Treatment of Obsessive-Compulsive Disorder by U.S. Psychiatrists

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Objective: To examine the treatment of obsessive-compulsive disorder (OCD) by a nationally representative sample of psychiatrists.

Method: The authors analyzed physician-reported data from the 1997 and 1999 American Psychiatric Institute for Research and Education Practice Research Network (PRN) Study of Psychiatric Patients and Treatments to describe demographic, clinical, and treatment characteristics of patients with a diagnosis of OCD (per DSM-IV and clinical features). On the basis of published studies, serotonin reuptake inhibitor (SRI) doses were predefined as low, intermediate, or high.

Results: Sixty-five percent of patients received an SRI, but only 39.4% of the sample patients received an SRI at a dose thought to be most effective for OCD or were having their dose titrated. A total of 7.5% of patients in the sample received cognitive-behavioral therapy (CBT) with or without medication treatment. Prescription of benzodiazepines or antipsychotics was common, often in the absence of an SRI. Patients receiving CBT had on average the highest scores on the Global Assessment of Functioning Scale. No other demographic or treatment characteristics were associated with the type of treatment received by the patients.

Conclusion: Despite important advances in the efficacy of pharmacologic and psychological treatments for OCD, psychiatric care of OCD continues to be an area with substantial opportunity for quality improvement.

(J Clin Psychiatry 2006;67:946–951)

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Supported in part by a National Institute on Drug Abuse (NIDA) grant DA-00482, a National Alliance for Research on Schizophrenia and Depression (NARSAD) Young Investigator Award, and a grant from the Alcohol Beverage Medical Research Foundation (Dr. Blanco).

Dr. Olfson has received grant/research support from Bristol-Myers Squibb and Eli Lilly; has been a consultant for Bristol-Myers Squibb, Eli Lilly, and McNeil; and has been on the speakers or advisory board of Janssen. Dr. Stein has received grant/research support from and has been a consultant for AstraZeneca, Eli Lilly, GlaxoSmithKline, Lundbeck, Orion, Pfizer, Pharmacia, Roche, Servier, Solvay, Sumitomo, and Wyeth. Drs. Blanco, Simpson, Gameroff, and Narrow report no additional financial or other relationships relevant to the subject of this article.

The authors thank the members of the Practice Research Network (PRN) who participated in the 1997 (Harold Alan Pincus, M.D., and Deborah A. Zarin, M.D., Co-Principal Investigators) and 1999 (Harold Alan Pincus, M.D., and Ivan Montoya, M.D., Co-Principal Investigators) APIRE PRN Study of Psychiatric Patients and Treatments, which was supported in part by the National Institute of Mental Health; the John D. and Catherine T. MacArthur Foundation; and the Center for Mental Health Services, Substance Abuse, and Mental Health Services Administration.

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Controlled trials have demonstrated that 2 types of treatment are efficacious for patients with obsessive-compulsive disorder (OCD): serotonin reuptake inhibitors (SRIs, i.e., clomipramine and the selective serotonin reuptake inhibitors) and cognitive-behavioral therapy (CBT) consisting of exposure and response prevention.[1–5] Without effective treatment, patients with OCD face substantial distress and impairment in social and work settings.[6,7] Meta-analyses have helped to identify optimal SRI doses and CBT procedures,[8,9] and treatment guidelines have been published to facilitate appropriate clinical management.[10]

Some evidence suggests that OCD treatment in clinical practice commonly departs from evidence-based care. Eisen and coworkers[11] prospectively evaluated 66 adults with OCD for 2 years following initial treatment at university-based clinics. Approximately three quarters (77%) of these patients received an SRI for at least 12 weeks, and 68% received medium-to-high doses of SRIs

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for at least 12 weeks. However, only 18% of patients received an adequate CBT trial, defined as treatment that involved at least 20 hours of exposure and ritual prevention homework practice, and only 15% of patients received an SRI for at least 12 weeks plus an adequate CBT trial. Koran and colleagues[12] evaluated the adequacy of pharmacotherapy for OCD patients in a large, prepaid health maintenance organization (HMO) in northern California. They found that a minority (43%) of the newly diagnosed adult patients with OCD had an adequate trial of medication in the year after their first visit for OCD. An adequate medication trial was defined as at least 8 weeks of continuous treatment with an SRI or phenelzine at or above established minimal effective dosages. Although these studies indicate that many OCD patients may not be receiving evidence-based treatments, previous work does not describe broad national treatment patterns in the psychiatric management of OCD.

Using data from a survey of psychiatrists practicing in the United States, we examine how a nationally representative sample of psychiatrists treat adult outpatients with OCD. Because psychiatrists are the main source of mental health care for patients with OCD,[13,14] our goal was to examine the extent to which psychiatric treatment conforms to evidence-based standards. Specifically, we evaluate (1) the proportion of OCD patients who receive SRI dosages that have been associated with optimal treatment response in clinical trials, (2) the proportion who receive CBT, and (3) whether patient characteristics predict the type and intensity of the treatment received.

METHOD

Data Sources and Study Subjects

Data were drawn from the American Psychiatric Institute for Research and Education (APIRE)'s Practice Research Network (PRN) Study of Psychiatric Patients and Treatments, which has been conducted twice, in 1997 and 1999. Because the design of the surveys was very similar, data from both surveys were combined to increase sample size and associated statistical power. At the time of the surveys, the PRN consisted of 820 members of the American Psychiatric Association (APA) who provided 15 or more hours per week of direct patient care and were selected as a combination of volunteers and randomly selected members. These surveys provide nationally representative data on the sociodemographic and clinical characteristics of psychiatrists' patients and their types and patterns of treatment.[15,16] The survey methods are described in detail by Pincus and coworkers[16] and summarized here. Following APIRE recommendations, data from both survey years were combined to establish a larger base upon which to derive national estimates.

In both surveys, participant psychiatrists were systematically assigned a start time to complete an extensive data collection instrument for 3 patients who had been randomly preselected from a patient log. The study instrument collected detailed patient-level information including (1) sociodemographic characteristics, (2) health plan features, (3) DSM-IV diagnoses and clinical features, including co-occurring mental disorders, and (4) treatments provided by the PRN psychiatrists and other providers at the time of the survey. Only minor modifications were made to the survey between 1997 and 1999. The response rate was 78% for both years, generating detailed information on a total of 3071 patients. A small methodological follow-up study indicated that 90% of the 40 psychiatrists sampled appeared to have followed the patient sampling protocol.[16] The most common reason for not following the protocol was not starting data collection at the assigned date and time.

Table 1. Classification of Dose Ranges of Serotonin Reuptake Inhibitors in the Treatment of Obsessive-Compulsive Disorder

	Dose (mg/d)		
Medication	High	Medium	Low
Fluoxetine	≥ 60	20–59	< 20
Sertraline	≥ 200	100–199	< 100
Fluvoxamine	≥ 250	150–249	< 150
Paroxetine	≥ 60	20–59	< 20
Citalopram	≥ 60	20–59	< 20
Clomipramine	≥ 225	100–224	< 100

Definitions of Variables

Serotonin reuptake inhibitors (SRIs) included clomipramine, a tricyclic antidepressant with SRI action, and the selective serotonin reuptake inhibitors (SSRIs), i.e., fluoxetine, sertraline, fluvoxamine, paroxetine, and citalopram. Although citalopram has not been approved by the U.S. Food and Drug Administration for the treatment of OCD, it has shown efficacy for OCD in a multisite randomized controlled trial.[4] Tricyclic antidepressants excluded clomipramine but included imipramine, desipramine, and others, as well as the tetracyclic maprotiline. "Other antidepressants" included trazodone, venlafaxine, nefazodone, and monoamine oxidase inhibitors. Mood stabilizers included lithium, carbamazepine, valproic acid, gabapentin, lamotrigine, and topiramate. Stimulants included methylphenidate, amphetamine, and pemoline. First-generation antipsychotics included haloperidol, chlorpromazine, and similar medications. Second-generation antipsychotics included clozapine, risperidone, olanzapine, and quetiapine.

Because higher doses of SRIs tend to be associated with better clinical response,[8,17] we partitioned the sample into those receiving low, intermediate, or high SRI doses, based on the results of multicenter trials[17] and a meta-analysis of the tolerability and efficacy of SRIs (Table 1).[8] Because the cross-sectional design may have captured

patients during a period of stable, increasing, or decreasing antidepressant dosing, we created a more inclusive category of "higher intensity SRI treatment" comprising patients with either high doses or lower doses that were being titrated at the time of the survey and who therefore might be in the process of being prescribed an optimal dose. Because the surveys did not specify the direction of the dose change, we assumed that all dosage changes were increasing.

The PRN surveys inquired about provision of CBT by asking psychiatrists whether they "discussed cognitive themes with the patient during the past 30 days (including this visit)." We then created 3 mutually exclusive treatment groups: (1) higher intensity SRI group, comprising those receiving the higher intensity SRI treatment but not receiving CBT (39.4% of the total sample), (2) lower intensity SRI group, who were receiving neither CBT nor higher intensity SRI treatment (53.2% of the sample), and (3) CBT group, which comprised those receiving CBT with or without an SRI at any dose (7.5% of the sample). Because only 3 patients received CBT but not an SRI, no distinction was made in the analyses between those receiving CBT plus an SRI and those receiving only CBT.

The primary sources of payment for patient visits were collapsed into 3 mutually exclusive categories: public insurance (Medicare, Medicaid, and other government insurance); private insurance; and a residual category that included self-pay, uncompensated care, workers' compensation, and unknown sources of payment.

Data Analysis

Point estimates and 95% confidence intervals (CIs) are presented for all univariate analyses. Bivariate analyses (1-way ANOVAs or χ^2 tests, as appropriate) were used to compare the treatment groups (higher intensity SRI, lower intensity SRI, or CBT) on patient gender, age, number of comorbid Axis I and Axis II conditions, number of Axis IV stressors, Global Assessment of Functioning (GAF) scale scores,[18] and type of insurance.

SUDAAN[19] statistical analysis software was used for all analyses to adjust for the sampling design (i.e., the nonindependent nesting of patients by psychiatrist) and to produce weighted nationally representative estimates of the combined surveys. The weights adjusted for differences between the PRN sample and the APA membership with regard to psychiatrist sociodemographic and practice variables, caseload size, and survey response.[16] Results are presented as percentages rather than ratios, in order to reflect the appropriate weighting of the cases.

RESULTS

Data were available for 123 patients with OCD. A majority were white male adults and most had at least some college education (Table 2). Many were returning patients with private insurance, and their mental health care was subject to some form of utilization review. Axis I, but not Axis II, comorbidity was frequent, as was the presence of at least 1 psychosocial stressor.

Table 3 indicates that there was substantial variation in treatment regimen. Most patients (93%) were prescribed at least 1 psychotropic medication, frequently an SRI. There was roughly an even distribution between low, intermediate, and high doses of SRIs. Only 4 patients

Table 2. Characteristics of Psychiatric Patients With Obsessive-Compulsive Disorder[a,b] (N = 123)

Characteristic	Value[c]	95% CI
Age, %		
0–17 y	14.2	6.9 to 21.5
18–64 y	80.5	72.3 to 88.7
65+ y	5.3	1.0 to 9.6
Sex, %		
Female	44.8	33.6 to 56.0
Male	55.2	44.0 to 66.4
Race, %		
White	96.6	92.7 to 100.0[d]
Nonwhite	3.4	0.0[e] to 7.3
Level of education, %		
< High school	18.5	10.7 to 26.3
High school diploma	22.0	13.8 to 30.2
Some college	20.2	12.0 to 30.2
College graduate or more	39.3	29.1 to 49.5
Payment source, %		
Private insurance	41.2	30.4 to 52.0
Public insurance	20.1	12.7 to 27.5
Other	38.6	28.2 to 49.0
Utilization review, %		
Yes	61.1	50.5 to 71.7
No	38.9	28.3 to 49.5
Visit status, %		
Previously seen	92.2	86.9 to 97.5
Not previously seen	7.8	2.5 to 13.1
No. of comorbid Axis I disorders, %		
0	13.5	6.6 to 20.4
1	44.4	34.0 to 54.8
2+	42.1	31.3 to 52.9
No. of comorbid Axis II disorders, %		
0	66.7	56.1 to 77.3
1	32.1	22.5 to 41.7
2	1.2	0.0[e] to 3.6
No. of Axis IV problems, %		
0	13.9	6.8 to 21.0
1–2	55.8	46.0 to 65.6
3+	30.4	21.2 to 39.6
GAF score, mean[f]	58.8	55.7 to 61.9
Length of treatment, mean, mo[g]	30.5	22.7 to 38.3
Visit duration, mean, min[h]	35.7	31.6 to 39.8

[a]Data are from the 1997 and 1999 American Psychiatric Institute for Research and Education Practice Research Network (PRN) Study of Psychiatric Patients and Treatments. See text for definition of the diagnostic groupings.
[b]SUDAAN[19] software was used to account for the complex survey design.
[c]All percentages and means are weighted estimates.
[d]Upper limit was top-coded at 100.
[e]Negative limit was bottom-coded at 0.
[f]N = 121.
[g]N = 107.
[h]N = 122.
Abbreviations: CI = confidence interval, GAF = Global Assessment of Functioning scale.

Table 3. Management of Psychiatric Patients With Obsessive-Compulsive Disorder (OCD)[a,b] (N = 123)

Treatment	Rate, %[c]	95% CI
Treatment modality		
Medication only	22.0	13.0 to 31.0
Any psychotherapy	77.3	68.3 to 86.3
Psychotherapy only (provided by psychiatrist)	6.6	1.6 to 11.5
Combined treatment	70.7	61.2 to 80.2
Provided by psychiatrist	55.7	45.6 to 65.7
Psychotherapy provided by other mental health professional	15.0	8.1 to 22.0
Any CBT (provided by psychiatrist)	7.5	2.6 to 12.3
No medication or psychotherapy	0.8	0.0[d] to 2.2
Type of medication		
Any psychotropic	92.7	87.5 to 97.8
Any mood stabilizer	11.2	5.2 to 17.1
Any antidepressant	86.6	79.3 to 93.9
SRIs[e]	65.1	55.4 to 74.8
Low dose	23.9	15.5 to 32.2
Intermediate dose	19.8	11.9 to 27.6
High dose	21.5	13.0 to 30.0
Tricyclics	12.2	6.2 to 18.1
Other antidepressants	13.2	7.5 to 18.9
Benzodiazepines	35.5	25.7 to 44.8
Antipsychotics	23.1	14.9 to 31.3
Stimulants	10.4	3.8 to 17.1
Number of psychotropics		
0	7.3	2.2 to 12.5
1	37.6	27.3 to 48.0
2	24.0	15.5 to 32.4
3+	31.1	21.5 to 40.6
Any SRI plus adjunctive OCD treatment	38.4	28.3 to 48.5
SRI plus benzodiazepines	23.7	15.6 to 31.9
SRI plus any antipsychotic	15.8	8.3 to 23.3
First generation	4.5	0.5 to 8.5
Second generation	13.0	6.1 to 19.9
SRI plus CBT	4.2	0.6 to 7.9

[a]Data are from the 1997 and 1999 American Psychiatric Institute for Research and Education Practice Research Network (PRN) Study of Psychiatric Patients and Treatments. See text for definition of the medication groupings.
[b]SUDAAN[19] software was used to account for the complex survey design.
[c]All rates are weighted estimates.
[d]Negative limit was bottom-coded at 0.
[e]Includes 4 cases on clomipramine treatment.
Abbreviation: CBT = cognitive-behavioral therapy, CI = confidence interval, SRI = serotonin reuptake inhibitor.

were treated with clomipramine. Two more patients were treated with venlafaxine. Prescription of benzodiazepines and antipsychotics was not uncommon. In two thirds of the cases in which either benzodiazepines or antipsychotic medications were being prescribed, they were prescribed in conjunction with an SRI. Over one half of the sample was taking 2 or more psychotropic medications.

The majority of patients (77%) were also receiving psychotherapy. Sixty-two percent of the patients in the sample were receiving psychotherapy from their psychiatrist, although only 7.5% of the patients received CBT. An additional 15% of the patients were receiving psychotherapy from another mental health professional, but the type of therapy provided by those professionals was not specified in the survey.

Examination of the distribution of the patient characteristics by treatment group showed that the GAF score was the only variable that differed across treatment groups. The mean GAF score of patients in the CBT group (69.2, SD = 14.0) was significantly greater than the mean GAF scores of the higher intensity SRI (59.8, SD = 17.8) and lower intensity SRI (56.6, SD = 17.9) groups ($F = 3.6$, $df = 2,101$; $p = .03$). Post hoc t tests showed that patients in the CBT group had a higher mean GAF score than those in the lower treatment intensity group ($t = 2.7$, $df = 101$, $p = .009$), but there were no significant differences between the CBT and higher intensity SRI groups or between the higher intensity SRI and lower intensity SRI groups (data not shown). There were no other significant differences among treatment groups in any other variables in the bivariate analyses, including payment source, length of treatment, and number of comorbid Axis I or II disorders (data not shown). There were no significant differences in GAF scores among patients who received CBT, other psychotherapy, or no psychotherapy ($F = 2.96$, $df = 2,101$; $p = .06$) or between patients who received psychotherapy from a psychiatrist or another mental health professional ($t = 1.1$, $df = 82$, $p = .3$).

DISCUSSION

Our data suggest that, at most, one half (39.4% in the higher intensity SRI group plus 7.5% in the CBT group) of a nationally representative sample of patients with OCD treated by psychiatrists were receiving treatments supported by published treatment research. Confirming prior studies conducted in more specialized settings,[11,20,21] we found that, although a majority of patients were receiving psychotherapy, very few received CBT. This is important because CBT is the only empirically supported psychotherapy for the treatment of OCD. In randomized controlled trials, CBT has been found to be superior to various psychosocial controls,[22,23] active psychotherapies,[24] and clomipramine.[25,26]

The limited use of CBT by psychiatrists may be related to clinician or patient factors. First, it is possible that some psychiatrists are more familiar with medication treatments than with manualized psychotherapies for specific disorders and may prefer the use of pharmacotherapy over CBT techniques in patients with CBT-responsive conditions. Hopefully, the recent inclusion of CBT as a required core competency by the Psychiatry Residency Review Committee[27] will stimulate the use of CBT by the new generation of psychiatrists. Programs that facilitate CBT training for practicing psychiatrists may further expand its use for patients with OCD. A second factor that could have contributed to low reported rates of CBT is that patients may have refused to engage in CBT because the procedures (exposures and response prevention) may have generated an intolerable level of anxiety earlier in the course of treat-

ment.[20] Treatment approaches that can help reduce high levels of anxiety to exposure (such as the use of adjunct medication prior to or in combination with psychotherapy) might increase the tolerability of CBT techniques, facilitating patients' engagement in this treatment modality. Third, it is possible that psychiatrists were encouraging exposures but did not report them when they were not part of a structured protocol. Fourth, a recent report showed that psychiatrists have substantial financial disincentives to provide psychotherapy instead of pharmacotherapy across a broad range of psychiatric conditions.[28] Because CBT for OCD often involves therapeutic exposures to the feared object or situation, CBT may require sessions that are longer than traditional 30- or 45-minute visits. This raises the possibility that concerns about reimbursement may have discouraged psychiatrists from providing CBT. Although the source of payment was not predictive of the treatment received in this study, modification of financial incentives for psychotherapy may increase psychiatrists' willingness to provide CBT.

There were also departures from empirically supported medication management of OCD. Although 65% of the patients were receiving SRIs, only approximately 40% of the patients in the sample were part of the higher intensity SRI group, i.e., were being prescribed an SRI at doses thought to be the most effective for OCD or having their dose titrated. It is possible that some patients may be unable to tolerate high doses of SRIs, derived little benefit in the past from these doses, or simply refused to try them. However, none of the patients on lower SRI doses were receiving CBT to augment their response. It is also possible that some of these patients obtained adequate responses to these low doses, although the lower GAF scores observed in this group make this a less likely explanation. Higher diffusion of published practice guidelines[10] may increase the provision of appropriate treatment for patients with OCD.

In this sample of patients with OCD, psychiatric comorbidity, particularly mood and other anxiety disorders, was common and frequently associated with treatment with benzodiazepines. Prescription of antipsychotics was also relatively common. In one third of cases in which antipsychotics were prescribed, patients were not being prescribed an SRI at doses thought to be the most effective for OCD or having their dose titrated. However, presence of comorbidity did not predict treatment with CBT or SRIs or dose of SRI. Only the GAF score was associated with the type of treatment provided. This may indicate that treatment selection by psychiatrists is associated with the patients' overall level of functioning as indicated by the GAF rather than dependent on the specific clinical characteristics of the patients. Alternatively, higher GAF scores in the CBT group may reflect the clinical superiority of CBT over other treatment approaches. The cross-sectional design of the survey does not allow discrimination between these competing hypotheses.

Our study has several limitations. First, diagnoses are based on the independent judgment of the participating psychiatrists and are not subject to expert validation. However, because the goal of our study was to investigate predictors of treatment modality conditional on clinical diagnoses, practice-based diagnoses are relevant for assessing clinical decision-making. Second, there is no published information on patient treatment preferences and the constraints they impose on selection and provision of evidence-based treatments. Recent work in panic disorder suggests that patient preferences frequently help explain apparent deviations from published treatment standards[29] and may also partly explain the pattern of treatment found in this study. Treatment approaches, such as motivational interviewing, that address patients' ambivalence regarding treatment modality or intensity may encourage patients to engage in CBT or try higher doses of medication when lower doses have failed to achieve a satisfactory response. These approaches may help improve the quality of care in OCD. Third, the only standard measure of illness severity collected by the surveys was the GAF, rather than the more disorder-specific Yale-Brown Obsessive Compulsive Scale.[30,31] Fourth, CBT was broadly defined. The APIRE survey did not specifically probe for exposure and ritual prevention procedures, the CBT techniques best known to be efficacious for OCD. A stricter definition of CBT would likely have resulted in a lower estimate of the proportion of patients receiving evidence-based treatment, although it is also possible that the survey failed to capture some individuals engaged in practicing CBT techniques. Fifth, the relatively small sample size precludes analyses of the psychiatrist characteristics associated with specific prescribing practices. Sixth, although they were randomly selected from the practices of a nationally representative sample of psychiatrists, most patients were white. It is possible that psychiatric care received by ethnic minorities differs in important respects from that received by this predominantly majority patient sample, but we lacked the analytic power to stratify our analyses by ethnicity. Because prior research suggests that improvements in treatment reach minority groups at a later stage and at lower rates than mainstream populations,[32,33] the quality of care received by those patients is likely to be lower than the quality estimated by our study. Finally, the data were collected in 1997 and 1999 and therefore may not capture the extent to which evidence-supported treatments for OCD are provided in contemporary psychiatric practice.

In summary, despite the development of efficacious treatments for OCD, these treatments appear to be underutilized in routine psychiatric practice. The reasons for this underutilization remain unclear. Future research

should investigate patient, clinician, and system factors that lead to this underutilization and should pilot approaches to increase the use of evidence-based treatment. This may include a diversity of approaches such as academic detailing, provision of incentives (e.g., lower insurance costs) to psychiatrists who deliver evidence-based care, and use of motivational enhancement techniques for patients who hesitate to engage in a course of CBT or other evidence-based treatments. Given recent advances in the development of efficacious treatments and the disability associated with this disorder, the treatment of OCD may be an important area for quality improvement.

Drug names: amphetamine (Adderall and Dextroamp), carbamazepine (Carbatrol, Equetro, and others), chlorpromazine (Thorazine, Sonazine, and others), citalopram (Celexa and others), clomipramine (Anafranil and others), clozapine (Clozaril, FazaClo, and others), desipramine (Norpramin and others), fluoxetine (Prozac and others), gabapentin (Neurontin and others), imipramine (Tofranil and others), lamotrigine (Lamictal), lithium (Eskalith, Lithobid, and others), methylphenidate (Ritalin, Concerta, and others), olanzapine (Zyprexa), paroxetine (Paxil, Pexeva, and others), phenelzine (Nardil), quetiapine (Seroquel), risperidone (Risperdal), sertraline (Zoloft), topiramate (Topamax), trazodone (Desyrel and others), valproic acid (Depakene and others), venlafaxine (Effexor).

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