The Brown Longitudinal Obsessive Compulsive Study: Treatments Received and Patient Impressions of Improvement

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Objective: The primary aim of this study was to assess the extent to which individuals with obsessive-compulsive disorder (OCD) received recommended doses of treatment and perceived a response to these treatments.

Method: Participants were 293 adults with primary OCD (DSM-IV) who were enrolled in the Brown Longitudinal Obsessive Compulsive Study, a naturalistic, prospective study of course in OCD. Data were collected at intake interviews between June 2001 and October 2004. Patient impressions of response to treatments received were assessed using the Clinical Global Impressions-Improvement Scale–patient version.

Results: Of the 182 participants taking recommended doses of serotonin reuptake inhibitors (SRIs) at intake, 112 (62%) rated themselves as being very much or much improved. The remaining participants rated themselves as minimally improved, unchanged, or worse while taking recommended doses of SRIs. These participants (N = 70) reported receiving their current SRI for a mean (SD) of 2.7 (3.2) years. Twelve (29%) of the 42 participants receiving neuroleptic augmentation of SRIs reported a response. Thirty-eight percent of the sample received the recommended number of 13 sessions of cognitive-behavioral therapy (CBT) lifetime. Only 24% reported completing a continuous course of 13 weekly sessions. Eighteen (67%) of the 27 participants who received a course of CBT in the past year rated themselves as very much or much improved.

Conclusions: In this large, naturalistic study of OCD, over one third of participants receiving recommended doses of SRIs did not perceive substantial long-term benefit from pharmacotherapy. Relatively few participants received recommended doses of CBT. Clinical implications and future directions are discussed.

(J Clin Psychiatry 2006;67:1713–1720)

Received March 29, 2006; accepted May 24, 2006. From Butler Hospital (Drs. Mancebo, Pinto, Greenberg, and Rasmussen) and Department of Psychiatry and Human Behavior, Brown University Medical School (Drs. Mancebo, Eisen, Pinto, Greenberg, and Rasmussen and Ms. Dyck), Providence, R.I.

Supported by a grant (R01 MH060218) from the National Institute of Mental Health, Bethesda, Md. (Dr. Rasmussen).

In the spirit of full disclosure and in compliance with all ACCME Essential Areas and Policies, the faculty for this CME article were asked to complete a statement regarding all relevant financial relationships between themselves or their spouse/partner and any commercial interest (i. e., any proprietary entity producing health care goods or services consumed by, or used on, patients) occurring within at least 12 months prior to joining this activity. The CME Institute has resolved any conflicts of interest that were identified. The disclosures are as follows: Drs. Mancebo, Eisen, Pinto, Greenberg, and Rasmussen and Ms. Dyck have no significant commercial relationships to disclose relevant to the presentation.

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Significant advances have been made in the treatment of obsessive-compulsive disorder (OCD), a common and frequently debilitating psychiatric disorder. The short-term efficacy of pharmacotherapy and behavioral interventions for OCD is well established.[1,2] The Expert Consensus Guidelines for treatment of OCD[3] recommend a course of cognitive-behavioral therapy (CBT) alone as a first-line intervention for adults with mild OCD symptoms and combined treatment of CBT and serotonin reuptake inhibitors (SRIs) for more severe symptoms. Serotonin reuptake inhibitors alone are recommended as the initial treatment choice for individuals with severe OCD symptoms who are unwilling to participate in or unable to tolerate CBT.

While the short-term efficacy of these treatments for OCD is well documented, very little is known about treatments delivered in clinical settings and how these treatments are perceived over a longer period by patients. The disparity between performance of an intervention under highly controlled experimental circumstances and its performance in general clinical usage has been called "the efficacy-effectiveness gap" by the Institute of Medicine.[4] Several key features of gold-standard randomized controlled trials (RCTs), such as more homogenous patient

samples, expert treatment providers, manualized treatments, and a narrow range of outcome measures, limit generalizability to routine clinical practice.[5,6] However, the extent to which treatments for OCD delivered in routine clinical practice resemble those delivered in RCTs has received little investigation, making the clinical outcome of treatment-seeking individuals unclear.

Three studies have used retrospective designs to ascertain the types of treatment received in clinical settings by patients with OCD.[7–9] Two of these studies[7,8] relied on data from treatment records such as medical charts and number of prescriptions filled and found that individuals received adequate doses of pharmacotherapy. In the only study to use an interview method,[9] one third of 375 individuals presenting at an anxiety specialty clinic in the Netherlands were receiving SRI doses consistent with those recommended by the Expert Consensus Guidelines[3] and 47% had previously received some form of CBT. However, number of CBT sessions was not collected, and thus the findings of this study may be an overestimate of the proportion of treatment-seeking individuals who receive adequate doses of CBT.

In the present study, we examine the use of pharmacologic and cognitive-behavioral treatments recommended by the Expert Consensus Guidelines in a large, representative clinical sample receiving treatment for OCD. We report intake treatment data from patients enrolled in the Brown Longitudinal Obsessive Compulsive Study, a naturalistic follow-up study of the course of OCD. Unlike previous studies, our sample was recruited from diverse clinical settings, and we examined the adequacy of both CBT and SRIs and assessed patient perceptions of the utility of their treatment. The specific objectives were to (1) describe the treatments received for OCD in clinical settings; (2) evaluate patient impressions of treatments received; and (3) estimate the proportion of individuals who received recommended levels of treatment but continue to be symptomatic.

METHOD

Participants

Participants were the first consecutive 293 adults enrolled in the Brown Longitudinal Obsessive Compulsive Study. A detailed description of sample characteristics, recruitment, and study procedures is reported elsewhere.[10] Briefly, adults (aged > 18 years) with primary DSM-IV OCD (defined as the disorder causing the most lifetime problems) who had sought treatment for OCD within the past 5 years were enrolled in a longitudinal 5-year study of the course of OCD. The sample was 96% white; 44% were married and 55% were female. Participants reported a mean (SD) age of 40.5 (12.9) years (range, 19–75). The mean (SD) age at OCD onset was 18.5 (9.9) years, and the mean (SD) age at which the first treatment was received for OCD was 29.9 (11.9) years. At the time of interview, 42% percent of the sample met criteria for another Axis I disorder, and 38% met criteria for an Axis II disorder.

Procedures

Participants were recruited from multiple psychiatric treatment settings. Seventy-one percent of the sample were recruited from consecutive admissions to a hospital-based outpatient OCD clinic, 25% were recruited from other outpatient settings (community mental health centers, general outpatient psychiatric clinics, private practices of 3 experts in CBT for OCD), and the remaining 4% were recruited from inpatient units of a private psychiatric hospital. The Butler Hospital and Brown University institutional review boards approved the study. After providing written informed consent to participate in annual interviews, participants were interviewed in person by trained research assistants. Intake interviews were conducted between June 2001 and October 2004.

Measures

The Structured Clinical Interview for DSM-IV Axis I Disorders–Patient version (SCID-I/P)[11] and the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II)[12] were used to obtain diagnoses. A semistructured, rater-administered questionnaire was used to collect detailed information on demographic and clinical features of OCD as well as treatment history.[13] A modified version of the Psychosocial Treatment Inventory was used to assess CBT treatments received for OCD.[14] Duration of treatments and current dose of SRIs were verified using chart records or consultation with treatment providers, when available.

OCD symptom severity was assessed by the 10-item, rater-administered Yale-Brown Obsessive Compulsive Scale (YBOCS),[15] a widely used outcome measure for OCD. Participants were considered to be remitted from OCD if they no longer met full DSM-IV criteria for OCD. Depressive symptoms were assessed by the Modified Hamilton Rating Scale for Depression (Modified HAM-D).[16,17] The 25-item scoring method was used. The Global Assessment of Functioning (GAF)[18] scale assessed current severity of global symptomatology and impairment in functioning. The GAF is a clinician-rated DSM-IV-TR Axis V 100-point scale, with lower scores reflecting greater morbidity and impairment.

The patient version of the Clinical Global Impressions-Improvement Scale (CGI-I-P)[19,20] was used to assess patient impressions of response to current treatments for OCD. The CGI-I-P was administered twice: impression of response to current medications and impression of response to CBT received lifetime. Participants were asked to indicate the degree that their treatment had improved their OCD symptoms using a 7-point scale ranging from "very much improved" (1) to "very much worse" (7). The

Table 1. Serotonin Reuptake Inhibitor (SRI) Duration and Dosages for Participants Receiving SRIs at Time of Interview (N = 232)

Medication (minimum, average, maximal dose)[a,b]	Duration of Current SRI, Mean (SD), wk	Highest Dose Achieved During Current Trial: Less Than Minimum, N (%)	Minimum, N (%)	Average, N (%)	Maximal, N (%)	Received Recommended Dose,[c] N (%)
Any recommended SRI	203.0 (257.7)	17 (7.3)	74 (31.9)	74 (31.9)	66 (28.4)	182 (78.4)
Fluoxetine (20, 50, 80 mg)	322.4 (303.6)	1 (< 0.1)	18 (7.8)	15 (6.5)	19 (8.2)	48 (20.7)
Sertraline (75, 150, 225 mg)	150.0 (189.2)	5 (2.2)	10 (4.3)	27 (11.6)	8 (3.4)	36 (15.5)
Fluvoxamine (100, 200, 300 mg)	125.3 (183.6)	2 (0.9)	12 (5.2)	19 (8.2)	11 (4.7)	29 (12.5)
Clomipramine (100, 200, 300 mg)	363.4 (371.1)	3 (1.3)	12 (5.2)	12 (5.2)	0 (0.0)	18 (7.8)
Paroxetine (20, 50, 60 mg)	129.0 (122.0)	2 (0.9)	14 (6.0)	0 (0.0)	12 (5.2)	24 (10.3)
Citalopram (20, 40, 60 mg)	50.6 (47.5)	1 (< 0.1)	7 (3.0)	8 (3.4)	10 (4.3)	20 (8.6)
Venlafaxine (150, 225, 300 mg)	138.5 (169.4)	3 (1.3)	1 (< 0.1)	3 (1.3)	6 (2.6)	7 (3.0)

[a]Minimum, average, and maximal SRI dosages were based on Expert Consensus Guidelines for obsessive-compulsive disorder[3] and subsequent published empirical studies of citalopram[23] and venlafaxine.[24–26]
[b]The Ns for individual medications are as follows: any recommended SRI (N = 232), fluoxetine (N = 56), sertraline (N = 51), fluvoxamine (N = 34), clomipramine (N = 29), paroxetine (N = 28), citalopram (N = 28), venlafaxine (N = 13).
[c]Recommended dose was defined as receiving at least the minimum dose for 12 weeks or more.[3]

patient version of the CGI-I is widely used and has been demonstrated to be a sensitive measure of perceptions of improvement during treatment and at long-term follow-up.[21] Patient ratings of improvement during a clinical trial have been shown to be highly correlated with clinician ratings of improvement (r = 0.65–0.80).[22]

Definitions of Recommended Dose of Treatment

SRI trial. On the basis of the Expert Consensus Panel Guidelines for treatment of OCD,[3] we considered a recommended dose of SRIs to be at least 12 weeks on the minimal effective dose of the current SRI. To account for participants who may have been taking maintenance dosages of medications at the time of interview, we used the highest dose received during the patient's current medication trial. The recommended dosage levels for specific SRIs were derived from the Expert Consensus Guidelines as well as more recently published empirical studies of citalopram[23] and venlafaxine.[24–26] We did not include escitalopram (N = 18), a selective SRI, as a recommended medication because its efficacy in OCD has yet to be documented empirically.

CBT trial. On the basis of the OCD Expert Consensus Guidelines recommendation of 13 to 20 weekly sessions of CBT, we considered participants who received at least 13 consecutive sessions at a frequency of at least once per week to have received a recommended course of CBT.

Data Analysis

Statistical analyses were performed using Statistical Analysis System (SAS) for Windows version 8.[27] Descriptive analyses consisted of frequencies, percentages, means, and standard deviations. Almost all of the participants who received a recommended dose of CBT were taking SRIs, and only one fourth of the sample had received any CBT during the previous year. Therefore, we limited comparisons of participants receiving recommended doses of treatment to those receiving SRIs with or without a lifetime course of CBT. Between-group differences were examined using χ^2 for categorical variables and t tests for continuous variables. A 1-way multivariate analysis of variance (MANOVA) was used to examine the effect of no history of CBT, less than the recommended dose of CBT, and recommended doses of CBT on symptom severity measures (YBOCS, Modified HAM-D, and GAF). Post hoc analyses of significant differences among groups were assessed using Tukey's least significant difference test.

RESULTS

Pharmacotherapy Received

At the time of the intake interview, 79% of the sample (N = 232) were receiving SRIs. An additional 6% reported that they were not taking an SRI but were taking other psychotropic medications (i.e., neuroleptics, benzodiazepines, monoamine oxidase inhibitors). Number of weeks on the current SRI ranged from 1 to 1352 weeks, with a median of 78 weeks.

The number of participants receiving specific SRIs and highest dose achieved during the current medication trial are listed in Table 1. On the basis of the OCD Expert Consensus Guidelines definition, 78% of participants on SRIs (N = 182) at intake were taking a recommended dose for at least 12 weeks. Of these 182 participants receiving recommended doses of SRIs at intake, 41% were also receiving augmentation with 1 of the following for at least 4 weeks: benzodiazepine (25%), neuroleptic (23%), or buspirone (5%). One third of the 42 participants receiving a concurrent neuroleptic had a history of a tic disorder, and 1 also met DSM-IV criteria for schizotypal personality disorder. Individuals recruited from a hospital-based outpatient OCD clinic were just as likely to be receiving adequate doses of SRIs as individuals recruited from

Table 2. Treatments Received for Obsessive-Compulsive Disorder and Symptom Severity at Time of Interview (N = 293)

Status	Never Received CBT (N = 132)	Received CBT, Less Than Recommended Dose[a] (N = 90)	Received CBT, Recommended Dose[a] (N = 71)
Not on SRI at intake (N = 61)	(N = 31)	(N = 14)	(N = 16)
YBOCS total score, mean (SD)	22.9 (7.1)	19.1 (8.7)	23.1 (9.1)
Modified HAM-D, mean (SD)	8.7 (7.2)	12.4 (10.6)	13.2 (9.8)
GAF, mean (SD)	49.8 (10.0)	52.5 (13.3)	46.3 (11.8)
In remission,[b] N (%)	3 (9.7)	3 (21.4)	2 (12.5)
On SRI, less than recommended dose[c] (N = 50)	(N = 28)	(N = 14)	(N = 8)
YBOCS total score, mean (SD)	23.9 (7.7)	22.5 (7.9)	21.4 (8.3)
Modified HAM-D, mean (SD)	15.1 (10.2)	14.6 (10.2)	12.0 (6.0)
GAF, mean (SD)	45.9 (12.6)	49.3 (8.9)	47.4 (14.0)
In remission,[b] N (%)	1 (3.6)	1 (7.1)	1 (12.5)
On SRI, recommended dose[c] (N = 182)	(N = 73)	(N = 62)	(N = 47)
YBOCS total score, mean (SD)	20.7 (8.6)	18.0 (8.2)	17.1 (8.2)
Modified HAM-D, mean (SD)[d]	11.1 (10.0)	8.1 (8.2)	7.5 (5.8)
GAF, mean (SD)	52.8 (12.8)	56.4 (10.6)	54.9 (11.1)
In remission,[b] N (%)	12 (16.4)	20 (32.3)	12 (25.5)

[a]Recommended dose of CBT was defined as a continuous course of at least 13 weekly sessions lifetime. Ninety participants received less than the recommended dose and frequency of CBT sessions: 40 participants received a total of 13 sessions but at a scheduled frequency of bimonthly/monthly sessions and 50 participants received less than 13 sessions lifetime. There were no significant differences in symptom-severity measures between these 2 groups.
[b]In remission was defined as no longer meeting DSM-IV criteria for obsessive-compulsive disorder.
[c]Recommended dose of SRI treatment was defined as receiving the minimum recommended dose of current SRI for at least 12 weeks.
[d]Participants on recommended doses of SRIs who had never received CBT had more severe depressive symptoms than those who had received CBT (regardless of CBT dose), F = 3.22, df = 2,179; p = .04.
Abbreviations: CBT = cognitive-behavioral therapy, GAF = Global Assessment of Functioning, Modified HAM-D = Modified Hamilton Rating Scale for Depression, SRI = serotonin reuptake inhibitor, YBOCS = Yale-Brown Obsessive Compulsive Scale.

other sites (79% vs. 78%, respectively; $\chi^2 = 0.01$, df = 1, p = .917).

With respect to medication history, 8% of the sample reported they had never received an SRI and 31% reported only 1 lifetime SRI. More than one third of participants reported receiving at least 2 other SRI trials prior to intake.

Cognitive-Behavioral Therapy Received

While only 28% of the sample reported receiving CBT at some point during the previous year, 55% (N = 161) had received at least 1 session of CBT at some point in their lives. All but 4 of these participants reported they received psychotropic medications while participating in CBT. Thirty-eight percent of the sample (N = 111) received a total of at least 13 sessions of CBT lifetime. The mean (SD) number of sessions was 37.0 (45.0). However, when we examined frequency of sessions during the longest continuous course of CBT, only 24% (N = 71) of our sample received a recommended trial of CBT: weekly sessions for at least 13 weeks (N = 62) or intensive sessions (at least 3 times per week) for at least 4 weeks (N = 17). Fourteen of the 17 participants who reported intensive sessions received this treatment while in a residential OCD program, and 3 reported receiving intensive CBT on an outpatient basis. Participants recruited from the OCD clinic were as likely to have received a recommended course of CBT (at least 13 continuous weekly sessions) as participants recruited from other sites (27% vs. 17%, respectively; $\chi^2 = 3.42$, df = 1, p = .064).

Of the 161 participants who received CBT, 43% continued receiving CBT and SRIs at intake, 40% were receiving SRIs only, 8% were receiving CBT only, and 9% were not receiving any treatment for OCD at the time of interview.

Current Symptom Severity

Table 2 describes current symptom severity among participants who received SRI and/or CBT treatments for OCD. Among the 182 participants receiving recommended doses of SRI at intake, those who had never received CBT had more severe depressive symptoms than those who had received CBT (regardless of CBT dose), F = 3.22, df = 2,179; p = .04. Mean YBOCS scores for all groups were in the "moderate" severity range, and participants who had never received CBT differed from those who received a recommended CBT dose at a trend level (p = .054). There were no significant differences among the 3 groups on GAF scores.

Patient Global Impressions of Treatments

Sixty-two percent of the 182 participants on recommended doses of SRIs at intake rated themselves as responders ("much improved" or "very much improved") to their current SRI. The remaining participants rated themselves as minimally improved, unchanged, or worse while taking recommended doses of SRIs. These participants (N = 70) reported receiving their current SRI for a mean (SD) of 2.7 (3.2) years. The proportions of SRI responders who reached minimum, average, or maximal recommended dosages during their current trial were similar (67% vs.

60% and 54%, respectively, $\chi^2 = 2.20$, df = 2, p = .33). Of the SRI nonresponders who reported at least 1 other SRI trial (N = 54), only 15% reported being "very much" or "much improved" on a previous SRI.

Eighteen (67%) of the 27 participants who received a course of CBT in the past year rated themselves as very much or much improved. Data regarding lifetime CBT response were available for 129 (80%) of the 161 CBT participants because this item was added after the start of data collection. Participants who received a recommended course of 13 weekly sessions were more likely to rate themselves as responders than those who received less than this recommended dose (68% vs. 47%, $\chi^2 = 5.97$, df = 1, p = .015). Among the 66 participants who received less than the recommended dose of CBT (and for whom data were available), 31 (47%) rated themselves as responders: 22 (33%) received at least 13 sessions lifetime and 9 (14%) received fewer sessions. Seventy-nine percent of those who received intensive or residential CBT rated themselves as responders.

Data regarding response to CBT and SRI were available for 106 participants who were currently on an SRI and had received CBT. Of these participants, 46% rated themselves as responders to both treatments, 23% denied a response to either treatment, 18% attributed a response to the SRI only, and 13% attributed a response to CBT only.

Among participants receiving adequate doses of each treatment, total YBOCS scores were significantly correlated with CGI-I-P ratings for SRIs (Kendall $\tau = 0.488$, $p < .001$) as well as CBT (Kendall $\tau = 0.321$, $p < .001$). Participants rating themselves as SRI responders had significantly lower YBOCS scores than SRI nonresponders (mean YBOCS = 15.21 vs. 24.75, respectively; t = –9.15, df = 171.34, p < .001). Similarly, participants rating themselves as CBT responders were less symptomatic than those who rated themselves as nonresponders to CBT (mean YBOCS = 15.84 vs. 23.60, respectively; t = –3.48, df = 61.34, p = .001).

Lastly, we examined impressions of improvement of the participants receiving recommended doses of an SRI and an augmenting medication. Of the 42 participants receiving SRIs and a neuroleptic augmentation, only 12 (29%) attributed a response to the neuroleptic (i.e., OCD symptoms were very much or much improved). Twenty-five percent of these responders had a history of tic disorders and none were diagnosed with schizotypal personality disorder. Similarly, only 21% of the 70 participants currently receiving a benzodiazepine and none of the 9 participants on buspirone rated themselves as responders to the augmentation.

DISCUSSION

This study involved an analysis of treatments received by 293 adults who presented for treatment of OCD as their primary clinical problem. This is the first observational study that recruited patients from naturalistic clinical settings and examined patient impressions of long-term treatments for OCD. Ninety-two percent of the sample reported at least one SRI trial lifetime, and 79% were receiving SRIs at the time of interview. More than three quarters of the participants on SRIs were receiving doses recommended by the Expert Consensus Panel guidelines. More than half of those receiving an SRI at intake had been on the same SRI for at least 18 months, suggesting that individuals with OCD who enter clinical treatment are prescribed and utilize efficacious pharmacotherapeutic interventions. This finding is in contrast to longitudinal studies of depression and other anxiety disorders where patients have been found to be undertreated.[28–30]

Our study is the first to examine the number and frequency of CBT sessions received by patients receiving treatment for OCD in naturalistic, clinical settings. In contrast to the high utilization of SRIs, only 55% of the sample reported receiving CBT at any point during their lifetime. Among the participants who chose to enter CBT, two thirds received at least 13 sessions overall, less than half received a course of at least 13 weekly sessions of CBT, and only a handful of participants reported receiving intensive sessions. These findings suggest that CBT is underutilized by the majority of treatment-seeking patients with OCD and that many patients who enter CBT receive suboptimal doses. Intensive exposure and ritual prevention (E/RP) is considered to be the most efficacious form of CBT for OCD.[31] Results of a recent multicenter placebo-controlled study found that intensive E/RP (with or without clomipramine) was superior to clomipramine alone.[32] While 1 study[33] has demonstrated no difference in 3-month response rates among individuals receiving twice-weekly sessions versus intensive sessions (70% responders), no study has directly compared weekly (or less frequent) sessions of CBT with intensive sessions.

It is unclear why CBT was so underutilized by patients in this study, despite having a number of behavioral therapists who specialize in OCD in the area where this study was completed. Previous research suggests that treatment-seeking individuals with anxiety disorders perceived CBT as more acceptable and more likely to be effective in the long-term than medications.[34] However, clinical reports indicate that 25% to 30% of patients refuse to enter E/RP, and an additional 10% to 30% drop out of treatment before completion.[35–37] Practical limitations, such as a lack of trained behavioral therapists who can provide E/RP or the difficulties involved with implementation of intensive sessions in routine outpatient practices, have also been cited as barriers to accessing treatment.[35,38] Additional studies are necessary to understand the reasons why treatment-seeking patients with OCD are not receiving optimal CBT treatments and how to best disseminate these treatments.

A key finding of this naturalistic study is that the majority of participants continue to report clinically significant symptoms despite receiving recommended doses of SRIs with or without CBT. For those participants at intake who had received a minimum of at least 3 months of recommended doses of treatment before entering the study, only 24% had improved to a point of no longer meeting DSM-IV criteria for OCD. These results are consistent with posttreatment remission rates of participants who complete RCTs of pharmacotherapy and CBT[1] but not with the 40% to 50% remission rates of long-term (11 to 40 years) naturalistic studies of OCD clinical samples[39,40] or anxiety disorder samples.[41]

Patient perceptions of global improvement are highly correlated with treatment adherence and often used as outcome measures in short-term controlled trials.[42,43] Recently, researchers have urged that patient impressions of treatment be integrated into clinical trials to validate treatments for schizophrenia.[44] Our finding that 62% of participants on recommended doses of SRIs rated themselves as responders to their current SRI is comparable to posttreatment response rates of participants who complete placebo-controlled double-blind SRI trials.[1,2] However, it is particularly intriguing that 40% of participants on recommended doses of SRIs continued taking these medications (for a mean of 2.7 years) despite their report of only minimal or no improvement in symptoms. This finding is particularly significant in light of the long-term adverse effects of weight gain and sexual dysfunction associated with the SRIs.[45] It is important to verify and attempt to understand this clinically significant finding with prospective study designs to clarify long-term outcome and consequences of psychotropic treatments in OCD.

Our finding that response rates were similar among participants who reached minimum, average, or maximal recommended dosages during their current trial is comparable to the numerical progression of the fixed dose-response relationship in most RCTs[23,46,47] (with the exception of paroxetine 20 mg[48]) but counter to the common clinical belief that higher doses are needed in OCD.[49] Identifying characteristics of individuals who respond to low doses of SRIs is an important area for future research.

The fact that nearly all participants in our study who received CBT were on psychotropic medications at some point during CBT limits conclusions regarding the effectiveness of CBT to those who also take SRIs. Although RCTs have documented that CBT without medications is effective in improving OCD symptoms, the present data suggest that only a minority of patients are unmedicated when receiving CBT. Our findings are consistent with other naturalistic follow-up studies of patients with OCD[40,50] but not with follow-up studies of patients who receive CBT alone in RCTs.[51,52] The majority of participants were recruited from a hospital-based outpatient OCD clinic, the largest OCD treatment center in the area. While this may be a limitation of our study, it is notable that we found similar proportions of participants on adequate doses of SRIs and CBT in those recruited from the OCD clinic compared to those recruited from other sites. Future research sampling consecutive admissions to other community treatment settings (especially those focusing on CBT) is needed to clarify the extent to which individuals receiving treatment outside of RCTs remain on monotherapies throughout the long-term course of treatment. Clinical experience suggests that individuals who present with a treatment preference may initially receive monotherapies but decide to add either SRIs or CBT if they experience a partial response or relapse. We are currently collecting prospective data that will clarify this important clinical question.

More than one fourth of patients receiving neuroleptics described either minimal or no improvement in OCD symptoms. Systematic data regarding efficacy of neuroleptic augmentation have yielded inconsistent results.[53] Most empirical data for efficacy of neuroleptic augmentation of SRIs in patients with treatment-resistant OCD are limited by open-label designs, small sample sizes, and lack of long-term follow-up of treatment outcome. Clearly, long-term prospective data are required to more fully answer the clinically important question regarding the benefit of neuroleptic augmentation for this disorder.

Observational longitudinal studies provide an important complement to randomized treatment trials in examining the generalizability and effectiveness of treatments in the community. One of the major strengths of our study is the large and well-defined cohort of patients with OCD that represents a typical treatment-seeking group of patients for whom OCD is the primary clinical reason for coming to treatment.

Although a prospective assessment of patient impressions of treatment and changes in symptoms is the ideal, this article is a beginning effort to understand the impact of current treatments for OCD outside controlled trials. We are currently collecting prospective data that will build on this initial analysis. Another study limitation is that response rates were based on patients' report of treatments received. We took great care to verify prescribed medication dosages with medical records and to use a standard definition of CBT when asking participants about the type of psychotherapy received for OCD. However, there was no documentation of either actual medications received (such as pharmacy reports or pill counts) or actual E/RP received (such as reports from CBT therapists). Despite strikingly low rates of self-reported CBT utilization, it is likely that the number of sessions reported is an underestimate of the amount of actual E/RP received by participants in our sample. Future work investigating the specific techniques (e.g., E/RP, cognitive restructuring, supportive therapy) reported by participants and their clinicians is needed.

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In conclusion, this study documents the need for a better understanding of how evidence-based treatments for OCD are used in clinical settings, as well as the long-term-durability of effects. Further studies of treatment effectiveness using controlled treatments in naturalistic settings are needed in order to understand whether E/RP delivered by nonexpert therapists show similar effects to those of clinical trials. Studies seeking to identify the optimal way to deliver combined treatments, disseminate evidence-based treatments, and develop novel treatments for the substantial number of individuals with OCD who do not currently benefit from treatment would have considerable effect on the overall prognosis of the disorder.

Drug names: buspirone (BuSpar and others), citalopram (Celexa and others), clomipramine (Anafranil and others), fluoxetine (Prozac and others), paroxetine (Paxil, Pexeva, and others), sertraline (Zoloft and others), venlafaxine (Effexor and others).

Disclosure of off-label usage: The authors have determined that, to the best of their knowledge, buspirone, citalopram, and venlafaxine are not approved by the U.S. Food and Drug Administration for the treatment of obsessive-compulsive disorder.

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