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Exposure and Response Prevention Helps Adults With Obsessive-Compulsive Disorder Who Do Not Respond to Pharmacological Augmentation Strategies

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ABSTRACT

Objective: Serotonin reuptake inhibitors (SRIs) are a first-line treatment for obsessive-compulsive disorder (OCD). Yet, most patients with OCD who are taking SRIs do not show excellent response. Recent studies show that augmenting SRIs with risperidone benefits a minority of patients. We evaluated the effectiveness of exposure and response prevention (EX/RP) among nonresponders to SRI augmentation with 8 weeks of risperidone or placebo.

Method: The study was conducted from January 2007 to August 2012. Nonresponders to SRI augmentation with risperidone or pill placebo (N = 32) in a randomized controlled trial for adults meeting *DSM-IV-TR* criteria for OCD were offered up to 17 twice-weekly EX/RP sessions. Independent evaluators, blind to treatment, evaluated patients at crossover baseline (week 8), midway through crossover treatment (week 12), post-EX/RP treatment (week 16), and follow-up (weeks 20, 24, 28, and 32). The primary outcome was OCD severity, measured with the Yale-Brown Obsessive Compulsive Scale (Y-BOCS). Secondary outcomes were depression, quality of life, insight, and social functioning.

Results: Between crossover baseline and follow-up, nonresponders to SRI augmentation with risperidone or placebo who received EX/RP showed significant reductions in OCD symptoms and depression, as well as significant increases in insight, quality of life, and social functioning (all $P < .001$).

Conclusions: Exposure and response prevention is an effective treatment for patients who have failed to respond to SRI augmentation with risperidone or placebo. This study adds to the body of evidence supporting the use of EX/RP with patients who continue to report clinically significant OCD symptoms after multiple pharmacologic trials.

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Obsessive-compulsive disorder (OCD) is a chronic condition that affects 2%–3% of the US population[1] and is associated with marked functional impairment and quality of life deficits.[2] Serotonin reuptake inhibitors (SRIs) are a first-line treatment for OCD,[3–5] but most patients with OCD taking SRIs fail to achieve excellent response and continue to have clinically significant symptoms.[6–8] A meta-analysis of multicenter randomized controlled trials (RCTs) indicated that although SRIs were superior to placebo, improvement was generally modest[9] and few OCD patients (≤ 25%) reach excellent response status from an SRI trial alone.[10,11]

For OCD patients who do not achieve minimal symptom status despite an adequate SRI trial, adding an antipsychotic medication such as risperidone is an SRI augmentation strategy with demonstrated efficacy.[12–15] However, meta-analyses show that only one-third of OCD patients respond to SRI augmentation with risperidone.[12,16] For example, a recent RCT found that 72% of OCD patients on SRI therapy did not respond to SRI augmentation.[17] Contrary to expectation, this study found that adding risperidone to SRIs was not significantly better than placebo on any outcome measure. This finding is important because risperidone is recommended as the medication of first choice to augment SRI response,[12,16] and antipsychotics are increasingly prescribed to OCD patients.[18]

Because a large proportion of patients with OCD do not respond to SRI augmentation with risperidone, clinicians are in need of guidance regarding how to best help these patients. One option is to offer exposure and response prevention (EX/RP), which is a type of cognitive-behavioral therapy. Exposure and response prevention is an effective treatment for OCD[19–21] that focuses on helping patients to disconfirm their obsessive fears via exposure to feared stimuli while resisting compulsions. Exposure and response prevention has also been found effective as an SRI augmentation strategy in several open and controlled studies.[17,22–24] Thus, it stands to reason that EX/RP will also be helpful for OCD patients who have not responded to SRI augmentation with risperidone.

To test this hypothesis, the current study examined the efficacy of EX/RP in an open trial with patients who did not respond to SRI augmentation with either risperidone or placebo in the context of an RCT.[16] No previous research, to our knowledge, has tested EX/RP in OCD patients who have received SRI augmentation with another pharmacologic intervention and yet continue to have clinically meaningful symptoms.

METHOD

Participants completed an RCT evaluating the relative efficacy of SRI augmentation with EX/RP, risperidone, or pill placebo (see

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Clinical Points

- Risperidone is a commonly prescribed serotonin reuptake inhibitor (SRI) augmentation strategy for obsessive-compulsive disorder (OCD); however, many patients with OCD remain symptomatic following pharmacologic interventions.
- Exposure and response prevention (EX/RP) is recommended for OCD patients who do not respond adequately to SRI augmentation with risperidone.

Simpson et al[17] for details). This study was conducted at outpatient clinics in Philadelphia, Pennsylvania, and New York, New York. Participants were recruited by clinical referral and advertisements, and data were collected from January 2007 to August 2012. The institutional review boards from both study sites approved the study; all participants provided written informed consent.

Participants

Eligible participants (1) were 18–70 years of age, (2) had a principal diagnosis of OCD (≥ 1 year) based on *DSM-IV* criteria, (3) had received an SRI at a therapeutic dose for at least 12 weeks yet remained moderately symptomatic (Yale-Brown Obsessive Compulsive Scale [Y-BOCS] score ≥ 16), and (4) were randomized to 8 weeks of SRI augmentation with risperidone or pill placebo and were classified as nonresponders (defined as ≤ 25% improvement in symptoms). Nonresponders were given the option to crossover from their randomized treatment condition and receive either EX/RP (for those randomized to risperidone or pill placebo) or risperidone (for those randomized to pill placebo). Thirty-seven participants did not respond to acute treatment with risperidone or pill placebo and were eligible to crossover. Thirty-two participants completed acute treatment with risperidone; of these, 23 (72%) did not respond to risperidone and 20 elected to crossover to EX/RP. Seventeen participants completed acute treatment with pill placebo; of these, 14 (82%) participants did not respond and 12 elected to crossover to EX/RP; none elected to crossover to risperidone. Of the 37 participants who completed acute treatment with EX/RP, 4 (11%) did not respond and 1 of these participants elected to crossover to risperidone. Thus, only participants who had failed to respond to SRI augmentation with risperidone or pill placebo who elected to crossover to EX/RP were included in the current sample (N = 32).

Treatment

Participants received up to 17 twice-weekly 90-minute sessions delivered over 8 weeks by study therapists (PhD or PsyD) who received training and supervision in EX/RP. Exposure and response prevention treatment included 2 introductory sessions, 15 exposure sessions, daily homework, and between-session telephone check-ins. At least 2 sessions occurred outside of the clinic to facilitate generalization to daily life. The exact number of sessions provided was determined collaboratively by therapists and participants based on clinical improvement. Participants who received 10 or more 90-minute sessions were designated treatment completers. Serotonin reuptake inhibitor medication was continued throughout the trial, and any medication changes (n = 6) were monitored. A small minority of participants (n = 3) were offered additional EX/RP sessions during the follow-up period, and the number and length of additional sessions were recorded.

Assessment

Independent evaluators, blind to treatment, evaluated patients at crossover baseline (week 8), midway through crossover treatment (week 12), and posttreatment (week 16). Follow-up assessments were completed at weeks 20, 24, 28, and 32. Independent evaluators administered the Y-BOCS[25,26] to assess OCD severity, the 17-item Hamilton Depression Rating Scale (HDRS)[27] to assess depression severity, and the Brown Assessment of Beliefs Scale (BABS)[28] to assess degree of insight regarding the patient's main OCD belief. Additionally, participants completed the Quality of Life Enjoyment and Satisfaction Questionnaire–Short Form (Q-LES-Q-SF)[29] and the Social Adjustment Scale–Self-Report (SAS-SR).[30]

Data Analytic Strategy

Data were analyzed using last-observation-carried-forward, intent-to-treat analyses. The Y-BOCS total score was the primary outcome of interest. Y-BOCS, HDRS, Q-LES-Q-SF, SAS-SR, and BABS total score results were analyzed using a repeated-measures multivariate analysis of variance (ANOVA) with measures of effect size (partial η^2) and with time as the repeated measure. Partial η^2 indicates the percent of variance in the dependent variable (eg, Y-BOCS) attributable to the independent variable (ie, time) and is reported for within-groups effect sizes ($\eta^2 = 0.01$ small, 0.06 medium, and 0.14 large).[31] Significant ANOVAs were followed up using within-subjects *t* tests that compared week 0 (RCT baseline) and week 8 (crossover baseline), week 8 (crossover baseline) and week 16 (posttreatment), and week 16 (posttreatment) and week 32 (follow-up). Cohen *d* for paired samples *t* tests was calculated to estimate the effect size of significant differences ($d = 0.25$ small, 0.50 medium, and 0.80 large).[31]

All tests were 2-tailed and *P* values were set to .05. Patients were classified as responders to EX/RP if they exhibited greater than 25% reduction in Y-BOCS scores[10] and as excellent responders if they achieved a posttreatment Y-BOCS score less than or equal to 12.[32] Data analyses were conducted using SPSS for Windows, version 20 (IBM).

RESULTS

Table 1 presents participant demographic information. Baseline demographics did not differ between study sites. Participants received a mean of 14 (SD = 4.12) EX/RP sessions between week 8 and 16 (range, 3–17). Twenty-five participants (78%) were treatment completers (ie, completed at least ten 90-minute sessions). Three participants received

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Table 1. Baseline Participant Characteristics (N = 32)[a]

Characteristic	n	%
Female	16	50.0
Ethnicity		
Caucasian	29	90.62
Asian	1	3.13
Latino	2	6.25
Single	25	78.1
Married	7	21.9
Employment		
Full-time	15	46.9
Part-time	7	21.9
Student	5	15.6
Unemployed	5	15.6
	Mean	SD
Age, y	31.41	8.89
Number of past SRI trials	2.63	1.38

[a]Six participants received medication changes during the study as follows: (1) added bupropion at week 16; (2) SRI plus clonazepam was changed to venlafaxine, clonazepam, and bupropion at week 16; (3) added clonazepam at week 12; (4) added clonazepam at week 8; (5) SRI changed to fluoxetine at week 24; (6) added propranolol and buspirone at week 6, then taken off all medications including SRI at week 12.
Abbreviation: SRI = serotonin reuptake inhibitor.

additional 90-minute EX/RP sessions during the follow-up period (4, 5, and 15 sessions, respectively), and 2 of these participants subsequently completed 45-minute maintenance sessions (3 and 5 sessions, respectively). Six participants (19%) received changes in their medication during the course of the study, as shown in Table 1. Excluding participants who received medication changes did not affect the findings on any of the primary or secondary outcomes; therefore, they were retained in the final analyses. Excluding participants who received additional sessions during follow-up (n = 3) resulted in minor changes to the results, as indicated below.

Primary Outcome

Table 2 shows mean values for each assessment at each time point. There was no significant improvement in Y-BOCS scores during the RCT phase, during which participants received risperidone or placebo ($t_{31} = -0.19$, $P = .85$). From crossover baseline to week 32 follow-up, there was a significant improvement in Y-BOCS scores over time ($F_{6,186} = 33.95$, $P < .001$, mean squared error [Mse] = 15.09). These changes correspond to a large effect size ($\eta^2 = 0.52$). Follow-up t tests indicated significant Y-BOCS change between pretreatment and posttreatment ($t_{31} = 8.70$; $P < .001$, $d = 1.37$) and additional significant change between posttreatment and week 32 ($t_{31} = 3.11$; $P < .01$, $d = 0.54$).

At posttreatment, 18 participants (56.2%) were classified as responders (ie, Y-BOCS decrease of ≥ 25%) and 5 participants (15.6%) met criteria for excellent response (ie, Y-BOCS ≤ 12). At week 32, 17 participants (53.1%) were classified as responders and 11 (34.4%) achieved excellent response. Among the 6 participants who received medication changes during the follow-up period, 1 moved from responder to excellent-responder status. Among the 3 participants who received additional treatment during the follow-up period, 2 moved from responder to excellent-responder status.

Secondary Outcomes

There was no significant improvement on any of the secondary outcome measures during the RCT phase during which participants received risperidone or pill placebo (HDRS, $P = .62$; BABS, $P = .62$; SAS-SR, $P = .82$; Q-LES-Q, $P = .07$). From crossover baseline (week 8) to week 32 follow-up, there was a significant improvement in BABS scores ($F_{6,186} = 5.46$, $P < .001$, Mse = 5.50), HDRS scores ($F_{6,186} = 5.21$, $P < .001$, Mse = 10.22), Q-LES-Q scores ($F_{6,186} = 5.20$, $P < .001$, Mse = 70.85), and SAS-SR scores ($F_{6,186} = 9.19$, $P < .001$, Mse = 0.04). Follow-up t tests indicated significant change between pretreatment and posttreatment on the HDRS ($t_{31} = 2.46$; $P < .05$, $d = 0.43$). All other secondary outcomes showed nonsignificant change between pretreatment and posttreatment (BABS, $P = .10$; SAS-SR, $P = .10$; Q-LES-Q, $P = .09$). Improvement between posttreatment (week 16) and follow-up (week 32) was statistically significant for BABS scores ($t_{31} = 2.22$; $P < .05$, $d = 0.39$) and SAS-SR scores ($t_{31} = 3.35$; $P < .01$, $d = 0.59$) and reached the trend level for Q-LES-Q scores ($t_{31} = -2.04$; $P = .05$).

When participants who received additional EX/RP during follow-up were excluded, BABS scores reached the trend level for significant change pretreatment-to-posttreatment ($t_{28} = 2.01$; $P = .05$), and change in BABS between posttreatment (week 16) and follow-up (week 32) was no longer significant ($t_{28} = 1.59$; $P = .12$).

DISCUSSION

The current study examined the efficacy of EX/RP in an open trial with patients who were nonresponders to SRI augmentation with risperidone or placebo. Although previous research has found EX/RP to be effective as a treatment for OCD[21] and as an SRI augmentation strategy for OCD,[17,33] this is the first study to show that EX/RP is effective for OCD patients who continued to report clinically significant OCD symptoms following both SRI treatment and SRI augmentation with either risperidone or placebo.

Participants in this study were OCD patients on a therapeutic dose of an SRI who did not improve following 8 weeks of the addition of risperidone or placebo. After an average of 14 EX/RP sessions, 56% of the sample were classified as treatment responders (≥ 25% reduction on the Y-BOCS), and 16% were classified as excellent responders (Y-BOCS ≤ 12). While this treatment effect is less robust than the effect observed in some other RCTs of EX/RP as a monotherapy or an SRI augmentation,[17,20] including the acute RCT phase of this study (80% achieved response, 43% achieved excellent response),[17] the current study comprised participants who had failed to respond to another intervention (ie, either risperidone or placebo) and can therefore be considered more treatment resistant than participants in most other studies. Moreover, our results are consistent with open trials of EX/RP among treatment-resistant OCD patients.[24,34] For example, in OCD patients who were self-reported nonresponders to multiple SRIs,

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Table 2. Outcome Measures for All Assessment Points

Measure	Week 0 Baseline, Mean (SD)	Week 8 Crossover Baseline, Mean (SD)	Week 12 Midtreatment, Mean (SD)	Week 16 Posttreatment, Mean (SD)	1-Mo Follow-Up, Mean (SD)	2-Mo Follow-Up, Mean (SD)	3-Mo Follow-Up, Mean (SD)	4-Mo Follow-Up, Mean (SD)	Statistic[a]	
									F	η^2
Y-BOCS	25.84 (3.83)	25.94 (4.10)	22.28 (5.32)	18.38 (5.86)	16.75 (7.73)	15.94 (8.19)	15.60 (8.53)	15.60 (8.94)	33.95*	0.52
BABS	5.72 (3.82)	5.38 (3.80)	5.03 (4.06)	4.13 (3.80)	3.47 (3.55)	3.10 (2.90)	3.41 (3.45)	2.88 (2.97)	5.46*	0.15
HDRS	8.75 (5.35)	9.06 (6.16)	6.44 (5.10)	5.88 (5.01)	6.00 (5.65)	5.60 (5.36)	5.88 (5.21)	5.13 (5.13)	5.21*	0.14
Q-LES-Q-SF	54.16 (13.52)	57.94 (13.97)	59.53 (16.99)	63.50 (16.14)	64.72 (16.11)	66.25 (17.40)	65.34 (18.11)	66.66 (14.88)	5.20*	0.14
SAS-SR	2.24 (0.42)	2.22 (0.39)	2.19 (0.42)	2.10 (0.44)	1.97 (0.44)	1.96 (0.46)	1.99 (0.47)	1.98 (0.47)	9.20*	0.23

[a] *F* and η^2 values based on change over time from week 8 to week 32.
*$P < .001$.
Abbreviations: BABS = Brown Assessment of Beliefs Scale, HDRS = Hamilton Depression Rating Scale, Q-LES-Q-SF = Quality of Life Enjoyment and Satisfaction Questionnaire–Short Form, SAS-SR = Social Adjustment Scale–Self-Report, Y-BOCS = Yale-Brown Obsessive Compulsive Scale.

26.3% achieved clinically significant response (defined as a Y-BOCS ≤ 14.4) after fifteen 90-minute sessions of EX/RP.[24] In addition to improvement in OCD symptoms, participants in the present study showed significant decreases in depression following 8 weeks of EX/RP. The current findings are especially promising given that the majority of the sample comprised patients that were particularly treatment-resistant in that they had clinically significant symptoms following an adequate trial of an SRI and they did not respond to the addition of an antipsychotic (in this case, risperidone), a common SRI augmentation strategy.

Not only was EX/RP effective in reducing OCD symptoms and associated impairment during treatment, but participants either maintained gains or showed some improvement during the follow-up period. Between posttreatment and follow-up, participants made additional small but significant gains in OCD symptoms and social functioning. The result was that by the end of follow-up, there was a doubling in the number of participants (from n = 5 [16%] to n = 11 [34%]) who were classified as excellent responders. Excellent response status is important, because at symptom levels below this threshold, patients are most likely to achieve long-term symptom remission, good quality of life, and a high level of adaptive functioning.[32]

Although some continued recovery during follow-up has been observed in previous trials, the amount of change observed in this study during follow-up was particularly high (eg, change in excellent response status from 43% to 50% in a similar time frame was found by Simpson and colleagues[17]). This additional improvement may be understood by examining the 6 participants who shifted to excellent response status during the follow-up period. Of these, 2 received additional 90-minute EX/RP sessions, 1 was prescribed the addition of bupropion at posttreatment, and 3 were very close to achieving excellent response status prior to posttreatment (ie, Y-BOCS of 14, 13, and 13). Thus, the doubling in excellent response status over follow-up in the current study may have been driven by additional interventions.

Exposure and response prevention showed a high degree of acceptability in this sample. Despite having received 2 pharmacologic interventions (SRI plus risperidone or SRI plus pill placebo) and continuing to show clinically significant symptoms, 86% of those eligible to crossover to EX/RP elected to do so. In addition, while the crossover EX/RP completion rate (78%) was lower than that observed in the acute RCT (93%), this retention rate is comparable to average dropout in most RCTs of cognitive-behavioral therapy for anxiety disorders. Despite efficacy and acceptability, it is unfortunate that EX/RP, like many evidence-based psychotherapies for anxiety disorders, is not widely available to those who could benefit from this treatment.[35]

Several limitations should be mentioned. First and foremost is the open trial design of the study, which precludes firm conclusions about the effects of EX/RP; a controlled augmentation study would provide stronger evidence of the efficacy of EX/RP with this population. At the same time, the lack of change on any study outcomes during the acute RCT phase is consistent with the inference that outcomes during the crossover phase are attributable to EX/RP and not to the passage of time or to other nonspecific factors (eg, contact with study staff). Second, the study was naturalistic in that there were some medication changes (n = 6) during treatment and there was variability in the number of EX/RP sessions that participants received. Randomized controlled trials with larger samples are required to more systematically evaluate the short- and long-term impact of EX/RP with treatment-resistant patients and to identify patient characteristics that may predict poorer response to behavioral treatment. Finally, the present sample was predominantly white (90.6%). Replication in more diverse samples is necessary to ensure generalizability of findings.

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REFERENCES

1. Ruscio AM, Stein DJ, Chiu WT, et al. The epidemiology of obsessive-compulsive disorder in the National Comorbidity Survey Replication. *Mol Psychiatry*. 2010;15(1):53–63.
2. Norberg MM, Calamari JE, Cohen RJ, et al. Quality of life in obsessive-compulsive disorder: an evaluation of impairment and a preliminary analysis of the ameliorating effects of treatment. *Depress Anxiety*. 2008;25(3):248–259.
3. Abramowitz JS. Effectiveness of psychological and pharmacological treatments for obsessive-compulsive disorder: a quantitative review. *J Consult Clin Psychol*. 1997;65(1):44–52.
4. Greist JH, Jefferson JW, Kobak KA, et al. Efficacy and tolerability of serotonin transport inhibitors in obsessive-compulsive disorder: a meta-analysis. *Arch Gen Psychiatry*. 1995;52(1):53–60.
5. Piccinelli M, Pini S, Bellantuono C, et al. Efficacy of drug treatment in obsessive-compulsive disorder: a meta-analytic review. *Br J Psychiatry*. 1995;166(4):424–443.
6. Alarcon RD, Libb JW, Spitler D. A predictive study of obsessive-compulsive disorder response to clomipramine. *J Clin Psychopharmacol*. 1993;13(3):210–213.
7. Erzegovesi S, Cavallini MC, Cavedini P, et al. Clinical predictors of drug response in obsessive-compulsive disorder. *J Clin Psychopharmacol*. 2001;21(5):488–492.
8. Goodman WK, McDougle CJ, Barr LC, et al. Biological approaches to treatment-resistant obsessive compulsive disorder. *J Clin Psychiatry*. 1993;54(suppl):16–26.
9. Soomro GM, Altman D, Rajagopal S, et al. Selective serotonin re-uptake inhibitors (SSRIs) versus placebo for obsessive compulsive disorder (OCD). *Cochrane Database Syst Rev*. 2008;(1):CD001765.
10. Simpson HB, Huppert JD, Petkova E, et al. Response versus remission in obsessive-compulsive disorder. *J Clin Psychiatry*. 2006;67(2):269–276.
11. Fineberg NA, Pampaloni I, Pallanti S, et al. Sustained response versus relapse: the pharmacotherapeutic goal for obsessive-compulsive disorder. *Int Clin Psychopharmacol*. 2007;22(6):313–322.
12. Bloch MH, Landeros-Weisenberger A, Kelmendi B, et al. A systematic review: antipsychotic augmentation with treatment refractory obsessive-compulsive disorder. *Mol Psychiatry*. 2006;11(7):622–632.
13. Erzegovesi S, Guglielmo E, Siliprandi F, et al. Low-dose risperidone augmentation of fluvoxamine treatment in obsessive-compulsive disorder: a double-blind, placebo-controlled study. *Eur Neuropsychopharmacol*. 2005;15(1):69–74.
14. Hollander E, Baldini Rossi N, Sood E, et al. Risperidone augmentation in treatment-resistant obsessive-compulsive disorder: a double-blind, placebo-controlled study. *Int J Neuropsychopharmacol*. 2003;6(4):397–401.
15. McDougle CJ, Epperson CN, Pelton GH, et al. A double-blind, placebo-controlled study of risperidone addition in serotonin reuptake inhibitor-refractory obsessive-compulsive disorder. *Arch Gen Psychiatry*. 2000;57(8):794–801.
16. Dold M, Aigner M, Lanzenberger R, et al. Antipsychotic augmentation of serotonin reuptake inhibitors in treatment-resistant obsessive-compulsive disorder: a meta-analysis of double-blind, randomized, placebo-controlled trials. *Int J Neuropsychopharmacol*. 2013;16(3):557–574.
17. Simpson HB, Foa EB, Liebowitz MR, et al. Cognitive-behavioral therapy vs risperidone for augmenting serotonin reuptake inhibitors in obsessive-compulsive disorder: a randomized clinical trial. *JAMA Psychiatry*. 2013;70(11):1190–1199.
18. Comer JS, Mojtabai R, Olfson M. National trends in the antipsychotic treatment of psychiatric outpatients with anxiety disorders. *Am J Psychiatry*. 2011;168(10):1057–1065.
19. Deacon BJ, Abramowitz JS. Cognitive and behavioral treatments for anxiety disorders: a review of meta-analytic findings. *J Clin Psychol*. 2004;60(4):429–441.
20. Foa EB, Liebowitz MR, Kozak MJ, et al. Randomized, placebo-controlled trial of exposure and ritual prevention, clomipramine, and their combination in the treatment of obsessive-compulsive disorder. *Am J Psychiatry*. 2005;162(1):151–161.
21. Franklin ME, Foa EB. Treatment of obsessive compulsive disorder. *Annu Rev Clin Psychol*. 2011;7(1):229–243.
22. Franklin M, Abramowitz J, Bux D, et al. Cognitive-behavioral therapy with and without medication in the treatment of obsessive-compulsive disorder. *Prof Psychol Res Pr*. 2002;33(2):162–168.
23. Kampman M, Keijsers GP, Hoogduin CA, et al. Addition of cognitive-behaviour therapy for obsessive-compulsive disorder patients non-responding to fluoxetine. *Acta Psychiatr Scand*. 2002;106(4):314–319.
24. Tolin DF, Maltby N, Diefenbach GJ, et al. Cognitive-behavioral therapy for medication nonresponders with obsessive-compulsive disorder: a wait-list-controlled open trial. *J Clin Psychiatry*. 2004;65(7):922–931.
25. Goodman WK, Price LH, Rasmussen SA, et al. The Yale-Brown Obsessive Compulsive Scale, I: development, use, and reliability. *Arch Gen Psychiatry*. 1989;46(11):1006–1011.
26. Goodman WK, Price LH, Rasmussen SA, et al. The Yale-Brown Obsessive Compulsive Scale, II: validity. *Arch Gen Psychiatry*. 1989;46(11):1012–1016.
27. Hamilton M. A rating scale for depression. *J Neurol Neurosurg Psychiatry*. 1960;23(1):56–62.
28. Eisen JL, Phillips KA, Baer L, et al. The Brown Assessment of Beliefs Scale: reliability and validity. *Am J Psychiatry*. 1998;155(1):102–108.
29. Endicott J, Nee J, Harrison W, et al. Quality of Life Enjoyment and Satisfaction Questionnaire: a new measure. *Psychopharmacol Bull*. 1993;29(2):321–326.
30. Weissman MM, Bothwell S. Assessment of social adjustment by patient self-report. *Arch Gen Psychiatry*. 1976;33(9):1111–1115.
31. Cohen J. *Statistical Power Analysis for the Behavioral Sciences*. Hillsdale, New Jersey: Lawrence Erlbaum Associates, Inc; 1988:283–286.
32. Farris SG, McLean CP, Van Meter PE, et al. Treatment response, symptom remission, and wellness in obsessive-compulsive disorder. *J Clin Psychiatry*. 2013;74(7):685–690.
33. Simpson HB, Foa EB, Liebowitz MR, et al. A randomized, controlled trial of cognitive-behavioral therapy for augmenting pharmacotherapy in obsessive-compulsive disorder. *Am J Psychiatry*. 2008;165(5):621–630.
34. Anand N, Sudhir PM, Math SB, et al. Cognitive behavior therapy in medication non-responders with obsessive-compulsive disorder: a prospective 1-year follow-up study. *J Anxiety Disord*. 2011;25(7):939–945.
35. Gunter RW, Whittal ML. Dissemination of cognitive-behavioral treatments for anxiety disorders: Overcoming barriers and improving patient access. *Clin Psychol Rev*. 2010;30(2):194–202.

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