Journal of Psychiatric Research 45 (2011) 1140–1145

Contents lists available at ScienceDirect

Journal of Psychiatric Research

journal homepage: www.elsevier.com/locate/psychires

A longitudinal study of obsessive-compulsive disorder in individuals at ultra-high risk for psychosis

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ARTICLE INFO

Article history:
Received 8 November 2010
Received in revised form
20 February 2011
Accepted 3 March 2011

Keywords:
Obsessive-compulsive disorder
Psychosis
Comorbidity
Follow-up studies

ABSTRACT

Background: We evaluated whether (1) a diagnosis of obsessive-compulsive disorder (OCD) at baseline, or (2) the persistence, remission or emergence of *de novo* OCD at follow-up, were associated with the development of different psychotic disorders in a cohort of individuals at ultra-high risk (UHR) for psychosis.
Methods: Patients were assessed for OCD at baseline and after a mean of 7.4 years follow-up and classified into: (i) Non-OCD group - patients without OCD both at baseline and follow-up ($n = 269$; 86.2%), (ii) Incident OCD group - patients without OCD at baseline but with OCD at follow-up ($n = 17$; 5.4%), (iii) Remitting OCD group - patients with OCD at baseline but without OCD at follow-up ($n = 20$; 6.4%), (iv) Persistent OCD group - patients with OCD both at baseline and at follow-up ($n = 6$; 1.9%). Rates of different DSM-IV psychotic disorders at follow-up were compared across these groups.
Results: Patients who displayed remitting OCD were not related to the development of any DSM-IV psychotic disorder. A diagnosis of incident OCD was associated with greater rates of psychotic disorders at follow-up, particularly mood disorders with psychotic features and psychotic disorders not otherwise specified (PDNOS), and greater baseline severity of general psychopathology, alogia, and avolition-apathy. Two of the six patients (40%) with persistent OCD developed schizophrenia, while only 12.5%, 5.0%, and 9.7% of incident, remitting, and non-OCD groups, respectively, exhibited the same condition at follow-up. Rates of antipsychotic use in the previous two years were not significantly different between the groups.
Conclusions: Our findings suggest that, in a cohort of individuals at UHR for psychosis, remission of OCD does not increase the risk of psychosis, while *de novo* OCD was associated with development of mood disorders with psychotic features and PDNOS.

1. Introduction

Observations of patients with obsessive-compulsive disorder (OCD) indicate that the incidence of schizophrenia is low (de Haan et al., 2009), even after long-term follow-up (Pollitt, 1957; Kringlen, 1965; Lo, 1967). In contrast, obsessive-compulsive symptoms (OCS) are noted more commonly at various stages of psychosis and schizophrenia (Lysaker et al., 2009), although their impact on the outcome is still unclear. Early theorists have argued OCD might prevent the development of "malignant schizophrenia", retard the "personality disintegration" associated with schizophrenia, or even herald remission of schizophrenic illness (Bottas et al., 2005).

In fact, while some studies have suggested that schizophrenia patients with OCD (or OCS) may exhibit less severity of formal thought disorder and affective blunting (Poyurovsky et al., 1999), fewer negative symptoms (Tibbo et al., 2000; de Haan et al., 2005), and greater global functioning (Tibbo et al., 2000), a recent meta-analysis of cross-sectional studies suggested that OCS were associated with greater severity of global, positive and negative psychotic symptoms (Cunill et al., 2009). Thus, it remains unclear whether OCS/OCD bears any relationship to the emergence of

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doi:10.1016/j.jpsychires.2011.03.005

psychosis and schizophrenia, or whether the two disorders are independent. In order to assess this relationship, longitudinal studies from early psychosis that examine the relationship to long-term outcome are needed.

To date, there is only one study in a pre-psychotic sample of young people at ultra-high risk (UHR) for developing psychosis. Niendam et al. (2009) reported that, although UHR individuals with OCS exhibited greater levels of depression, suicidality, and positive and negative symptoms, baseline OCD (14% of their sample) was associated with a statistical trend towards lower rates of conversion to psychosis over the follow-up period. Further, while self-reported OCS remained temporally stable among UHR individuals who did not convert to psychosis, OCS declined among those UHR individuals who did develop psychosis. However, this analysis relied on self-reported symptoms and it remains unclear whether persistence, remission, or *de novo* OCD over time are associated with changes that contribute to conversion to psychosis.

In this long-term longitudinal study of the UHR for psychosis cohort at the Personal Assessment and Crisis Evaluation (PACE) Clinic, we evaluated whether a diagnosis of OCD at baseline and the persistence, remission or emergence of *de novo* OCD are associated with the development of different psychotic disorders at follow-up. We predicted that increased transition to psychosis would be seen among UHR individuals who do not show OCD at baseline or at the follow-up, or who remit from OCD at follow-up.

2. Methods

2.1. Participants and procedure

The sample consisted of 312 individuals (55.1% female) recruited consecutively on admission to the PACE Clinic at Orygen Youth Health in Melbourne, Australia between 1994 and 2005. At baseline, all were assessed with the Comprehensive Assessment of At-Risk Mental States (CAARMS) (Yung et al., 2005) and met criteria for UHR for psychosis. These criteria are the attenuated positive symptoms, brief limited intermittent psychotic symptoms, and/or have vulnerability for psychotic illness, all of which must be accompanied by a deterioration in functioning. UHR individuals were aged 15–25 years at baseline and had no prior psychotic episode (treated or untreated). Detailed criteria for the identification of the UHR group are described elsewhere (Yung et al., 2005) and are summarized in Table 1.

The CAARMS also includes a screening section for OCD symptoms, comprising questions on whether patients have distressing or intrusive thoughts, forced repetitive behaviors, rituals/superstitions, need to do things a certain way, or checking compulsions. Along with other symptoms dimensions, OCD symptoms are rated on [1] a 6-point severity (or interference) scale (0 = never/absent to 6 = extreme), [2] a 6-point frequency and duration scale (0 = absent to 6 = continuous), and [3] its relationship with substance abuse (0 = not in relation, 1 = sometimes in relation, and 2 = only in relation to substance abuse).

Participants were followed-up between 2007 and 2009. A tracking system based on a previously documented system used at Orygen (Henry et al., 2007) was implemented to locate and recontact participants in this cohort. The mean age of the sample at baseline was 18.8 (SD = 3.2) and at follow-up assessment was 26.1 (SD = 5.04) years old. The mean time to follow-up was 7.4 years (SD = 3.2, range = 2.4–14.8). All participants provided written informed consent in accordance with guidelines provided by the local mental health service research and ethics committee. This research was conducted in accordance with the Declaration of Helsinki.

2.2. Measures

Additional measures of psychiatric symptoms at both baseline and follow-up assessments were the Structured Clinical Interview for DSM-IV (SCID; First et al., 2002), the Brief Psychiatric Rating Scale (BPRS) (McGorry et al., 1988), and the Scale for Assessment of Negative Symptoms (SANS) (Andreasen, 1982). A proportion of the participants were also assessed on the Hamilton Rating Scale for Anxiety (HARS) (Hamilton, 1959) and Hamilton Rating Scale for Depression (HRSD) (Hamilton, 1960). Diagnostic decisions followed the guidelines provided by the SCID/DSM-IV-TR, such that whenever another Axis I disorder was present (including a psychotic disorder), the patient was diagnosed with OCD only if the content of the obsessions or compulsions was not restricted to it. At both assessments, the functioning and disability of participants was determined using the Quality of Life Scale (QLS) (Heinrichs et al., 1984). The Wechsler Abbreviated Scale of Intelligence (Wechsler, 1999) or an abbreviated form of the Wechsler Adult Intelligence Scale-Revised (WAIS-R) (Weschler, 1981) were used to estimate current IQ at baseline and follow-up.

Table 1
PACE Ultra-High Risk criteria: (1) must be aged between 15 and 25 years, (2) have been referred to a specialized service for help, and (3) meet the criteria for one or more of the following three groups.

Group 1: Attenuated positive psychotic symptoms	• Presence of at least one of the following symptoms: ideas of reference, odd beliefs or magical thinking, perceptual disturbance, paranoid ideation, odd thinking and speech, odd behavior and appearance • Frequency of symptoms: at least several times a week • Recency of symptoms: present within the last year • Duration of symptoms: present for at least 1 week and no longer than 5 years
Group 2: Brief limited intermittent psychotic symptoms	• Transient psychotic symptoms. Presence of at least one of the following: ideas of reference, magical thinking, perceptual disturbance, paranoid ideation, odd thinking or speech • Duration of episode: less than 1 week • Frequency of symptoms: at least several times per week • Symptoms resolve spontaneously • Recency of symptoms: must have occurred within the last year
Group 3: Trait and state risk factors	• Schizotypal personality disorder in the identified individual, or a first-degree relative with a psychotic disorder • Significant decline in mental state or functioning, maintained for at least 1 month and not longer than 5 years • This decline in functioning must have occurred within the past year

Adapted from Yung et al. (2005).