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Research report

Recurrent suicide attempts in patients with depressive and anxiety disorders: The role of borderline personality traits

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ABSTRACT

Background: The presence of a comorbid borderline personality disorder (BPD) may be associated with an increase of suicidal behaviors in patients with depressive and anxiety disorders. The aim of this study is to examine the role of borderline personality traits on recurrent suicide attempts.
Methods: The Netherlands Study on Depression and Anxiety included 1838 respondents with lifetime depressive and/or anxiety disorders, of whom 309 reported at least one previous suicide attempt. A univariable negative binomial regression analysis was performed to examine the association between comorbid borderline personality traits and suicide attempts. Univariable and multivariable negative binomial regression analyses were performed to identify risk factors for the number of recurrent suicide attempts in four clusters (type and severity of axis-I disorders, BPD traits, determinants of suicide attempts and socio-demographics).
Results: In the total sample the suicide attempt rate ratio increased with 33% for every unit increase in BPD traits. A lifetime diagnosis of dysthymia and comorbid BPD traits, especially the symptoms anger and fights, were independently and significantly associated with recurrent suicide attempts in the final model ($n=309$).
Limitations: The screening of personality disorders was added to the NESDA assessments at the 4-year follow-up for the first time. Therefore we were not able to examine the influence of comorbid BPD traits on suicide attempts over time.
Conclusions: Persons with a lifetime diagnosis of dysthymia combined with borderline personality traits especially difficulties in coping with anger seemed to be at high risk for recurrent suicide attempts. For clinical practice, it is recommended to screen for comorbid borderline personality traits and to strengthen the patient's coping skills with regard to anger.

1. Introduction

Suicide attempts represent an important public health problem. The lifetime prevalence of suicide attempts is estimated at 4.6% (Kessler et al., 2005;Nock et al., 2008). The risk of suicide increases after more attempts and more unsuccessful treatments (Zahl and Hawton, 2004; Paris, 2007; Soloff and Chiappetta, 2012). Several researchers compared the characteristics of single and recurrent attempters, hypothesizing that these two groups differ. Several studies reveal that the presence of anxiety and depressive disorder increases the risk of suicide attempts and completed suicide (Angst et al., 1999; Sareen et al., 2005; Ten Have et al., 2009). Moreover, patients with severe anxiety and depression symptoms more often were recurrent attempters than patients with moderate symptoms. At the same time, the presence of comorbid personality disorders—especially borderline personality disorder (BPD)—has a negative impact on suicidal behaviors in

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these patients groups. However, the evidence for the specific influence of comorbid BPD on recurrent suicidal behavior is inconsistent: some researchers found an association between comorbid BPD and recurrent suicide attempts (Boisseau et al., 2012; Hawton et al., 2003; Brodsky et al., 2006; Soloff et al., 2000), while others did not (Forman et al., 2004). Moreover, it is unclear which borderline personality traits explain recurrent suicide attempts best. Most studies found an association with impulsivity, aggressiveness, and hostility (Soloff et al., 2000; Boisseau et al., 2012; Brodsky et al., 2006; Keilp et al., 2006), while a recent prospective study did not find confirm this association with impulsivity and aggression (Soloff and Chiappetta, 2012). While several studies found an association between hopelessness and recurrent suicide attempts (Forman et al., 2004; Berk et al., 2007; Hawton et al., 2003; Soloff et al., 2000), this same prospective study did not confirm this association (Soloff and Chiappetta, 2012). The influence of maltreatment in childhood on recurrent suicide attempts is also inconsistent, where again the prospective study of Soloff and Chiappetta (2012) did not confirm the association between maltreatment and recurrent suicide attempts (Berk et al., 2007; Forman et al., 2004; Hawton et al., 2003). Finally, the association between substance abuse on recurrent suicide attempts was found in a study of Berk et al. (2007), but not confirmed in the same prospective study of Soloff and Chiappetta (2012).

Inconsistency of previous findings may be due to methodological differences among studies. Examples are (i) differences in sample size, leading to problems with statistical power in some studies, (ii) variation in recruitment strategies, some studies recruiting only at inpatient or outpatient mental health care facilities or at emergency centres, including patients following a suicide attempt, and (iii) most studies focused on depression, not taking anxiety disorders into account.

The clinical relevance of improving our understanding of recurrent suicide attempts among patients with affective disorders seems self-evident, as this represents the best known and most accessible high risk group for suicide. Therefore, we aimed to study the role of comorbid BPD traits in relation to recurrent suicide attempts in a large sample of patients with depression and/or anxiety disorders. Our first objective was to examine the association between comorbid borderline personality traits and suicide attempts in general by exploring to what degree comorbid borderline personality traits are associated with suicide attempts in persons with lifetime anxiety or depressive disorders. Secondly, we tested whether the effect of comorbid borderline personality traits increases when moving from single to recurrent attempters and, thirdly, we tested concurrent effects on recurrent suicidal attempts of other psychopathological and socio-demographic characteristics. Finally, we tested which specific borderline personality traits explain recurrent suicide attempts best.

2. Methods

2.1. Study sample

The Netherlands Study of Depression and Anxiety (NESDA) is designed as an ongoing longitudinal cohort study, to investigate the long-term course of depression and anxiety disorders. Full details on the background of this study and its methods have been described elsewhere (Penninx et al., 2008). In short, the baseline assessments of NESDA were conducted between 2004 and 2007 and included a face-to-face assessment of demographic and personal characteristics as well as a standardized diagnostic psychiatric interview. Additionally, self-report questionnaires were conducted, which measured among others the putative risk factors, which were used in our study. Initially, 2981 respondents were recruited. To represent depression and anxiety at different levels of severity and development, participants (age 18–65 years) were recruited from diverse settings: the community (19%), primary care (54%) and specialized outpatient mental health care facilities (27%). Exclusion criteria at baseline were a primary clinical diagnosis of bipolar disorder, obsessive–compulsive disorder, substance use disorder, psychotic disorder, or organic psychiatric disorder, as reported by the participants or their mental health practitioner. Also patients were excluded in case of insufficient command of the Dutch language. The research protocol was approved by the Ethical Committee of participating universities and all respondents provided written informed consent.

Follow-up assessments were conducted 2 years ($n=2596$, 87%), and 4 years ($n=2402$, 80.6%) after baseline, including the same face-to-face interview and questionnaires as the baseline assessment. However, an important addition in the light of our study was the assessment of personality disorders during the 4-year follow-up.

The present study made use of this 4-years data and had data from the previous assessments of each respondent at its disposal. Respondents with complete data at the Composite International Diagnostic Interview (CIDI) as well as the Beck Scale for Suicidal Ideation (SSI) at both the 2- and 4-year follow-ups were selected ($n=2306$). Subsequently, respondents with lifetime depressive and/or anxiety disorder were selected. From these 2306 respondents, 1838 respondents had lifetime depressive (MDD or dysthymia) or anxiety disorders (panic disorder with or without agoraphobia, generalized anxiety disorder, or social phobia) and were included in the final sample. Of those respondents, 21% were derived from the community, 48% from primary care and 31% from specialized mental health care. For answering the second research question, only those respondents were included who reported at least one suicide attempt lifetime at one of the assessments ($n=309$).

2.2. Dependent variable

Suicide attempts. The Beck Scale for Suicidal Ideation (SSI) was used to measure suicidal ideation and suicide attempts (Beck et al., 1979, 1988). At baseline and at two-year follow-up lifetime attempted suicide was operationalized by asking respondents: *'Have you ever made a serious attempt to end your life, for instance by harming or poisoning yourself or by getting into an accident? no/yes'*. If this question was answered positively, respondents were asked for the number of serious suicide attempts during lifetime. In 6.4% of the 1838 respondents there were inconsistencies between the answers given on the lifetime suicide question at 2-year follow-up compared to baseline. This was not caused by the first incident cases at 2-year follow-up, but probably due to recall bias (Eikelenboom et al., submitted for publication). To assure that all respondents who reported that they ever conducted a suicide attempt were included, we used the broadest criterion, namely the highest reported number at baseline or 2-year follow-up. These data were made complete with the incident cases of suicide attempts at the 4-year follow-up, where suicide attempts were assessed since the 2-year follow-up interview.

The decision to use the highest reported number of suicide attempts may have led to an over-estimation. To check the impact of this decision on the results, all analyses were repeated with the strictest criterion possible, which was the lowest reported number of suicide attempts ($n=192$).

2.3. Independent variables

(i) Characteristics of depression and anxiety

Depressive and anxiety disorders were assessed with the Composite International Diagnostic Interview (CIDI), which