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Motivation to Change as a Predictor of Treatment Response in Obsessive Compulsive Disorder

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Background. *Motivation to change has been shown to predict treatment outcome in various areas of mental health but has never been examined in obsessive compulsive disorder (OCD). The purpose of this report is to present the first use of the University of Rhode Island Change Assessment (URICA) in an OCD pharmacotherapy sample and to determine whether motivation to change predicts degree of treatment response in this group.*
Methods. *The sample consisted of 32 outpatients diagnosed with OCD who completed an open-label 10-week trial of fluvoxamine. Participants completed the URICA at baseline. OCD symptom severity was rated at baseline and end of treatment.*
Results. *While overall readiness was not related to change in severity, high scores on the Precontemplation subscale (indicating greater resistance to changing OC behaviors) were associated with less change pre- to post-treatment.*
Conclusions. *Preliminary findings indicate that greater resistance to change is associated with less improvement in OCD symptom severity following pharmacotherapy. As this is the first use of the URICA as a predictor of OCD response, future research should further examine the role of motivation to change in treatment outcome in a larger OCD sample.*

Keywords Motivation to change, Readiness, Obsessive compulsive disorder, Fluvoxamine, URICA, Stages of change

INTRODUCTION

Obsessive compulsive disorder (OCD) is a chronic and often disabling condition with a lifetime prevalence of 2.6% in the general population (1). According to controlled trials, serotonin-reuptake inhibitors (SRIs) and exposure and response prevention (ERP), both individually and in combination, are the treatments that have shown the greatest efficacy in alleviating symptoms of the disorder (2). However, treatment nonresponse remains a serious problem. It is estimated that 30% of OCD patients remain clinically unchanged after an adequate SRI trial (3). Patients discontinue SRI treatment due to side effects at the rate of 8–15% (4). While 80–90% of patients treated with ERP improve, this figure drops to 63% when dropouts and those who refuse treatment are included (5). Given the variability in OCD treatment response, assessment of behavior change variables, such as motivation, may be useful in differentiating treatment responders and nonresponders. Such prognostic data could potentially allow clinicians to modify treatments based on individual patient characteristics, increasing the efficacy and cost-effectiveness of available therapies (6). To date, no published studies have examined the relationship between motivation to change and either SRI or behavioral treatment outcome in OCD.

Motivation, a key component of the Transtheoretical Model of Behavior Change (TTM) (7), has been examined as a predictor of change across a variety of health and addictive behaviors (8–11). More recently, investigators in the area of mental health have become interested in how motivation to change impacts treatment and recovery from psychiatric disorders (12–14). According to the TTM, motivation to change is represented by five theoretical stages that divide the change process into meaningful steps. In Precontemplation, there is no intention to change a problem behavior in the foreseeable future; individuals in this stage are unaware or underaware of their

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problem. In Contemplation, individuals are aware that a problem exists and are seriously considering changing their behavior, but have not yet committed to take action. In Preparation, there is a commitment to change and intention to take action in the next month. During the Action stage, people are actively engaging in overt behavior changes to modify their problem behavior. When successful behavior change has been sustained for a period of three to six months, the individual enters the Maintenance stage, where behavioral changes have begun to become part of one's lifestyle.

Within the context of the TTM, motivation to change is commonly measured using the University of Rhode Island Change Assessment (URICA) (15,16). Though the URICA has been adapted for a variety of problem behaviors, few studies have used the instrument to predict treatment outcome in anxiety disorders. In a cognitive behavioral therapy (CBT) study of panic disorder (17), CBT responders reported greater awareness of their problematic symptoms than CBT nonresponders. In two benzodiazepine trials, one of panic disorder (12) and another of generalized anxiety disorder (GAD) (13), patients with lower levels of motivation experienced less improvement in anxiety symptoms compared to patients reporting greater motivation to change. These studies suggest that motivation to change is relevant to outcome in both psychotherapy and pharmacotherapy of anxiety disorders.

The purpose of the current investigation was to 1) present the first use of the URICA in an OCD pharmacotherapy sample and 2) examine the relationship between motivation to change and degree of medication response in this patient group. Based on initial findings in panic disorder and GAD, we predicted that motivation to change would be significantly correlated with degree of improvement in OCD symptom severity following a 10-week open label trial of fluvoxamine. Since this is an exploratory study and the first use of the URICA as a predictor of OCD response, we also examined the association between individual URICA subscale scores at baseline and change in symptom severity.

METHODS

Participants

Participants were outpatients who entered an OCD pharmacotherapy trial at an anxiety disorders specialty clinic. Of the 38 outpatients who completed the 10-week trial, 32 (84%) agreed to participate in the present study. The sample (18 men, 14 women) was 84% Caucasian, with a mean age of 38.3 years (SD = 12.38) and 53% employed full time. Inclusion criteria for the medication trial included: age 18 to 65 inclusive, a diagnosis of DSM-IV (18) OCD of at least 12 months duration, and a minimum total severity score of 18 on the Yale-Brown Obsessive Compulsive Scale (YBOCS) (19). Patients were excluded from participation if they were at serious suicidal risk, carried any current comorbid Axis I psychiatric diagnoses, or were engaged in concomitant CBT. The study design was reviewed by an independent institutional review board. Written informed consent was obtained from all participants after the nature of the procedures was fully explained.

Measures

Motivation to change was measured using the URICA, a 32-item self-report measure. The scale is comprised of four factor analytically derived 8-item subscales representing four of the five stages of change, Precontemplation, Contemplation, Action, and Maintenance (16). Items are written in generic format so that the scale can be modified for different patient groups by identifying the target behavior in the instructions. In the current study, participants were instructed to respond to items based on their OCD symptoms. URICA items are rated from 1 (strongly disagree) to 5 (strongly agree) and subscale sums were averaged across items so that subscale scores are presented as means ranging from 1 to 5. Internal consistency reliability estimates (Cronbach's α) for the subscales in this sample were: Precontemplation = .65, Contemplation = .82, Action = .87, and Maintenance = .83. To maximize internal consistency of the Precontemplation subscale, one item ("I have worries but so does the next person. Why spend time thinking about them?") was omitted so this score is based on 7 items. Construct validity of the URICA has been supported by theoretically consistent relationships among URICA subscales and related dimensions of change (8,20,21).

The URICA does not provide for classification into a specific stage of change; patients may receive high or moderate scores on more than one subscale. However, a second-order factor, readiness to change, can be calculated by summing the means of the Contemplation, Action, and Maintenance subscales and subtracting the mean Precontemplation score (22). Readiness scores range from –2 to +14, with higher values indicating greater motivation to change.

OCD severity was assessed with the YBOCS, a reliable and valid 10-item semi-structured interviewer-rated measure of current severity of obsessions and compulsions. The total score ranges from 0 to 40, with higher scores indicating more severe OCD symptoms.

Procedure

At the initial visit, an experienced psychiatrist conducted a clinical interview to gather information on psychiatric and medical history. Eligible patients were required to discontinue use of all psychoactive medications 14 days prior to fluvoxamine treatment. The use of psychoactive medication was prohibited throughout the course of the study. Patients agreed to seek approval of the study physician prior to using any concomitant medications, including over-the-counter products, for the duration of the study. Fluvoxamine was started at

50 mg, administered as a single daily dose at bedtime and increased in 50 mg increments every seven days, as tolerated, to achieve the optimal therapeutic response. Fluvoxamine was administered in the range of 100–300 mg daily after initial titration. Doses in excess of 100 mg were given in two divided doses (morning and bedtime). Patients completed the URICA at study baseline before the initiation of treatment and while medication-free. Trained psychology doctoral students administered the YBOCS at baseline and the end of week 10. The study physician met with participants at the end of weeks 2, 4, 6, and 8 to regulate medication dosage and monitor adverse events.

Data Analysis

Treatment response was defined as a 35% or greater decrease in YBOCS total score from baseline. This response threshold has been associated with global improvement ratings of much or very much improved (23), so it reflects clinically significant improvement in OCD symptoms, including distress and impairment.

The amount of change in OCD symptom severity pre- to post-treatment was measured by the reliable change index (RCI) (24). The RCI, which controls for initial severity and measurement error in the YBOCS, is computed based on the following general formula:

$$RCI = (x_2 - x_1) / s_{diff}$$

where x_1 and x_2 represent pre and post YBOCS total scores and s_{diff} is the standard error of difference between the YBOCS scores. The s_{diff} describes the spread of the distribution of change scores that would be expected if no actual change had occurred. RCI scores are scaled in the same manner as z-scores. Therefore, RCI scores (absolute value) greater than 1.96 represent an actual clinical change and not just the fluctuations of an imprecise measuring instrument. Pearson correlations were conducted to determine if readiness accounts for a significant proportion of the variance in the reliable change of YBOCS score. All tests were two tailed; an α level of .05 determined statistical significance.

RESULTS

Based on pre-treatment YBOCS total scores, the sample presented with severe OCD (M = 28.1, SD = 5.27). At the end of the 10-week trial, symptom severity improved significantly to the moderate range (M = 18.0, SD = 8.39), $t(31) = 8.71$, $p < .001$. Of the 32 patients, 20 (63%) were responders and showed clinically significant improvement in OCD severity from baseline.

Mean readiness to change on the URICA at baseline was high (M = 11.1, SD = 1.82). Means and standard deviations are presented for each of the URICA subscales in Table 1.

Table 1 Means and Standard Deviations for URICA Subscale Scores (n = 32)

	Mean	*SD*	Range
Precontemplation	1.5	.50	1.0–3.0
Contemplation	4.6	.44	3.0–5.0
Action	4.3	.61	1.6–5.0
Maintenance	3.6	.85	1.0–5.0

URICA = University of Rhode Island Change Assessment.

Contrary to our hypothesis, no relationship was found between readiness and degree of change (RCI) in symptom severity with fluvoxamine treatment ($r(30) = .26$, $p = .155$). Table 2 presents correlations between individual subscales of the URICA at baseline and reliable change in OCD severity. Results indicated a significant negative association between Precontemplation and reliable change. Specifically, higher Precontemplation scores (indicating greater resistance to changing OC behaviors) were associated with less change in symptom severity pre- to post-treatment. In addition, there was a statistical trend ($p = .057$) for the association between Contemplation and reliable change such that greater consideration about changing OC behaviors was related to symptom improvement.

No difference was detected between responders to fluvoxamine (patients showing clinically significant improvement) (n = 20) and nonresponders (n = 12) on baseline readiness score. However, the two groups differed significantly on Precontemplation, with nonresponders (M = 1.8, SD = .56) reporting greater resistance to changing OC behaviors than responders (M = 1.3, SD = .36), $t(30) = -2.96$, $p = .006$.

DISCUSSION

This study reports the first use of the URICA in an OCD pharmacotherapy sample. Overall readiness to change was high in this sample of patients voluntarily entering an OCD treatment trial. URICA subscale means and ranges were similar to those reported in medication trials for panic disorder (12) and GAD (13). Internal consistency reliabilities for the URICA subscales were high, with the exception of a somewhat lower reliability for the Precontemplation subscale, which is consistent with previous reported use of the URICA (8,17,25).

The few investigations of the URICA in anxiety disorders thus far suggest that motivation to change plays a role in medication response. Though further study is necessary, motivation likely impacts patients' commitment to making behavior changes associated with treatment, including adherence to the prescribed medication regimen, attendance at clinic visits, and patience to endure possible side effects.

In the current study, the relationship between overall readiness and degree of change in OCD symptom severity was not significant. However, a significant inverse relationship between Precontemplation and change in severity was found (large effect size), indicating that individuals who report greater resistance to

Table 2 Intercorrelations Between URICA Subscale Scores and Change in YBOCS (n = 32)

	RCI YBOCS	Precontemplation	Contemplation	Action	Maintenance
RCI YBOCS	1.00				
Precontemplation	–.64**	1.00			
Contemplation	.34	–.53**	1.00		
Action	–.10	–.14	.53**	1.00	
Maintenance	.07	–.19	.53**	.56**	1.00

**p < .01.
URICA = University of Rhode Island Change Assessment; RCI YBOCS = Reliable Change Index for Yale Brown Obsessive Compulsive Scale total score (degree of change in OCD symptom severity pre- to post-treatment).

changing their behavior are less likely to experience improvement. Further, the trend for a positive association between Contemplation and change in severity suggests that patients who report greater awareness and serious consideration about changing their OC behaviors are more likely to experience symptom improvement. Although not significant at conventional levels, the effect size for the association between Contemplation and reliable change in OCD severity was moderate. Our findings are consistent with medication trials in both panic disorder (12) and GAD (13) in which patients with high Precontemplation scores experienced less change in anxiety symptoms than those with low Precontemplation scores. These medication trials also found a greater decrease in illness severity in patients high on Contemplation than those low on Contemplation.

Further study is required to better understand the mechanism by which ambivalence about behavior change may potentially interfere in treatment response. Are ambivalent patients less committed to taking medications? Does ambivalence reduce the placebo effects of medications? Since our findings are preliminary, additional research is needed to examine whether prescribing SRIs to a patient ambivalent about changing OC behaviors is premature if no efforts have been made to first increase motivation to change (11). If this hypothesis were supported, a potential clinical application would be to provide brief pre-treatment motivational enhancement to increase OCD treatment efficacy. For example, several studies have demonstrated that the addition of motivational interviewing, designed to strengthen a patient's commitment to change problem behaviors, improves both adherence and outcome in alcoholism treatment (26,27). Among patients with OCD, a recent study provided preliminary evidence that a brief motivational enhancement intervention can increase acceptance rates of ERP (28).

Future research is needed to extend the present findings and improve upon the study's limitations. First, the small sample gave us limited power to find statistical significance in the relationship between readiness and treatment outcome. Second, our sample may not be representative of individuals with OCD at other clinical settings since comorbid disorders were excluded and participants were recruited at a specialty clinic. Third, in contrast to singular behaviors such as smoking, assessment of motivation to change in OCD is complicated by the multifaceted nature of these behaviors. Because distress often varies across symptoms, a patient with OCD may be much more motivated to change the frequency of some rituals over others. Whereas patients in this study were asked to rate motivation to change OCD behaviors overall, future studies should explore more refined assessment methods that would allow for variability in an individual's levels of motivation across particular problem behaviors. Fourth, high readiness scores and low Precontemplation subscale scores in this sample may be at least partly due to social desirability experienced by patients entering a treatment study.

Given that this is the first study to examine motivation for change using the URICA in an OCD pharmacotherapy sample, future research in this area is strongly encouraged. Double blind placebo-controlled medication trials are needed to determine whether motivation is a plausible prognostic indicator in OCD, without the preexisting expectations associated with open label studies. It remains to be seen whether the URICA can identify differential drug and placebo responses. Additional research is encouraged in order to determine whether motivation predicts outcome differently based on the modality of OCD treatment (SRI vs. ERP). For instance, are patients who enroll in ERP more highly motivated relative to those who seek pharmacotherapy because of the higher degree of involvement required in behavioral therapy? Research investigating the impact of motivation on dropout, adherence to treatment, and relapse prevention in OCD, as well as differences across clinical settings, is also recommended.

CONCLUSIONS

This is the first study to examine the relationship of motivation to change, as measured by the URICA, and medication response in OCD. Preliminary findings indicate that greater resistance to change is associated with less improvement in symptom severity. Replication in a larger sample is warranted.

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