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Comparison of clinical characteristics of familial and sporadic obsessive-compulsive disorder

Shyam Sundar Arumugham[a,*], Anish V. Cherian[b], Upasana Baruah[a], Biju Viswanath[a], Janardhanan C. Narayanaswamy[a], Suresh Bada Math[a], Y.C. Janardhan Reddy[a]

[a]*Obsessive-Compulsive Disorder (OCD) Clinic, Department of Psychiatry, National Institute of Mental Health and Neuro Sciences (NIMHANS), Bangalore, India 560029*

[b]*Department of Psychiatry, K. S. Hegde Medical Academy, NITTE University, Mangalore, India 575018*

Abstract

Background: Obsessive-compulsive disorder (OCD) is a heterogeneous condition with evidence of familiality in a considerable proportion of patients. A classification into familial and sporadic forms has been proposed to explain the heterogeneity. The current study aims to compare the demographic, clinical and comorbidity patterns of patients with and without a family history of OCD in first-degree relatives.
Method: 802 consecutive patients who consulted a specialty OCD Clinic at a tertiary care psychiatric hospital in India were evaluated with the Mini-International Neuropsychiatric Interview, the Yale-Brown Obsessive–Compulsive Scale, and the Clinical Global Impression Scale. Family history was assessed by interviewing patients and at least one first-degree relative.
Results: Family history of OCD was seen in 152 patients (19%). Family history was associated with juvenile onset ($X^2 = 19.472$, $p < 0.001$), obsessions of contamination ($X^2 = 6.658$, $p = 0.01$), hoarding ($X^2 = 4.062$, $p = 0.032$), need for symmetry ($X^2 = 3.95$, $p = 0.047$), washing compulsion ($X^2 = 7.923$, $p = 0.005$), ordering compulsions ($X^2 = 6.808$, $p = 0.009$), repeating compulsions ($X^2 = 4.950$, $p = 0.026$) and compulsions by proxy ($X^2 = 7.963$, $p = 0.005$). Family history was also associated with greater severity of OCD ($t = -2.31$, $p = 0.022$) and compulsions ($t = -3.09$, $p = 0.002$) and longer duration of illness at presentation ($t = -2.93$, $p = 0.004$).
Conclusion: Our findings suggest that familial OCD may have distinctive clinical features. Studying familial forms of OCD may offer unique insight in to understanding the genetic basis of OCD.

1. Introduction

Obsessive-compulsive disorder (OCD) is a complex neuropsychiatric syndrome with varied clinical presentation, comorbidity, course, outcome and treatment response [1,2]. The pathophysiology of OCD is still incompletely understood, perhaps due to the heterogeneous findings obtained in different studies. One hypothesis to explain this heterogeneity is that OCD may not be a unitary condition and may have distinct subtypes, each with a distinct pathophysiology [2]. Various attempts have been made to identify homogenous subtypes of OCD, based on clinical phenotypes. Classification has been attempted based on phenotypes like age of onset [3–5], symptom dimensions [6–8], tic disorder comorbidity [9–11], and presence of family history [12–14]. In the current study, we explore the clinical validity of classification of OCD into familial and sporadic subtypes.

The majority of family studies on OCD, including recent studies with well refined methodology, are consistent with the hypothesis that at least some forms of OCD are familial [15,16]. The rate of OCD in first-degree relatives of OCD probands ranges from 5% to 22% [17–21]. A few controlled studies have yielded results inconsistent with the familial transmission [22,23]. However in the later study, the risk of subsyndromal OCD was increased among the parents of obsessional subjects compared to controls (16% vs. 3%). Studies of families ascertained through child/adolescent probands have yielded more consistent results compared to studies of families ascertained through adult probands [16]. The rate of familiality is also higher in people with juvenile

* Corresponding author at: Assistant Professor of Psychiatry, National Institute of Mental Health and Neuro Sciences (NIMHANS), Bangalore, India-560029. Tel.: +91 80 2699 5353.

E-mail addresses: a.shyamsundar@gmail.com, shyamsundar.a@nimhans.kar.nic.in (S.S. Arumugham).

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onset OCD [19,24,25]. The above findings suggest that some forms of OCD are more familial than others.

The clinical characteristics that differentiate familial from sporadic OCD have seldom been studied systematically and have yielded discrepant findings. An Italian study of 74 OCD probands found that non-familial OCD was associated with somatic obsessions and higher frequency and severity of life events prior to the onset of illness [14]. Another study of 50 early onset (≤14 years) OCD probands, which included 33 patients with familial OCD, revealed that familial OCD was associated with ordering and arranging compulsions, aberrant grooming behaviors, and anxiety disorders [13]. An earlier study from our center which compared 84 patients of familial OCD with 80 patients of non-familial OCD, revealed that familial OCD was associated with earlier age at onset, a greater duration of untreated illness, more compulsions, particularly ordering and cognitive compulsions, greater comorbidity, especially depression and anxiety disorders, and treatment non-response [12].

Some of the discrepancy noticed in the above studies could be attributed to the sampling technique and sample characteristics. The sample in the Albert et al. (2002) study consisted of predominantly adult onset illness [14]. Further, the familial group consisted of only 8 patients, which would have decreased the power to find differences. Subjects in the study by Hanna et al. (2005) were recruited by purposive sampling from other family/genetic studies with juvenile onset OCD. Hence the findings may not be generalizable [13]. In the study by Viswanath et al. (2011), all patients with a family history of OCD were not included for analysis [12].

We planned the current study to compare the demographic, clinical and comorbidity patterns of familial and sporadic OCD from our database of a large consecutive sample (n = 802) of systematically assessed adult OCD subjects registered at a specialty OCD clinic in India.

2. Method

We reviewed the data of 802 consecutive patients who consulted the specialty OCD clinic of the National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore, India between January 2004 and January 2012. The NIMHANS Ethics Committee approved the study for its ethical aspects. Each patient registered in the clinic had been evaluated in detail by a post-graduate resident in psychiatry using the OCD clinic workup proforma and was assisted by a senior resident. The residents are routinely trained to evaluate OCD subjects with various instruments by senior consultants of the clinic. The OCD clinic workup proforma includes socio-demographic data and various clinical variables including age of onset of OCD, duration of illness, duration of untreated illness, presence or absence of precipitating factors, detailed history of present illness, presence of common comorbid disorders, family history of OCD and major psychiatric disorders, and treatment details. The diagnosis of OCD was made according to the DSM-IV TR criteria [26]. In addition, all patients had been evaluated with the Mini-International Neuropsychiatric Interview (MINI-Plus) [27], the Yale-Brown Obsessive Compulsive scale (YBOCS) that includes the symptom checklist, severity rating scale and item-11 for insight [28], and the Clinical Global Impression scale (CGI) [29]. Diagnosis and associated features were confirmed by a consultant psychiatrist of the OCD clinic by reviewing all of the available information.

Family history of OCD in first-degree relatives was determined by obtaining history from the proband (index patient) and at least one immediate family member (usually parents and/or siblings who live with the patient) by asking questions from the OCD section of the MINI-Plus. The patients and the immediate family members were able to provide history of OCD in first-degree relatives as they were familiar with the symptoms of OCD. If the patient and family member provided a history of significant OC symptoms (causing impairment in functioning, significant distress and time consuming) in any of the first degree relatives (parents, siblings or offsprings), then the patient was considered to have familial OCD. The remaining patients were classified as having sporadic OCD. We compared those with and without family history of OCD (i.e., familial vs. sporadic) with respect to socio-demographic and clinical variables, OCD symptom profile, insight, severity of OCD and comorbidity. Patients scoring ≤2 on the 11th item of Y-BOCS were classified as having good insight and those scoring >2 were classified as having poor insight. The patients were considered to have juvenile onset if the symptoms manifested at age ≤18 years. We defined age at onset as the beginning of distressing OC symptoms as remembered by the patient and/or the family member. The presence of compulsions by proxy was assessed as a part of Y-BOCS symptom checklist. The compulsions performed by unaffected family members/friends in response to patients' obsession were recorded as compulsion by proxy.

3. Statistical analysis

Statistical analysis was conducted using the Statistical Package for Social Sciences (SPSS) version 13.0 (SPSS Inc., Chicago, IL). Independent sample t test and the Chi square test were used for comparison of continuous and categorical variables, respectively. All tests were two-tailed, and significance level was set at p value of ≤0.05. We did not use correction for multiple comparisons because of the exploratory nature of the study. Association between certain symptoms, which were significant in the univariate analysis, and familiality was analyzed using stepwise logistic regression model (backward, Wald); with individual symptoms as binary response variables and family history of OCD, age, age of onset and gender as independent variables. A p value ≤ 0.05 was considered significant for regression analysis.