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Research report

Childhood trauma associates with clinical features of bipolar disorder in a sample of Chinese patients

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ABSTRACT

Objectives: Childhood trauma is a major public health problem which has a long-term consequence, a few studies have examined the relationship between childhood trauma and clinical features of bipolar disorder, most in western culture, with no such studies done in Chinese culture.
Methods: The CTQ-SF was administered to 132 Chinese patients with DSM-IV bipolar disorder. Participants also completed the Childhood Experience of Care and Abuse Questionnaire (CECA.Q), the Impact of Events Scale-Revised (IES-R), and the State-Trait Anxiety Inventory (STAI). The CTQ-SF cut-off scores for exposure were used to calculate the prevalence of trauma. The relationship between childhood trauma and clinical features of bipolar disorder were examined.
Results: The internal consistency of CTQ-SF was good (Cronbach's α=0.826) and four week test–retest reliability was high (r=0.755). 61.4% of this sample reported physical neglect (PN) in childhood, followed by emotional neglect (EN, 49.6%), sexual abuse (SA, 40.5%), emotional abuse (EA, 26.0%) and physical abuse (PA,13.1%). Significant negative correlations existed between age of onset and EA and EN score (r=−0.178∼−0.183, $p<0.05$). Significant positive correlations were observed between EA, CTQ-SF total score and intrusion and hyper-arousal scores of IES-R (r=0.223∼0.309, $p<0.05$). Similarly, significant positive correlations were found between EN, PN, CTQ-SF total and STAI score (r=0.222∼0.425, $p<0.05$).
Limitations: Data on childhood trauma were derived from a retrospective self-report questionnaire without independent corroboration. A number of potential patients (more severe or chronic patients) was excluded because they were either refused to participate or inappropriate to participate in research.
Conclusions: Significant number of subjects in patients with BD reported experience of childhood abuse and neglect. Exposure to childhood trauma is associated with age of onset of illness, co morbid PTSD and anxiety symptoms. To study the pathogenesis of childhood trauma on bipolar disorder and explanation the interaction between childhood trauma and susceptibility genes are proposed.

1. Introduction

Childhood trauma is a major public health problem which has existed in human society for a long period of time (Pereda et al., 2009; Tang, 2002). Literature review found the prevalence rates of child trauma in western countries are high, with the rates of neglect, physical abuse, sexual abuse, and emotional abuse being 34–59%, 19–28%, 9–10%, and 7–34%, respectively (Creighton, 2004). In China, several studies have found the prevalence of sexual abuse was 12–25% in school samples, and the rate of child neglect was 28–32% in teenagers (Li et al., 2014). There is mounting evidence showing that childhood trauma has long-term consequences (Norman et al., 2012; Spataro et al., 2004).

Early trauma has been demonstrated to have a powerful effect on adult mental health (Norman et al., 2012). Exposure to early trauma has been linked to many psychopathologies, including bipolar disorder (Brown et al., 2005; Romero et al., 2009). The existing studies in western countries indicated that childhood maltreatment can be strongly associated with an early onset of

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disorder, suicidality, and substance abuse disorder in patients with BD (Daruy-Filho et al., 2011). In addition, childhood abuse and neglect are risk factors associated with worsening clinical course of BD (Daruy-Filho et al., 2011). Another study found that emotional abuse was associated with development of bipolar disorder with a suggestive dose-effect (Etain et al., 2010). A recent study indicated that adversities experienced during childhood, particularly physical and sexual abuse, and life events experienced in adulthood are associated with a significantly elevated risk of incident and recurrent mania (Gilman et al., 2014).

In contrast, studies of effects of childhood trauma on bipolar disorder were scarce in China. Up to date, only three case-control studies have been published in Chinese literature. These studies indicated that childhood trauma were a risk factor to bipolar disorder (Huang et al., 2011; Li and Cao, 2009; Yuan et al., 2010), which was consistent with findings in western culture. However, those studies did not calculate the rate of different types of child abuse in this population, neither did they examine the relationships between childhood trauma and clinical features of BD. Furthermore, those studies only used a single question or chart review method to assess trauma, none of them used standardized, adequately validated instruments.

Therefore, we designed a study using the Childhood Trauma Questionnaire-Short Form (CTQ-SF) to analyze the characteristic of childhood trauma in a sample of Chinese patients with bipolar disorder. We first assessed the psychometric properties of the CTQ-SF in these patients to validate its utility in patients with mood disorder in China, we then examined the relationship between CT-SF and clinical variables in these patients.

2. Methods

2.1. Subjects

All subjects were in patients at Beijing Anding Hospital, Capital Medical University, Beijing, China. Patients were considered eligible to enter the study if they: (1) met the diagnosis of bipolar disorder with by administering the Structured Clinical Interview for DSM-IV (SCID) (First et al., 2012) by the research psychiatrists; (2) were clinically stable; (3) were between the age of 16 and 65, and (4) were able to read and write to provide informed consent. Patients were excluded if they had an IQ below 80 or they had unstable medical conditions. IQ was measured using the Chinese version of the Wechsler Adult Intelligence Scale (CWAIS) (Dai and Gong, 1987).

Three authors (X-BL, LZ) approached eligible patients ($n=152$) separately at Beijing Anding Hospital. Informed consent was obtained after the aims of this study had been fully explained to the patients and the patients had agreed to participate in this study. 132 patients (86.85%) consented to participate and 20 declined. Patients who declined to participate were not significantly different from the participants with regard to demographic variables. All subjects completed the CTQ-SF initially, and a subset of the sample ($n=30$) completed it again after four weeks (mean=31.1 days, SD=6.2). The protocol was approved by the ethics committee (IRB) of the Beijing Anding Hospital.

3. Measures

3.1. Demographic details

A Demographic and Personal Data Form was used to collect basic information from each patient, including age, sex, family structure (single child family or multiple children family), childhood family environment, education level, annual family income, employment status, marital status, household members and the clinical features of bipolar disorder (age of onset; duration of illness, times of recurrence; previous admissions; suicidal behavior and aggressive behaviors, etc. details see Section 4).

3.2. Childhood Trauma Questionnaire-Short Form (CTQ-SF)

The CTQ-SF is a 28-item self-report retrospective inventory intending to measure abuse and neglect for children ages 12 and older (Bernstein et al., 2003). It is a 5-point Likert scale ranging from Never True (score 1) to Very Often True (score 5). The CTQ-SF contains five subscales, three types of abuse (Emotional, Physical, and Sexual) and two types of neglect (Emotional and Physical). Each subscale has five items and there is a three-item Minimization-Denial subscale to check for extreme response bias. Other traumatic events that may occur during childhood, such as the death of a parent or a major illness, are not assessed (Bernstein and Fink, 1998). The CTQ-SF has been translated into various languages, and has demonstrated a good validity and reliability as a measure for childhood trauma (Bernstein and Fink, 1998; Bernstein et al., 2003; Kim et al., 2011; Wingenfeld et al., 2010). The Chinese version of the CTQ-SF has been shown to have good reliability and validity in Chinese adolescents (Zhao et al., 2005). In the current study, to capture cases with even the lowest severity of childhood trauma, cut-off scores for low-to-moderate exposure were used to classify study participants according to specific trauma categories. In addition, we also used moderate to severe cutoff score to calculate the prevalence of trauma. The reported sensitivity and specificity for these cut-off scores reached 89% and 97%, respectively in western country (Tietjen et al., 2009).

3.3. Childhood Experience of Care and Abuse Questionnaire (CECA.Q)

The CECA.Q is a brief self-report assessment of adverse childhood experiences. It is derived from the Childhood Experience of Care and Abuse Questionnaire (Bifulco et al., 2005), which is a semi-structured, retrospective interview used to assess a number of adverse childhood experiences. Both English and Chinese versions of the CECA.Q showed satisfactory reliability and validity as a self-report measure for adverse childhood experiences (Bifulco et al., 2005; Li et al., 2004). The CECA.Q assesses childhood experiences of emotional (antipathy and neglect), physical, and sexual abuse before age 17.

3.4. Impact of Events Scale-Revised (IES-R)

Post-traumatic stress disorder is more common in people who have suffered childhood abuse and neglect (Yehuda et al., 2001). Thus, we assessed for posttraumatic stress disorder (PTSD), with the Impact of Events Scale-Revised (IES-R) (Guo et al., 2007), as a measure of outcomes. Each item on the IES-R has 5-point response category; respondents are asked to rate from not at all (score=0) to extremely (score=4).

3.5. State-Trait Anxiety Inventory (STAI)

Anxiety symptoms occur more commonly in individuals who have suffered early trauma and abuse (Heim and Nemeroff, 2001). We assessed the anxiety with State-Trait Anxiety Inventory (STAI) (Spielberger et al., 1983), which is a 40-item measure that indicates the intensity of feelings of anxiety (Zheng and Li, 1997). It distinguishes between state anxiety (i.e., a temporary condition experienced in specific situations) and trait anxiety (i.e., a general tendency to perceive situations as threatening).