An 11- to 13-Year Follow-Up of 75 Subjects With Obsessive-Compulsive Disorder

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Objective: There is a paucity of data on the long-term course and outcome of obsessive-compulsive disorder (OCD). Available data suggest that OCD runs a chronic course with waxing and waning severity. However, most previous studies included severely ill patients who were often clinically referred and hospitalized. The present study reports the course and outcome of OCD in patients who were largely outpatient, self-referred, and drug-naive.

Method: Seventy-five of the 105 subjects (71%) with DSM-IV–diagnosed OCD were followed up 11 to 13 years after initial consultation in 1991 and 1992 at a major psychiatric hospital in India. A majority were self-referred (N = 63, 84%), drug-naive (N = 54, 72%), and outpatients (N = 60, 80%). The follow-up evaluations were carried out by experienced clinicians using various scales and structured instruments. The course and outcome were determined according to predefined criteria. Multinomial logistic regression analysis was performed to identify potential predictors of outcome.

Results: A majority of subjects were adequately treated with medications (N = 57, 76%). Out of 75 subjects, only 18 subjects (24%) had clinical OCD. Overall, 57 subjects (76%) had a favorable outcome: 32 subjects (43%) had no OCD and 25 (33%) had subclinical OCD. Mixed OCD and any Axis I lifetime comorbidity predicted "clinical OCD" outcome.

Conclusions: Outcome of OCD is better than generally assumed, and the findings of this study offer a new perspective on the long-term outcome of OCD. Poor outcome in previous studies may have been due to the inclusion of severely and chronically ill patients.

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There is a paucity of data on the course and outcome of obsessive-compulsive disorder (OCD), although demographic, epidemiologic, and clinical features are well characterized.[1] Several older studies have examined the course of OCD and have consistently shown it to be chronic and lifelong with waxing and waning symptom severity.[2]

Recent studies on longitudinal course of OCD have provided somewhat inconsistent findings. Some studies have confirmed the earlier finding that OCD is a chronic illness with low rates of remission,[3–5] whereas a few other studies have reported somewhat more optimistic findings.[6–8] The major limitations of the existing studies on the course of OCD include relatively shorter follow-up periods and inclusion of severely ill patients who were often clinically referred and hospitalized. The study by Skoog and Skoog,[7] although the longest prospective study to date that followed up patients for 40 years, included severely ill hospitalized patients. Considering these 2 major limitations, we report here the findings of an 11- to 13-year follow-up of largely self-referred, drug-naive OCD subjects satisfying DSM-IV criteria.[9] The subjects were registered for treatment at a premier psychiatric hospital in India.

METHOD

Sample

We evaluated clinical charts of 128 subjects with a primary diagnosis of OCD who were registered with the psychiatric services of the National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore, India, in the years 1991 and 1992. Primary diagnosis was defined as

the dominant disorder for which treatment was sought. Chart diagnosis of OCD was based on the description of OCD provided in the glossary of mental disorders of the *International Classification of Diseases*, 9th Revision.[10] The description of OCD is as follows:

> States in which the outstanding symptom is a feeling of subjective compulsion—which must be resisted—to carry out some action, to dwell on an idea, to recall an experience, or to ruminate on an abstract topic. Unwanted thoughts, which intrude, the insistency of words or ideas, ruminations or trains of thought are perceived by the patient to be inappropriate or nonsensical. The obsessional urge or idea is recognized as alien to the personality but as coming from within the self. Obsessional actions may be quasiritual performances designed to relieve anxiety, e.g., washing the hands to cope with contamination. Attempts to dispel the unwelcome thoughts or urges may lead to a severe inner struggle, with intense anxiety.

The NIMHANS is a premier psychiatric institute in India with a postgraduate residency program. It has a 650-bed hospital with both outpatient and inpatient services. We chose to recruit patients registered in 1991 and 1992 with the aim of obtaining follow-up data of at least 10 years. An additional important reason was to obtain a sample that was relatively less biased toward severely ill and refractory patients. In the early 1990s, the OCD population tended to be largely self-referred and drug-naive but sufficiently ill to seek treatment. In the later years, a specialty OCD clinic was started at the institute, and the clinic began attracting more severely ill and treatment-refractory patients.

We had detailed clinical charts of all subjects. Baseline chart diagnosis of OCD was based on detailed unstructured psychiatric evaluation conducted by at least 2 clinicians, one of whom was an experienced consultant psychiatrist on the teaching faculty of the institute. Chart diagnosis of OCD was reconfirmed in 2 stages. In the first stage, 2 psychiatrists experienced in evaluating OCD subjects independently reviewed all the charts, and a consensus diagnosis was made according to the DSM-IV criteria. If the consensus could not be reached, the senior consultant of the OCD clinic (Y.C.J.R.) reviewed the charts and arrived at a final diagnosis. In the second stage, baseline diagnosis of OCD was reconfirmed at the time of follow-up evaluation by administering the Structured Clinical Interview for DSM-IV Axis I Disorders-Patient Edition (SCID-I/P)[11] and the Yale-Brown Obsessive Compulsive Scale (YBOCS) symptom checklist.[12,13]

Of the 128 subjects with chart diagnosis of OCD, 18 subjects (14%) were excluded because they did not have a convincing description of obsessional phenomena or had mild symptoms not satisfying the severity dimension of DSM-IV criteria. Five subjects (4%) were deceased because of some physical illnesses. In total, 105 subjects satisfied the DSM-IV criteria for OCD. Of the 105 subjects, 75 (71%) were available for reevaluation 11 to 13 years after baseline evaluation, and they formed the sample of this study. The remaining 30 subjects could not be traced for reevaluation despite best efforts to contact them. The 30 subjects who could not be assessed did not differ from the 75 subjects who were assessed with respect to age at first consultation, age at onset of OCD, duration of illness, duration of untreated illness, gender ratio, OCD subtypes, baseline marital status, years of education at the time of first consultation, domiciliary status (rural/urban), occupation, drug-naive status, and presence of any comorbidity.

Of the 75 subjects, a majority were self-referred (N = 63, 84%), drug-naive (N = 54, 72%), and outpatients (N = 60, 80%) at the time of first consultation. None had received any form of psychotherapeutic intervention previously. Similarly, none of the subjects were treatment-refractory at the time of initial contact. The OCD subjects were subtyped as predominantly with obsessions, predominantly with compulsions, or mixed based on the ICD-10 definitions.[14]

Follow-Up Evaluation

The study was approved by the Institutional Ethics Committee. After giving written informed consent, all 75 subjects were evaluated by a clinician using the SCID-I/P, the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II),[15] the tics and Tourette's syndrome section of the Schedule for Tourette and Behavioral Syndromes,[16] the YBOCS symptom checklist and severity scale, and the Global Assessment of Functioning (GAF) scale.[9] The OCD status at follow-up was also assessed by using the Psychiatric Status Rating Scale (PSR) for OCD.[17] The PSR measures the severity of OCD using a 6-point scale ranging from 6 (severely symptomatic and unable to function and a YBOCS score of 26–40) to 0 (no obsessive-compulsive symptoms and no avoidance and a YBOCS score of 0–3). Global severity of illness at the time of assessment was measured using the Clinical Global Impressions-Severity of Illness scale (CGI-S).[18]

All evaluations were carried out by personal direct interviews with subjects. A majority of the evaluations were carried out by the same clinician (N = 68, 91%) (S.M.D.), and only a few (N = 7, 9%) were evaluated by others. The clinicians who assessed the subjects had considerable experience in using the instruments and assessing OCD subjects. These clinicians worked in the specialty OCD clinic of the institute and were extensively trained by the first author in administering the instruments. Family history of OCD and tic disorders in first-degree relatives was obtained by interviewing subjects. Questions from the SCID-I/P and the items on tics and Tourette's syndrome were reworded to elicit family history of OCD and tic disorders.

The information regarding the course of OCD was obtained from hospital records, records of treatment received elsewhere, and elaborate unstructured personal interviews. To assess the course in a systematic manner, the interview typically began with the description of the problems at the time of first consultation, and then the subjects were asked to describe the course of symptoms in 2-year time intervals until the date of interview. For example, subjects were asked to describe the percentage of time they were suffering from symptoms that caused substantial distress and interference in functioning or, alternatively, the time they were free of symptoms or had symptoms that did not cause much distress and/or interference. In addition to the 2-year time intervals, anchor points such as major life events, academic years in colleges, job changes, calendar years, chronological age, major festivals (includes 8 Hindu festivals, 3 Muslim festivals, and 2 Christian festivals), and family events were used to obtain the information on the course of OCD as accurately as possible. Detailed information was also obtained about the treatment received in the interim period.

After obtaining all the information, the senior psychiatrist and consultant of the OCD clinic (Y.C.J.R.) reviewed all the data with the clinician who performed the assessments, and final consensus opinions were made according to the DSM-IV and predefined course and outcome criteria.

Course and Outcome Measures

The outcome was determined with the following definitions, which were used in a previous follow-up study of juvenile OCD[19]:

Clinical OCD. Patient fulfilled DSM-IV criteria for OCD, scored more than 15 on the YBOCS, and had a rating of 5 (in episode, marked symptoms) or 6 (in episode, severe symptoms) on the PSR.

Subclinical OCD. Symptoms were not severe enough to meet DSM-IV criteria. Patient had a YBOCS score of 4 to 15 and a PSR rating of 2 (full remission with minimal symptoms), 3 (partial remission with mild symptoms), or 4 (partial remission with moderate symptoms).

No OCD. Patient did not have any obsessive-compulsive symptoms, scored 0 to 3 on the YBOCS, and had a PSR rating of 1 (full remission, no symptoms).

The course of OCD was determined according to the following classifications developed by Thomsen,[20] which were used in a previous study from this center[19]:

No OCD. Patient no longer suffered from any obsessive-compulsive symptoms after recovery from the index episode.

Subclinical OCD. Patient suffered from mild symptoms lasting for less than 1 hour/day that did not cause significant distress or impairment in functioning for most of the course.

Episodic course. Clear evidence of remissions and relapses. During remission, symptoms should have disappeared or should have been only subclinical. During relapse, symptoms should have caused significant distress and impairment in functioning.

Chronic OCD. Symptoms persisted for most of the course, causing significant distress and impairment in functioning.

True remission. Defined as "no OCD" status at follow-up without being on any treatment.[21] An adequate trial with medication was defined as treatment for a minimum of 10 weeks with adequate doses (fluoxetine 40–80 mg/day, sertraline 150–200 mg/day, fluvoxamine 200–300 mg/day, paroxetine 40–60 mg/day, citalopram 40–80 mg/day, and clomipramine 150–250 mg/day).

Statistical Analysis

Data were expressed using descriptive statistics such as frequencies and percentages for categorical variables, and mean and standard deviation for continuous variables. Comparison between groups was carried out by independent sample Student t test (2-tailed/1-way analysis of variance) or χ^2 test, whichever was appropriate. Multinomial logistic regression analysis was used to examine the association between the 3 outcomes and the potential predictors of outcome. Statistical significance was set at $p < .05$. The potential predictors included age at onset of OCD, duration of OCD at the time of first consultation, OCD subtypes, gender, history of hospitalization, total duration of treatment, adequacy of treatment, lifetime major depressive disorder, and any lifetime Axis I comorbidity. The predictors were selected based on the findings of previous studies and our clinical observations.

RESULTS

Seventy-five subjects with DSM-IV–diagnosed OCD were assessed 11 to 13 years after initial consultation. The demographic and symptom profile is given in Table 1. The pattern of comorbid diagnoses is provided in Table 2.

Treatment

Fifty-seven subjects (76%) were treated adequately with at least 1 of the selective serotonin reuptake inhibitors (SSRIs) or clomipramine. Forty-five subjects (60%) had received 1 adequate trial and 12 (16%) had received 2 or more adequate trials. Augmentation of at least 1 month was tried in 26 subjects (35%). Agents used for augmentation included low-dose clomipramine (added to SSRIs), antipsychotics, buspirone, clonazepam and other benzodiazepines, and lithium. Exposure and response prevention was administered to 11 subjects (15%) in addition to SSRIs. Electroconvulsive therapy was administered to 2 subjects (3%). Fifteen subjects (20%) were hospitalized for treatment. Total median duration of treatment was 23

Table 1. Demographic Characteristics and Symptom Profile of 75 Subjects With Obsessive-Compulsive Disorder (OCD) Followed 11 to 13 Years

Characteristic	Value
Age at follow-up, mean (SD), y	42 (9.5)
Duration of follow-up, median, mo	144
Age at first consultation, mean (SD), y	30.1 (9.5)
Male, N (%)	56 (75)
Education at baseline, mean (SD), y	12.2 (3.8)
Married, N (%)	62 (83)
Urban residence, N (%)	58 (77)
Age at onset of OCD, mean (SD), y	24.5 (9.5)
Juvenile onset OCD (≤ 18 y), N (%)	21 (28)
Duration of illness at consultation, median, mo	36
Subjects ill for at least 6 mo, N (%)	72 (96)
Subjects ill for at least 12 mo, N (%)	61 (81)
Subjects ill for at least 24 mo, N (%)	53 (71)
Self-referred, N (%)	63 (84)
Drug-naive at first consultation, N (%)	54 (72)
Hospitalized, N (%)	15 (20)
Positive family history of OCD, N (%)	3 (4)
OCD subtypes, N (%)	
Predominantly obsessive	12 (16)
Predominantly compulsive	0 (0)
Mixed	63 (84)
YBOCS score at follow-up, mean (SD)	8.8 (9.9)
Common obsessions (lifetime), N (%)	
Contamination	45 (60)
Pathologic doubts	35 (47)
Aggressive	32 (43)
Sexual	20 (27)
Religious	17 (23)
Symmetry/exactness	14 (19)
Hoarding	3 (4)
Miscellaneous	23 (31)
Common compulsions (lifetime), N (%)	
Washing and cleaning	41 (55)
Checking	38 (51)
Repeating	16 (21)
Ordering	16 (21)
Counting	5 (7)
Hoarding	3 (4)
Miscellaneous	26 (35)

Abbreviation: YBOCS = Yale-Brown Obsessive Compulsive Scale.

Table 2. Comorbid Psychiatric Diagnoses at Baseline and Follow-Up in 75 Subjects With Obsessive-Compulsive Disorder Followed 11 to 13 Years[a]

Comorbid Diagnosis	Lifetime	Current
Any Axis I comorbidity	29 (39)	13 (17)
Mood disorders		
Major depressive disorder	23 (31)	1 (1)
Bipolar I disorder	0 (0)	0 (0)
Bipolar II disorder	1 (1)	1 (1)
Dysthymia	0 (0)	1 (1)
Anxiety disorders		
Panic disorder with or without agoraphobia	1 (1)	1 (1)
Agoraphobia	2 (3)	2 (3)
Generalized anxiety disorder	2 (3)	2 (3)
Social phobia	1 (1)	1 (1)
Specific phobia	1 (1)	0 (0)
Posttraumatic stress disorder	0 (0)	0 (0)
Somatoform disorders	1 (1)	1 (1)
Eating disorders	0 (0)	0 (0)
Alcohol/substance dependence	4 (5)	2 (3)
Any psychotic disorder	2 (3)	1 (1)
Tic disorders	0 (0)	0 (0)
Any personality disorder	11 (15)	11 (15)
Avoidant	2 (3)	2 (3)
Dependent	1 (1)	1 (1)
Obsessive-compulsive	10 (13)	10 (13)
Other personality disorders	0 (0)	0 (0)

[a]Values are given as N (%).

Table 3. Course and Outcome of Obsessive-Compulsive Disorder (OCD) in 75 Subjects[a]

	Outcome at Follow-Up			
Course	No OCD[b]	Subclinical OCD	Clinical OCD	Total
No OCD	30 (40)	…	…	30 (40)
Subclinical OCD	…	19 (25)	…	19 (25)
Episodic OCD	2 (3)	4 (5)	2 (3)	8 (11)
Chronic OCD[c]	…	2 (3)	16 (21)	18 (24)
Total	32 (43)	25 (33)	18 (24)	75 (100)

[a]Values are given as N (%).
[b]The 32 subjects with no OCD outcome include 28 subjects (37%) who were in true remission (those with no OCD and not on any treatment).
[c]Those with chronic OCD course included 2 subjects who had subclinical illness at the time of follow-up, but these 2 subjects had clinical OCD for most of the course.
Symbol: … = none.

months. A majority of the subjects were not on any form of treatment at the time of follow-up evaluation (N = 53, 71%) for a mean (SD) period of 95.36 (56.39) months and a median duration of 122 months.

Course and Outcome

Table 3 shows the course and outcome of OCD. Only about one fourth of the sample had clinical OCD at follow-up. The remaining subjects had either no OCD or subclinical OCD, suggesting a favorable outcome. Median time to reach no OCD and subclinical OCD status was 42 months (range, 12–129 months) and 84 months (range, 12–137 months), respectively. Twenty-eight subjects (37%) were in true remission and were not on any treatment for a median period of 132 months (range, 2–149 months). The mean (SD) score on the GAF was 76.28 (14.93), suggesting good global functioning. Those with no OCD and subclinical OCD had higher mean ± SD scores on the GAF suggestive of good functioning compared to those with clinical OCD (87.53 ± 7.74 vs. 77.24 ± 8.08 vs. 54.94 ± 6.89, $p < .001$). Post hoc testing using Bonferroni correction also yielded significant differences between all 3 groups ($p < .001$). On the CGI-S subscale, a majority were either normal (N = 32, 43%), had borderline illness (N = 20, 27%), or were mildly ill (N = 8, 11%). Subjects with no OCD and subclinical OCD had lower mean scores on the CGI-S suggesting either no illness or borderline illness compared to those with clinical OCD (1.0 vs. 2.2 ± 0.41 vs. 4.33 ± 0.84, $p < .001$). Post hoc testing with Bonferroni correction showed that all 3 groups were significantly different at $p < .001$.

Outcome of OCD did not differ significantly by onset (juvenile vs. nonjuvenile) ($\chi^2 = 1.439$, df = 2, $p = .487$),

gender (χ^2 = .353, df = 2, p = .838), presence of any Axis I lifetime comorbidity (χ^2 = 2.774, df = 2, p = .250), lifetime major depressive disorder (χ^2 = .097, df = 2, p = .953), and OCD subtypes (χ^2 = 5.357, df = 2, p = .069).

In the multinomial logistic regression analysis involving the 3 different outcomes, mixed OCD subtype (β = 9.005, SE = .001, p < .001) and any lifetime Axis I comorbidity (β = 3.014, SE = 1.477, p = .041) were positively correlated with clinical OCD compared to no OCD outcome. Similarly, compared with subclinical OCD, mixed OCD subtype (β = 8.832, SE = .411, p < .001) was positively associated with clinical OCD. However, there were no significant associations when no OCD and subclinical OCD were compared. In summary, regression analysis has shown that mixed OCD subtype is a strong predictor of clinical OCD outcome.

DISCUSSION

We studied the course and outcome of OCD in 75 adults 11 to 13 years after their initial consultation for treatment at a major psychiatric hospital in India using a retrospective cohort design. It is essentially a "catch-up" longitudinal design with clinical assessments at baseline and follow-up. The sample was largely self-referred and drug-naive and comprised mainly outpatients with possibly moderate illness. To our knowledge, this is the first study from India on the naturalistic course and outcome of OCD in adults. The main finding of the study is the high rates of no OCD (43%) and subclinical OCD (33%) outcome with a low rate of clinical OCD (24%). In addition, over one third of the patients were in true remission.

The findings of our study are most optimistic compared with the findings of recent follow-up studies of adult OCD.[4,6–8] Our sample had very high rates of complete remission (no OCD) and partial remission (subclinical symptoms) compared with those of previous studies. However, it should be kept in mind that the comparison of the findings across studies is to some extent limited by the varying duration of follow-up and sample characteristics.

In the study by Eisen et al.,[4] the probability of full remission at 2-year follow-up was only 12% with partial remission in 47%. The authors concluded that the course of OCD was chronic despite adequate treatment. The 1- to 2-year follow-up by Orloff et al.[6] reported improvement in 87% of the subjects (≥ 25% reduction in YBOCS score) but did not report rates of recovery/remission, making it hard to compare the findings. In the 5-year follow-up study of Steketee et al.,[8] only 20% had full remission, whereas 50% were in partial remission. The 40-year follow-up study by Skoog and Skoog,[7] the longest to date, reported full remission in 20% and partial remission in 28% of patients. However, the findings by Skoog and Skoog cannot be easily compared with those of any recent studies because of changed definitions and availability of effective treatments. In summary, although overall outcome in our study may be comparable to somewhat optimistic findings reported in a few recent studies,[6,7] the rate of full remission (43%) is high compared with the 12% to 20% rates reported in previous studies.[4,7,8]

There are several possible reasons for favorable outcome in our study. A majority of the subjects were self-referred and drug-naive at initial consultation with no history of resistance to treatment, and they were largely outpatients. In the previous studies, patients were largely referred[4,6,8] and psychiatric inpatients.[7] Inpatients with OCD have been reported to have a poorer prognosis than outpatients.[2] The duration of OCD at baseline was relatively short, suggesting recent-onset OCD at initial consultation. In previous studies, patients had long-standing illness at baseline. For example, in the study by Eisen et al.,[4] the mean duration of OCD was 16 years. Our sample also had relatively low rates of comorbidity compared with those of previous studies mentioned earlier.[3–5,8] Samples in previous studies perhaps represented a subgroup of OCD subjects who were severely and chronically ill with high rates of comorbidity and poor treatment response. On the other hand, our sample perhaps represents moderately ill OCD subjects. Therefore, the findings of our study are generalizable to a large majority of OCD subjects who seek outpatient treatment at general psychiatric practice settings.

Our study has important clinical implications. First, our findings suggest a favorable course and outcome in a disorder that is otherwise considered to be a chronic illness with waxing and waning course. Our findings are supported by a prevalence study of OCD in a large health maintenance organization that found that 43% of subjects had no OCD at 38-month follow-up.[22] Similarly, a 20-year follow-up of 22 OCD subjects in a Zurich community cohort reported recovery in 86%.[23] That the long-term outcome is favorable encourages practicing psychiatrists to offer a more optimistic prognosis to patients and families.

Second, that a favorable outcome was seen in a sample that was treated mainly with medications is reassuring to mental health professionals in countries like India, where cognitive-behavioral therapy, regarded as the treatment of choice in mild to moderately ill OCD subjects,[24] is not easily available to a majority of patients. However, it needs to be mentioned here that an automatic conclusion that medications are the cause of favorable outcome cannot be drawn in follow-up studies of this kind because they typically do not have untreated control groups. Therefore, one could argue that the favorable course and outcome could simply be due to natural remission.

Our study identified mixed OCD to be a strong predictor of clinical OCD outcome. This is in accordance with the findings of Skoog and Skoog,[7] who reported an association between mixed OCD and worse outcome. They

also reported that early age at onset, low social functioning, and chronic course were associated with a worse outcome. Although age at onset and duration of illness were not predictive of poor outcome in our study, comorbidity seems to predict poor outcome.

Certain limitations of this study need to be acknowledged. A major limitation is the catch-up longitudinal design using a retrospective cohort. The baseline diagnosis of OCD was chart based. However, this limitation was partly addressed by an independent review of all the charts by 2 psychiatrists and then by reaching a consensus opinion according to DSM-IV criteria. The diagnosis was further reconfirmed at follow-up by administering the SCID/IP and YBOCS. The catch-up design could have affected the accuracy of the assessment of the course of OCD because of the inherent problems in recalling information between the assessments.

To conclude, course and outcome of OCD are better than generally assumed, and the findings of this study offer a new perspective on the long-term outcome of OCD. Poor outcome in previous studies may have been due to inclusion of severely and chronically ill patients. The study also suggests that the findings perhaps depend on the types of samples studied and that the prognosis of OCD may be favorable in a large majority of OCD subjects who are treated as outpatients and are moderately ill. The findings of this study are representative of the moderately ill OCD patients.

Drug names: buspirone (BuSpar and others), citalopram (Celexa), clomipramine (Anafranil and others), clonazepam (Klonopin and others), fluoxetine (Prozac and others), lithium (Eskalith, Lithobid, and others), paroxetine (Paxil and others), sertraline (Zoloft).

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