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Research report

Suicide risk in major affective disorder: Results from a national survey in China

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ABSTRACT

Background: This study investigated suicide risk and its correlates among major affective disorder patients in China and examined possible risk factors for future suicide among individuals with major affective disorder to inform appropriate interventions and management approaches to minimize and prevent suicide.

Methods: A total of 1478 major affective disorder patients were consecutively examined in 13 mental health centers in China. The patients' socio-demographic and clinical characteristics were recorded using a standardized protocol and data collection procedure. DSM-IV diagnoses were established using the Mini International Neuropsychiatric Interview (MINI), and suicide risk was assessed by the suicide risk module of the MINI.

Results: Of the patients, 963 (65.2%) were in the nonsuicidal risk group and 515 (34.8%) were in the suicidal risk group. Compared to major depressive disorder patients, bipolar disorder patients had higher suicide risk levels ($\chi 2 = 10.0$, df = 1, $P = 0.002$); however, there were no statistically significant differences ($\chi 2 = 2.6$, df = 1, $P = 0.1$) between bipolar disorder-I and bipolar disorder-II patients. Suicide risk factors were associated with 6 variables in major affective disorder patients, as follows: male gender, unemployed, more frequent depressive episodes (> 4 in the past year), depressive episodes with suicidal ideation and attempts, depressive episodes with psychotic symptoms, and no current antidepressant use.

Limitations: Most of the data were retrospectively collected and, therefore, subject to recall bias.

Conclusions: This study suggested that bipolar disorder patients have a higher suicide risk than major depressive disorder patients. The factors that were significantly associated with suicide risk may aid in identifying major affective disorder patients who are at risk for future suicidal behavior.

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1. Introduction

Suicide is a major public health problem that has received increasing attention worldwide (Hawton and van Heeringen, 2009). Every year, nearly one million people die from suicide, which is equivalent to one death every 40 s (WHO, 2012). The suicide problem is most severe in China, as more than 30% of suicides worldwide occur in China (Phillips et al., 2002). Patients with major affective disorder (MAD), that is, major depressive disorder (MDD), bipolar disorder-I (BD-I), and bipolar disorder-II (BD-II), are highly vulnerable to suicidal behavior (Pompili et al., 2008). Of these patients, those with BD might be at the highest risk (Gonda et al., 2012).

However, not all patients who suffer from BD or MDD attempt suicide. In fact, more than half of these patients never display any suicide behaviors (Rihmer, 2007). Therefore, factors beyond MAD itself must play a role in the increased suicide risk in these clinical populations (Pompili et al., 2012a). Patients with MAD have numerous suicide risk factors, for example, aggressive/impulsive personality traits, cyclothymic temperament, early negative life events, family history of mood disorders, early age onset, number of previous episodes, rapid cycling course, severe major depressive episode, prior/current suicide attempt/ideation, psychotic features, atypical features, comorbid Axis I and Axis II disorders, and hopelessness (Gonda et al., 2012; May et al., 2012).

There is a lack of national research on whether suicide risk factors among MAD patients in China have unique features compared to those in Western countries. Previous results from our project found that the demographic and clinical features of melancholic MDD in Chinese patients were not entirely consistent with those in the Western population (Xiang et al., 2012).

Currently, suicide risk factors are often studied in relation to attempted suicide rather than committed suicide (Holma et al., 2010). However, approximately half of patients who commit suicide never displayed any attempted suicide behavior (Dennehy et al., 2011). Thus, important predictive information concerning suicide is yet unidentified. The risk factors of attempted suicide differ from those of committed suicide (Bega et al., 2012). The risk level of suicide is a more sensitive indicator for suicide research. Suicide risk level is associated with suicide completion, with a higher risk level associated with a greater likelihood of suicide death (Coryell and Young, 2005).

The present study aimed to (1) investigate suicide risk and its correlates among MAD patients in China and (2) examine possible risk factors for future suicide among individuals with MAD to inform appropriate interventions and management approaches to minimize and prevent suicide.

2. Method

2.1. Study participants and settings

The Diagnostic Assessment Service for People with BD in China (DASP) is an ongoing national study that was initiated by the Chinese Society of Psychiatry (CSP) and conducted in 13 major psychiatric hospitals or psychiatric units of general hospitals from September 1, 2010 to February 28, 2011. This study aims to develop and test the usefulness of screening tools for BD in patients treated for MDD (Hu et al., 2012; Xiang et al., 2012).

The first survey of the DASP project was conducted in 13 major psychiatric hospitals or psychiatric units of general hospitals from September 1, 2010 to February 28, 2011. These settings were evenly distributed throughout China and served both catchment area patients and patients from neighboring areas. In-patients and out-patients who met the following criteria were enrolled: (i) between 16 and 65 years of age, (ii) had a diagnosis of DSM-IV or ICD-10 MDD based on a review of medical records, (iii) satisfied the major depressive episode criteria, and (iv) understood the aims of the study and could provide informed consent. The exclusion criteria were as follows: (i) a past diagnosis of BD, (ii) in remission state, (iii) in a manic (or hypomanic) episode, (iv) a history of or ongoing significant medical or neurological condition(s), (v) depressive disorders secondary to a general medical or neurological condition, or (vi) had received electroconvulsive therapy (ECT) in the past month. The study protocol was approved by the Clinical Research Ethics Committees of the respective study centers. Written consent was obtained from the patients or the guardians of those below 18 years of age who had verbally agreed to participate.

2.2. Instruments and assessment procedure

In- or out-patients with a diagnosis of MDD during major depressive episode receiving treatment in the participating hospitals/units were consecutively referred for eligibility screening by their treating psychiatrists to the research team member based at the site. All research team members were qualified psychiatrists. Patients who fulfilled the study criteria were invited to participate in the study. The patients' basic socio-demographic and clinical data were collected with a questionnaire designed for the study in a clinical interview, supplemented by a review of their medical records. Age at onset of MAD was defined as the age at which a mood diagnosis was made for the first time by a psychiatrist, general practitioner or psychologist.

The diagnostic assessment of BD was conducted using the validated Chinese version of the Mini International Neuropsychiatric Interview (MINI), Version 5.0, to establish DSM-IV BD-I/BD-II diagnoses (Sheehan et al., 1998; Si et al., 2009). Due to its international acceptance, the MINI was used as the reference diagnostic tool in the current study.

The suicide risk module of MINI includes specific questions that assess suicide risk within the past month (Did you think you would be better off dead or wish you were dead? if yes, the score is 1; Did you want to harm yourself? if yes, the score is 2; Did you think about suicide? if yes, the score is 4); suicide plan within the past month (Did you have a suicide plan? if yes, the score is 10); suicide attempt within the past month (Did you attempt suicide? if yes, the score is 10); and lifetime suicide attempt (In your lifetime, did you ever make a suicide attempt? if yes, the score is 4). Patients who endorsed any question in this section were classified as suicide ideators. A current suicide risk score, based on the number of items endorsed, was recorded. The suicide risk section of the MINI classifies subjects into the following four mutually exclusive subgroups: nonsuicidal risk classes (0 score), low suicidal risk classes (1–5 score), medium suicidal risk classes (6–9 score), and high suicidal risk classes ($\geq$ 10 score). Following a previous study (Pompili et al., 2012b), for the present analysis, the following two groups were used: nonsuicidal risk (no suicidal risk and low suicidal risk classes, as measured via the MINI) and suicidal risk (medium suicidal risk and high suicidal risk classes, as measured via the MINI).

Before the study, all thirteen raters were trained in the use of the BD diagnostic instrument in twenty patients with MDD. In this reliability exercise, their judgments of BD were compared with the best estimate clinical diagnoses. The kappa values were above 0.85 for each rater. When possible, the same raters evaluated the same group of patients throughout the study.

2.3. Statistical analysis

Data were analyzed using the SAS software (SAS institute Inc., Cary, North Carolina). Descriptive statistics were used to characterize the patients' socio-demographic factors. Comparisons of the