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Research report

Correlates of comorbid depression, anxiety and helplessness with obsessive–compulsive disorder in Chinese adolescents

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ABSTRACT

Objectives: Youth with obsessive–compulsive disorder (OCD) are at risk of experiencing comorbid psychiatric conditions, such as depression and anxiety. Studies of Chinese adolescents with OCD are limited. The aim of this study was to investigate the association of depression, anxiety, and helplessness with the occurrence of OCD in Chinese adolescents.

Methods: This study consisted of two stages. The first stage used a cross-sectional design involving a stratified clustered non-clinical sample of 3174 secondary school students. A clinical interview procedure was then employed to diagnose OCD in students who had a Leyton 'yes' score of 15 or above. The second phase used a case-control study design to examine the relationship of OCD to depression, anxiety and helplessness in a matched sample of 288 adolescents with clinically diagnosed OCD and 246 students without OCD.

Results: Helplessness, depression and anxiety scores were directly associated with the probability of OCD caseness. Canonical correlation analysis indicated that the OCD correlated significantly with depression, anxiety, and helplessness. Cluster analysis further indicated that the degree of the OCD is also associated with severity of depression and anxiety, and the level of helplessness.

Conclusion: These findings suggest that depression, anxiety and helplessness are important correlates of OCD in Chinese adolescents. Future studies using longitudinal and prospective designs are required to confirm these relationships as causal.

1. Introduction

Pediatric obsessive–compulsive disorder (OCD) is a debilitating neurobehavioral anxiety disorder affecting 1–2% of youth (Bryńska and Wolańczyk, 2005; Canals et al., 2012; Zohar, 1999). Pediatric OCD persists in adulthood without appropriate treatment (Marcks et al., 2011) and individuals with OCD are at risk of experiencing other comorbid psychiatric conditions. Up to 85% of children with OCD have at least one comorbid diagnosis (Geller et al., 2003; Storch et al., 2008), and 21–75% experience two or more comorbid disorders (Ivarsson et al., 2008; Langley et al., 2010). The most common co-occurring psychiatric conditions are anxiety and depression (Ivarsson et al., 2008; Peris et al., 2010; Storch et al., 2008).

Although the association between OCD and comorbid depression and anxiety has been reported in Western populations (Swedo et al., 1989; Storch et al., 2008), this association has not been explored in Chinese adolescents with OCD, and no studies have examined the relationship between helplessness and OCD. Comorbid depression occurs in 35–40% of youth with OCD (Swedo et al., 1989), with increased severity of OCD being linked to worse depressive symptoms (Canavera et al., 2010; Langley et al., 2010; Peris et al., 2010). Depression exacerbates functional impairments and quality of life (Lack et al., 2009), and lead to complication of treatment outcomes for youth with OCD (Storch et al., 2008).

Comorbid anxiety is even more prevalent than depression, occurring in 50–77% of youth with OCD (Ivarsson et al., 2008;

Abbreviations: OCD, Obsessive–Compulsive Disorder; LOI-CV, Leyton Obsessional Inventory; MOCI, Maudsley Obessive–Compusive Inventory; DSM-IV, Diagnostic and Statistical Manual of Mental Disorders IV; ASQ, Attribution Style Questionnaire

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Langley et al., 2010). Although it has been found that rates of comorbid anxiety disorder in childhood OCD are low, but increase steadily over the course of adolescence and adulthood (Piacentini et al., 2003). The severity of anxiety becomes greater when severity of OCD symptoms increase (Langley et al., 2010). Similar to the effects of depression, the presence of anxiety during treatment may result in a series of poorer social and behavioral outcomes than for adolescents without comorbid anxiety. Understanding the extent of comorbid anxiety in youth with OCD in China may assist with positive treatment outcomes in Chinese adolescents.

Obsessive–compulsive disorder has also been associated with learned helplessness in studies of adult OCD patients (Wang et al., 2011). According to Attribution Theory (Abramson et al., 1978), an individual who experiences negative events and who perceives them as uncontrollable may subsequently develop feelings of helplessness. These arise from personal factors (internality), persist for a long period of time or are unchangeable (stability), and affect all other aspects of an individual's life (globality). The nature of this helplessness is a result of the attributions given to experiences of uncontrollable, stressful, or negative events (Wang et al., 2011), that are perceived by the individuals as uncontrollable. This dysfunctional attributional style represents a sense of helplessness that may be related to OCD. However, the evidence whether this helplessness is secondary to OCD and is present when triggered by OC symptoms is inconsistent. Thus, the purpose of the current research was to examine depression, anxiety and helplessness in Chinese adolescents to investigate correlates of OCD at this developmental stage.

2. Method

2.1. Participants

There were two stages of sample recruitment. In the first stage, a cross-sectional study was conducted, using a stratified clustered sample, to identify non-clinical Chinese adolescents who exhibited significantly elevated obsessive–compulsive symptoms using the Leyton Obsessional Inventory (LOI-CV) as a screening tool (Berg et al., 1986). In the initial screening, four schools with different academic rankings based on the quality of teaching and learning outcomes were selected from two districts in Beijing, China. These included one highly ranked school, two middle ranked schools, and one low ranked school. Three classes per grade per school (72 classes) were randomly selected and invited to participate, resulting in 3221 potential participants aged 12–18 years. Of these students 3174 agreed to participate in the initial OCD screening test (98.5% response rate; Table 1). In the initial screening process, 434 (13%) students scored ≥ 15 on the LOI-CV, which is consistent with elevated symptoms (Berg et al., 1986).

Table 1
Distribution of sample across grade and gender in secondary school students in each grade.

	Highly ranked school		Middle ranked school		Low ranked school		Total
	Boys	Girls	Boys	Girls	Boys	Girls	
Year 1	63	49	189	163	49	32	545
Year 2	47	42	188	193	52	39	561
Year 3	55	49	185	187	44	38	558
Year 4	57	49	189	174	35	43	547
Year 5	54	47	166	176	59	19	521
Year 6	43	43	148	137	41	30	442
Total	319	279	1065	1030	280	201	3174

In the second stage of the study, the 434 students participated in structured interviews using the Structured Clinical Interview for DSM-IV Axis I Disorders – Patient Edition (SCID-I/P, Version 2.0, American Psychiatric Association, 1994) to diagnose the presence of OCD over the previous month. The SCID-I/P assigned clinical severity ratings following a 7-point scale (0=not at all, 7=very severe) for each diagnosis. Consensus between the two licensed psychiatrists experienced with childhood OCD was high (Intraclass correlation=0.93). As a result of this diagnostic procedure, 288 students who met criteria on both the SCID and the Maudsley Obsessive–Compusive Inventory (MOCI) were diagnosed with OCD which comprised the OCD case group. Two hundred and forty-six adolescents who matched the students in the clinical group in terms of age and gender but were without psychosis diagnosis were recruited into the 'Control' group. All participants were Chinese, predominantly from a middle socioeconomic background, and youth ranged in age from 12–18 years (M=16.94, SD=1.38). The methodology of the recruitment and demographic characteristics of participants has been described elsewhere (Sun et al., 2014a, 2014b).

2.2. Measures

Those who met inclusion and exclusion criteria for either the case or control group were administered a series of clinical interview self-report measures, which assessed OCD, depression, anxiety and helplessness, and were validated and presented in simplified Chinese language format.

2.2.1. OCD Clinical Interview Schedule-IV

Clinical interviews were used and focused on the diagnosis of OCD symptoms using the DSM-IV, SCID-I/P, Version 2.0. (American Psychiatric Association, 1994). These 30-min interviews were conducted with students who had a Leyton Scale score of 15 or more from the first phase screening test. A student experiencing one of the following symptoms in the previous month was diagnosed to have OCD through the interview: compulsive checking and repeating, compulsive washing and cleaning and similar behaviors, or compulsive thoughts. The instrument also assigned clinical severity ratings following a 7-point scale (0=not at all, 7=very severe) for each diagnosis. Consensus between the two licensed clinical psychiatrists specializing in diagnosing childhood OCD was achieved as demonstrated by a high level of agreement using inter-rate agreement Kappa test (kappa=0.93).

The Maudsley Obsessive–Compusive Inventory (MOCI; Hodgson and Rachman, 1977) was used to assist with the description of OCD following the DSM-IV interview procedure. The MOCI was used as a continuous measure of OCD symptoms and to assess the association of OCD symptoms with depression, anxiety, and helplessness. The MOCI is a 30-item, self-report, symptom-oriented scale with four dimensions: 'compulsive thoughts', 'cleanliness', 'checking', and 'doubting'. The overall reliability of the scale is acceptable (Cronbach's alpha=0.76).

2.2.2. Depression measure

The Chinese Adolescent Depression Scale used consisted of a 20-item, self-report, symptom-oriented scale suitable for Chinese adolescents (Wang et al., 1997). The Chinese version has demonstrated good reliability and validity for Chinese secondary school students (Wang et al., 1997). The factor analysis revealed three dimensions: 'depression', 'concerns about study', and 'loss of interest in study'. The internal reliability and split-half reliability were high, with a Cronbach's alpha of 0.95 and Spearman–Brown split-half reliability of 0.92. The cut-off score of 29.5 was chosen based on the receiver operating characteristic (ROC) analysis, which provided 75% sensitivity and 60% specificity of OCD.