emotional abuse, severity of current depression, and female gender were associated with lifetime suicide attempts, whereas hyperthymic temperament was protective. Only hyperthymic temperament differentiated patients with a history of suicidal ideas *vs.* those with a history of suicide attempt.
Conclusions: Findings support the association of hopelessness with suicidal ideation and point to considering in suicidal acts not only depression, but also childhood emotional abuse, hyperthymic temperament, and gender.

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1. Introduction

More than 800 000 people die of suicide every year, representing one death every 40 s, and 20 times more people attempt suicide (WHO data, accessed on December 23, 2017 at http://www.who.int/gho/mental_health/suicide_rates/en/). Rates of suicide are 5–20 times greater among patients with a major mood disorder than in the general population [1–4] for both major depressive disorders (MDD) [4,5] and bipolar disorders (BD) [1,6]. However, not all patients with a mood disorder are equal toward suicidal risk as 90% of them will not die from suicide and more than 50% will not attempt suicide [7–9]. Hence, improving our ability to assess suicide risk among patients with a mood disorder is an important focus point.

To tackle this issue, one approach has been to consider not only the clinical course [10–12] but also particular psychopathological

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characteristics of patients at risk [2]. Indeed, several variables could modulate suicidal risk in patients with BD, and their interplay should be carefully evaluated in clinical practice. In this context, the importance to separately consider patients who have attempted suicide from those with only suicidal ideation has been extensively recognised [2]. Depressive episodes have been associated with a high risk of both suicidal ideation and suicide risk [13]. Hopelessness instead was found to be associated with suicidal thoughts, but not always with attempts [14], as recently confirmed by a longitudinal study in patients with mood disorders [15]. Hopelessness leads people with depression to view suicide as the only way out from suffering and is an important cognitive risk factor for suicide [16]. Various studies indicated putative predictors of suicide attempts in patients with mood disorders [17–29]. Among these factors, temperament [2,12,21–24], aggressive tendencies [25–27] and childhood trauma [19,20,28,29] have been particularly implicated. Temperament refers to stable, early-appearing individual differences in behavioural tendencies that have a constitutional and biological basis [30]. Aggressiveness is multidimensional and largely influenced by genetic factors [31]. Childhood trauma occurs in early life and could influence individual biological responses to stress [32]. Hence we hypothesised that in mood disorders, hopelessness could modulate some cognitive aspects of depression, leading patients to manifest suicidal ideation, whereas suicidal acts might be related to characteristics more embedded in an individual's background, such as affective temperaments, aggression, and early adverse events. Our study aimed at verifying this hypothesis, considering the above-mentioned variables conjointly in a sample of MDD or BD patients.

2. Materials and methods

2.1. Participants

We assessed 306 consecutive outpatients who had been diagnosed with a DSM-IV-TR™ [33] mood disorder, including 57 MDD, 149 BD type I (BD I) and 100 BD type II (BD II). All patients were initially recruited at two sites in Rome (Italy), i.e., Sant'Andrea Hospital and Centro Lucio Bini. Patients were screened by trained staff for DSM-IV-TR Axis I disorders and clinical diagnoses were confirmed using the Structured Clinical Interview for DSM-IV-TR axis I Disorders, patient edition (SCID-I/P) [34].

In addition to a diagnosis of mood disorder, inclusion criteria were: (i) age between 18 and 75 years and (ii) at least five years of school education. Exclusion criteria were: (i) additional axis I disorder emerging through the SCID I/P structured interview [34]; (ii) a history of alcohol or drug use disorder in the two years preceding the assessment or lifetime drug use disorder; (iii) traumatic head injury with loss of consciousness; (iv) lifetime history of major medical or neurological disorders; (v) suspected cognitive impairment based on a Mini-Mental State Examination (MMSE) [35] score lower than 24; and (vi) poor fluency in Italian. All patients had been under stable drug treatment for at least six months.

All investigators involved in assessing patients had completed an intensive training programme (for using the SCID-I/P and for assessing manic, depressive and anxiety symptoms, and suicidal risk) lasting 3–6 months until all investigators were able to reach a good agreement (interrater reliability, Cohen's κ = 0.83).

The study adhered to the Principles of Human Rights, as adopted by the World Medical Association at the 18th WMA General Assembly, Helsinki, Finland, June 1964 and subsequently amended at the 64th WMA General Assembly, Fortaleza, Brazil, October 2013. All participants provided written informed consent to participate in the study after having received a complete explanation of study procedures and aims. Patients did not receive monetary compensation for this study. The study obtained approval from the local ethical committees.

2.2. Clinical and psychopathological assessment

Clinical data were collected through a semi-structured clinical interview. Family history of psychiatric disorders and of suicidal acts (e.g., no family history of suicidal attempts/complete suicide among first degree relatives) were also recorded.

Specific psychopathological symptoms were assessed using the Young Mania Rating Scale (YMRS) for manic symptoms [36], the 17-item Hamilton Rating Scale for Depression (HDRS) for depressive [37], and the Hamilton Rating Scale for Anxiety (HARS) for anxiety symptoms [38]. Hypomania was rated using the Hypomania CheckList-32 (HCL-32) [39]. Attention and hyperactivity were assessed using the DSM-IV-TR™-based [33] ADHD Self-Report Scale (ASRS) [40].

Temperaments (cyclothymic, dysthymic, irritable, hyperthymic, and anxious) were assessed through the Temperament Evaluation of Memphis, Pisa, Paris and San Diego-autoquestionnaire, short version (TEMPS-A-39) [41]. Items were drawn from the validated Italian version of the instrument [42].

We used the Beck Hopelessness Scale (BHS) to assess hopelessness. BHS is a 20-item self-report inventory developed to measure three major aspects of hopelessness, i.e., feelings about the future, loss of motivation and expectations. We investigated these dimensions of the instrument due to their specific relevance for our study's aims. The tool proved to possess face validity and reliability [43]. The version we used has been validated in the Italian population [44].

We used the Aggression Questionnaire (AQ) to evaluate aggression [45]. AQ consists of 29 items and identifies 4 dimensions of aggression, i.e., physical aggression, verbal aggression, anger, and hostility.

We rated adverse childhood events through the Italian short form of the Childhood Trauma Questionnaire (CTQ) [46], a 28-item, retrospective, self-report questionnaire [47] that investigates traumatic experiences during childhood. Each item is rated on a 5-point Likert scale, ranging from 1 = "never true" to 5 = "very often true", depending on the frequency of the events. The questionnaire assesses five types of trauma, i.e., emotional abuse, emotional neglect, physical abuse, physical neglect, and sexual abuse. Scores are calculated for the total scale (range 25–125) and for each type of trauma (range 5–25). The CTQ has been used in mood disorder [19,20] and suicidal patients [48].

Suicidal ideation and suicidal attempts were assessed with a semi-structured questionnaire consisting of two parts, one related to the past 6 months, the other lifetime. Each part included three questions: 1) "Have you ever seriously thought about committing suicide?" 2) "Have you ever made a plan for committing suicide?" and 3) "Have you ever attempted suicide?". Respondents had to answer only "Yes" or "No". Attempters then had to answer questions about their attempts: "How many times did you attempt suicide?" and "Can you briefly describe how you attempted suicide?" From their response to the last question we classified attempts as violent (defenestration, hanging, use of knives or firearms) or non-violent (medication overdose, superficial cutting) suicide attempts, and as sufficiently serious to require medical attention or not requiring medical attention. Suicide attempt was defined as a non-fatal, self-directed, potentially injurious behaviour with intent to die as a result of this behaviour, that also might not result in injury [49–51]. The semi-structured questionnaire has not been yet validated, but it has been already used in a previous study by our group [19].