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Development of the Treatment Adherence Survey-patient version (TAS-P) for OCD:

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Abstract

This paper reports on the development and initial psychometric evaluation of the Treatment Adherence Survey-patient version (TAS-P), a brief instrument designed to assess patient adherence to cognitive-behavioral therapy (CBT) and pharmacotherapy recommendations for OCD. Eighty individuals with obsessive-compulsive disorder (OCD) were administered the TAS-P as part of the intake interview of a prospective, observational study of the course of OCD. Results demonstrated excellent test-retest reliability. Responses on the TAS-P were significantly correlated with scores on a self-report measure of general treatment adherence and with data collected from a chart-review, demonstrating concurrent validity. Treatment adherence was not explained by demographic variables. However, participants who reported nonadherence to CBT recommendations had more severe OCD symptoms at the time of intake than those who did not endorse CBT nonadherence (mean Y-BOCS = 23.27+7.5 versus 18.20+8.0, respectively). Results suggest that the TAS-P is a promising instrument for assessing reasons for nonadherence to recommendations for CBT and pharmacotherapy interventions.

Keywords

Obsessive Compulsive Disorder; Treatment Adherence; Psychometric Properties; Cognitive-Behavioral Therapy; Pharmacotherapy

Introduction

It is estimated that 70-85% of patients with Obsessive Compulsive Disorder (OCD) will show symptomatic and functional improvement with short-term treatment (Jenike, 1998). Data from clinical trials also demonstrate that patients who improve on serotonin reuptake inhibitors (SRIs) and who are maintained on them continue to have the same level of symptomatic improvement up to two years from baseline (Greist, Jefferson, Kobak, Katzelnick, & Serlin, 1995; Rasmussen et al., 1997). Similarly, patients who participate in cognitive-behavioral therapy (CBT) continue to show symptomatic improvement up to six years after initiating treatment (O'Sullivan, Noshirvani, Marks, Monteiro, & Lelliott, 1991).

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However, the extent to which individuals seeking treatment for OCD in clinical settings adhere to treatment recommendations remains unclear.

Clinical experience suggests that many patients who are willing to initially tolerate the adverse effects of SRIs, including anorgasmia, weight gain and fatigue, in return for symptomatic improvement are less willing to tolerate continued side effects. Intake data from our observational studies of the course of OCD supports this clinical impression (Eisen et al., 1999; Mancebo et al., in press). More than three-quarters of both samples were on recommended doses of SRIs at the time of the initial interview. However, a surprisingly large percentage of patients remained symptomatic and failed to continue pharmacological treatments over time. The average duration on SRIs during a two-year observational period was 55 weeks (Eisen et al., 1999).

Similarly, despite the proven efficacy of cognitive-behavioral therapy for OCD, many patients seeking treatment in clinical settings do not receive CBT (Denys, Van Megen, & Westenberg, 2002; Mancebo et al., in press). Among the participants who enter CBT, it is estimated that less than half receive a recommended course of at 13 weekly sessions of CBT, and only a handful of participants reported receiving intensive sessions (Eisen et al., 1999; Mancebo et al., in press). 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 a barriers to accessing treatment (Franklin, 2005; Greist & Baer, 2002). Some patients may also be reluctant to endure the distress associated with CBT techniques such as exposure and ritual prevention (E/RP). However, factors contributing to low rates of CBT utilization have not been systematically assessed.

To our knowledge, there are no published instruments that focus on reasons for nonadherence to evidence-based treatments for OCD. The purpose of this paper is to present the development and psychometric properties of the OCD Treatment Adherence Survey - patient version (TAS-P), a rater-administered instrument that assesses reasons for nonadherence to CBT and pharmacological recommendations for OCD.

Methods

Instrument development and description

The Treatment Adherence Survey -Patient version (TAS-P) is a rater-administered questionnaire designed to collect data on psychotropic medications and cognitive-behavioral treatments received as well as reasons endorsed for lack of adherence to treatment recommendations. This instrument was modified from the Endicott Depression and Treatment instrument (Blumenthal & Endicott, 1996) by: 1) limiting assessment of treatments to medication and CBT (the two evidence-based treatments for OCD); 2) adding OCD-specific items (e.g. too fearful or anxious to enter treatment, CBT not available). These items were derived based on a literature and extensive discussion with six experts in treatment of OCD (three pharmacologists and three behavioral therapists) and pilot work by one of the authors (J.L.E); and 3) eliminating reasons for treatment nonadherence infrequently endorsed by patients with OCD (e.g., “afraid they would be treated against their will,” “against religion to get treatment,” “felt friends or family would not approve”) in a pilot study (Eisen et al., 1999).

The first section of the TAS-P assesses whether participants have ever received a recommendation to pursue CBT for OCD, whether they followed through on the recommendation, how many sessions of CBT they received, and whether they stopped attending CBT before completion of therapy. Nonadherence was defined as not entering

CBT despite receiving a recommendation from a mental health professional (CBT refusal) or dropping out of treatment before completing therapy (CBT dropout). The rater asks participants who endorse nonadherence to check off as many reasons as apply from a list of 14 possible reasons for nonadherence and one open-ended item. Participants are also asked to identify the reason which most influenced their decision not to adhere to recommended CBT. The 14 items are divided into six domains: 1) too anxious/fearful, 2) perceived environmental barriers, 3) perceived utility of treatment, 4) beliefs regarding severity of illness, 5) relationship with clinician, and 6) issues regarding stigma/confidentiality. The second section uses the same format but focuses on recommendations for pharmacotherapy. Reasons for nonadherence are assessed by asking participants to endorse as many of 12 possible reasons for nonadherence that are applicable as well as an open-ended item. These 12 items are grouped into the same six domains as for CBT with an additional domain concerning adverse events. The complete TAS-P is included in **Appendix A.**

Participants

Participants were 80 consecutive patients (53% female) who completed a structured interview and a battery of self-report instruments as part of their participation in the Brown Longitudinal OCD Study (BLOCS), an observational, follow-up study of the course of OCD. A more detailed description of the study methods is described elsewhere (Pinto, Mancebo, Eisen, Pagano, & Rasmussen, 2006). To be eligible for the study, adult participants had a primary DSM-IV diagnosis of OCD, were at least 19 years old and had sought treatment for their OCD within the past 5 years. Individuals with organic disorders were excluded. More than half (54%) of participants in this sample had been married at some point (38% married and 16% divorced), 42% had never been married and 4% were living with a partner. Most participants were Caucasian (95% vs. 3% Asian-American vs. 1% African-American vs. 1% Hispanic). The mean age at intake was 39.88 (*SD*= 13.21), and mean age at OCD onset was 18.12 (*SD*= 9.5).

Procedures

Participants were recruited from multiple psychiatric treatment settings including consecutive admissions to an outpatient OCD specialty clinic, inpatient units of a private psychiatric hospital, community mental health centers, two general outpatient psychiatric clinics and the private practices of three experts in cognitive-behavior therapy for OCD. The study was approved by the Butler Hospital and Brown University Institutional Review Boards. Participants were interviewed in person by trained research assistants after providing written informed consent to participate in annual interviews and were paid $25 for participating in the intake interview.

The data presented here were collected as part of the intake interview which consisted of semi-structured interviews, rater-administered assessments, and self-report questionnaires. Interview data were edited and reviewed for clerical and clinical accuracy by senior staff members. The treatment adherence questionnaires were administered at the intake interview. In addition, the first, consecutive 17 participants completed the TAS-P a second time 1-2 weeks after the intake interview.

The pharmacotherapy charts of participants who had received treatment at an OCD specialty clinic were reviewed for documentation supporting a treatment recommendation (CBT or medications) as well as adherence/nonadherence to the recommendation. Twenty participants were randomly selected using a random numbers table. Two raters who were blind to TAS-P responses, reviewed each medical chart and recorded: 1) whether the clinician recommended a trial of CBT; 2) the clinician recommended a medication trial; 3) whether the participant followed through with the recommendation and 4) whether the

participant dropped out of treatment prematurely. All 4 variables were categorical (yes/no/no information). Nonadherence was defined as evidence that a participant told clinician he/she did not wish to continue treatment, did not come in for at least 3 consecutive scheduled appointments and stopped medications or CBT homework during that time, or failed to return for a scheduled appointment despite attempts to contact the participant. Interrater reliability was excellent for almost all items (kappa =1.00) and adequate for the item assessing discontinuing medication (kappa= .74).

Measures

OCD and comorbid Axis I diagnoses were assessed using the Structured Clinical Interview for DSM-IV - Patient version (SCID-P; (First, Spitzer, Gibbon, & Williams, 1996). The *Yale-Brown Obsessive Compulsive Scale (YBOCS)*, a clinician-administered 10-item scale with specific probes and anchors, was used to assess severity of obsessions and compulsions (Goodman et al., 1989). The rater-administered version of the Y-BOCS checklist was used to identify specific obsessions and compulsions. Depression symptomatology and severity were assessed using the 17-item Modified Hamilton Rating Scale for Depression (MHRSD), a modified version of the Hamilton Rating Scale for Depression with specific probes and anchors (Hamilton, 1960; Miller, Bishop, Norman, & Maddever, 1985).

To assess concurrent validity of the TAS-P, participants also completed two self-report measures of general treatment adherence. The *Adherence Determinants Questionnaire (ADQ)* (DiMatteo et al., 1993) is a 38-item self-report measure that assesses seven elements of patients' adherence to general treatment recommendations for OCD: perceptions of interpersonal aspects of care received (e.g., my doctor listens carefully to what I say), beliefs about severity of illness (e.g., My OCD is not as bad as people say), beliefs about susceptibility to illness (e.g., the chances that my OCD might worsen are pretty high), beliefs about the perceived utility of the recommendations (e.g., the benefits of my treatment plan outweigh any difficulty I might have in following it), subjective norms regarding adherence (e.g., members of my immediate family think I should follow my treatment plan), intentions to adhere (e.g., I intend to follow my treatment plan), and presence of supports and absence of barriers to adherence (e.g., Lots of things get in the way of following my treatment plan). The ADQ subscales have demonstrated adequate reliability (median alpha reliability =.76).

Data Analysis

Statistical analyses were performed using SPSS software for Windows version 14.0 (“SPSS Version 14.0 for Windows,” 2006). Test-retest reliability of the TAS-P was calculated using intraclass correlation coefficients (ICCs) between frequencies of responses endorsed at time 1 and time 2. Phi correlations were also used to assess stability of the primary reasons for nonadherence endorsed at time 1 and time 2.

Concurrent validity of adherence to treatment recommendations was investigated by comparing data derived from 28 randomly selected psychiatric charts to TAS-P adherence items, using the unweighted Cohen κ statistic that measures agreement on nominal categories and incorporates a correction for chance agreement (Cohen, 1960).

TAS-P reasons for nonadherence were assigned a 0 if not endorsed, a 1 if endorsed as a reason, and a 2 if endorsed as the primary reason for not complying with treatment recommendations. To assess concurrent validity, Kendall's Tau B rank correlations were used to compare TAS-P items with ADQ subscales. We predicted the following ADQ subscales would be significantly correlated with the corresponding TAS-P domains:

1)Relationship with Clinician, 2) Perceived Utility of Treatment, 3) Beliefs Regarding Severity of Illness, and *4) Perceived Environmental Barriers.*

Finally, t-tests and chi squares were used to examine differences in demographic and clinical characteristics among individuals who reported a history of consistent adherence to treatment recommendations and those who reported nonadherence.

Results

Test-Retest Stability

As shown in Table 1, there was strong test-retest stability across all items of the TAS-P, with ICCs ranging from 0.71 to 1.00. Phi correlations indicated that reasons for lack of adherence to treatment recommendations were consistent across administrations for CBT (Phi=1.16, p=.03) as well as medication (Phi=1.73, p=.02).

Concurrent Validity

Self-Reported Adherence to Treatment Recommendations—As shown in Table 2, all TAS-P adherence items, with the exception of the CBT refusal item, were significantly associated with data derived from a review of the psychiatric charts of 28 participants. Of the 26 participants who received CBT recommendations, only 6 (23%) endorsed CBT refusal on the TAS-P (4 of these participants did not have CBT refusal documented in the chart). However, psychiatric chart documentation indicated that an additional 6 participants (23%) were recommended CBT by their current psychiatrist and had not followed through with the recommendation. These results suggest that both the TAS-P and chart reviews may underestimate CBT refusal rates.

Among the 28 participants who received medication recommendations, 10 (36%) reported that they had taken medication less frequently or at a smaller dose than what their physician prescribed. Regarding history of medication refusal, TAS-P responses indicated that 11 (39%) reported they had decided not to take medication for OCD at some point. In contrast, the chart review indicated that only 5 of these participants had not taken medication for OCD when it was previously recommended, suggesting that chart documentation may underestimate medication refusal.

Reasons for Nonadherence to Treatment Recommendations—All of the 80 participants completed the ADQ, a self-report measure of general treatment adherence at the time of interview. More than a quarter of the sample (28%, n=22) reported CBT nonadherence to CBT recommendations and 57% (n=46) reported nonadherence to psychotropic medications. Most participants endorsed multiple reasons for nonadherence. Five of the seven ADQ subscales demonstrated excellent internal consistency (coefficient alphas ranged from .89 to .93). The other two ADQ subscales were not used because they demonstrated inadequate internal consistency (coefficient alphas for perceived severity and perceived susceptibility were .104 and .525, respectively). Tables 3 and 4 list correlations between TAS-P items and ADQ subscales.

Of the 22 participants who reported CBT nonadherence, 77% (n=17) reported multiple reasons (*M*=2.5, *SD*=1.6). As shown in Table 3, the two most frequently endorsed reasons were *Too anxious or fearful to participate* (55%) and *Perceived environmental barriers* (50%). As expected, the TAS-P *Perceived environmental barriers* items were significantly associated with the *ADQ-Support/Barriers* subscale for CBT. However, other items hypothesized to be related to similar ADQ constructs (*Perceived utility of treatment* and

Relationship with Clinician) were not significantly associated with the respective ADQ subscales.

Of the 46 participants who reported medication nonadherence, 80% (n=37) endorsed multiple reasons (*M*=2.7, *SD*=1.4). As shown in Table 4, the most commonly endorsed items were dislike of side effects (78%), too anxious or fearful of taking medications (41%) and perceived utility of treatment (41%). As predicted, the *Perceived utility of medication* items was uniquely associated with the ADQ-Perceived Utility subscale. Contrary to our hypothesis, *Relationship with clinician* and the *Perceived environmental Barriers* items were not significantly associated with the respective ADQ subscales. The side effect item was uniquely associated with the *ADQ-support/barriers* subscale.

We examined demographic variables and current symptom severity among participants who reported treatment adherence and nonadherence. There were no differences in gender, age, race/ethnicity, education, or marital status among groups. However, participants who endorsed CBT nonadherence had higher levels of OCD and depressive symptoms at the time of interview (**see Table 5**). Participants who endorsed medication nonadherence also had higher levels of depressive symptoms but did not differ in OCD symptom severity at the time of intake.

Discussion

The TAS-P is a brief instrument that captures important aspects of a patient's treatment history: self-reported adherence to treatment recommendations and reasons for nonadherence. Results of this initial investigation of its psychometric properties suggest that it is a reliable and valid assessment tool. The TAS-P has strong test-retest reliability, suggesting that it can be used reliably over time. Patient self-reports of receiving CBT or medication as treatment recommendations showed excellent agreement with psychiatrists' chart documentation, indicating that the TAS-P is a valid measure of treatment recommendations.

The TAS-P demonstrated adequate concurrent validity with the ADQ, a measure of general treatment adherence. A unique aspect of the TAS-P is the assessment of reasons for nonadherence to CBT and pharmacotherapy separately, which may have diluted the correlations between the TAS-P and the ADQ. We found similarities, as well as differences, in reasons reported for nonadherence to each treatment. Fear/anxiety regarding treatment was the most common reason for CBT nonadherence and the second most common reason for pharmacotherapy nonadherence. Our findings also suggest important differences in reasons given for nonadherence to CBT and pharmacotherapy. Half of individuals reporting CBT nonadherence perceived environmental barriers as obstacles to this treatment whereas only 23% perceived environmental barriers as obstacles to pharmacological treatments. Side effects were the most commonly endorsed reason for medication nonadherence. A better understanding of the specific factors influencing treatment adherence will enhance clinical practice as well as identify targets for novel interventions.

In this sample of 80 outpatients being treated for OCD, 28% reported not adhering to CBT recommendations at some point in the past and more than one-third reported pharmacotherapy nonadherence. Although retrospectively collected, our findings are consistent with cross-sectional data from clinical trials estimates that 15-20% of eligible individuals are unwilling to participate in CBT and an additional 15-20% are unwilling to receive medication (Foa et al., 2005; Kozak & Coles, 2005). Drop-out rates of intensive exposure and ritual prevention (22%), clomipramine monotherapy (19%), and combined treatment (36%) were similar across groups in one recent randomized, placebo-controlled

trial of OCD (Foa et al., 2005). Patient factors such as high anxiety sensitivity and low distress tolerance have been proposed as factors contributing to CBT refusal and dropout rates but have yet to be systematically assessed (Foa et al., 1983; Simpson & Liebowitz, 2005).

The adherence item that showed lowest concordance was CBT refusal. A potential reason for this, and a limitation of our study, was the fact that we only reviewed the medical chart of one clinician (the most recent psychiatrist). The TAS-P assesses lifetime recommendations and some participants reported refusing CBT at some point but then entering CBT. It's possible that the CBT recommendation was made during a previous treatment episode. A prospective design would allow for more accurate data collection and understanding of the temporal sequence of treatment utilization. For example, do some patients initially refuse CBT, try medications but later decide to enter CBT? This information would be very useful for clinicians to present to treatment-naïve patients.

The TAS-P has several limitations that are noteworthy. Similar to other self-reports that TAS-P is prone to response biases. Further research is warranted to assess clinician's perceptions of reasons for lack of adherence. The TAS-P was designed to assess rates of CBT refusal and CBT-dropouts. It does not assess adherence to actual CBT interventions (e.g. homework compliance, exposure and ritual prevention compliance). This would have added to the length of the instrument and was beyond the scope of this paper. Finally, reasons for nonadherence are listed as a checklist and participants are asked to whether or not each of these reasons affected their adherence to the treatment recommendation. Dichotomous responses have been criticized because they are less reliable, tend to give unstable results. Clark and Watson recommend dropping items with extreme response rates as a way to eliminate this problem (Clark & Watson, 1995). We are currently administering the TAS-P to the 400 participants in our naturalistic study of OCD and propose dropping items endorsed or not endorsed by 95% of the participants. We believe that the dichotomous responses are adequate because the TAS-P is designed to be a brief instrument to supplement treatment history and identify principal reasons for nonadherence.

The TAS-P is a useful, practical tool for understanding the patient's treatment adherence. By inquiring about reasons for nonadherence, clinicians can discuss alternative treatment strategies, use motivational strategies, or assist patients with problem-solving. Researchers can also use this instrument to get a better understanding of treatments delivered in clinical settings. Prospective studies of adherence are needed to identify risk factors for nonadherence so that alternative interventions can be designed to better serve these individuals.

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References

SPSS Version 14.0 for Windows. SPSS, Inc.; Chicago, IL: 2006. (2006)

Blumenthal R, Endicott J. Barriers to seeking treatment for major depression. Depression and Anxiety. 1996; 4(6):273–278. [PubMed: 9166655]

Denys D, Van Megen HJ, Westenberg HG. The adequacy of pharmacotherapy in outpatients with obsessive-compulsive disorder. International Clinical Psychopharmacology. 2002; 17:109–114. [PubMed: 11981351]

DiMatteo MR, Hayes RD, Gritz ER, Bastani R, Crane L, Elashoff R, et al. Patient adherence to cancer control regimens: scale development and initial validation. Psychological Assessment. 1993; 5(1): 102–112.

Eisen JL, Goodman WK, Keller MB, Warshaw M, DeMarco LM, Luce DD, et al. Patterns of remission and relapse in obsessive-compulsive disorder: a 2-year prospective study. Journal of Clinical Psychiatry. 1999; 60(5):346–351. [PubMed: 10362449]

First, MB.; Spitzer, RL.; Gibbon, M.; Williams, JBW. Structured clinical interview for DSM-IV Axis I Disorders - Patient Edition. version 2.0. Biometrics Research Department, New York State Psychiatric Institute; New York: 1996.

Foa EB, Grayson JB, Steketee G, Doppelt HG, Turner RM, Latimer P. Success and failure in the behavioral treatment of obsessive-compulsives. Journal of Consulting and Clinical Psychology. 1983; 51:287–297. [PubMed: 6841773]

Foa EB, Liebowitz MR, Kozak MJ, Davies S, Campeas R, Franklin ME, et al. Randomized, placebo-controlled trial of exposure and ritual prevention, clomipramine, and their combination in the treatment of obsessive-compulsive disorder. American Journal of Psychiatry. 2005; 162(1):151–161. [PubMed: 15625214]

Franklin, ME. Combining serotonin medication with cognitive-behavior therapy: is it necessary for all OCD patients?. In: Abramowitz, JS.; Houts, AC., editors. Concepts and Controversies in Obsessive-Compulsive Disorder. Springer; New York: 2005. p. 377-390.

Goodman WK, Price LH, Rasmussen SA, Mazure C, Fleischman RL, Hill CL, et al. The Yale-Brown obsessive-compulsive scale: I. Development, use and reliability. Archives of General Psychiatry. 1989; 46:1006–1011. [PubMed: 2684084]

Greist J, Jefferson J, Kobak K, Katzelnick D, Serlin R. Efficacy and tolerability of serotonin transport inhibitors in obsessive-compulsive disorder: A meta-analysis. Archives of General Psychiatry. 1995; 52(1):53–60. [PubMed: 7811162]

Greist, JH.; Baer, L. Psychotherapy for obsessive-compulsive disorder. In: Stein, D.; Hollander, E., editors. Textbook of Anxiety Disorders. American Psychiatric Publishing; Washington, D.C.: 2002.

Hamilton M. A rating scale for depression. Journal of Neurology and Neurosurgical Psychiatry. 1960; 23:56–62.

Jenike, MA. Drug treatment of obsessive-compulsive disorders. In: Jenike, M.; Baer, L.; Minichiello, WE., editors. Obsessive Compulsive Disorders: Practical Management. 3rd edition. Mosby Inc.; New York: 1998. p. 469-532.

Kozak, MJ.; Coles, ME. Treatment for OCD: unleashing the power of exposure. In: Abramowitz, JS.; Houts, AC., editors. Concepts and Controversies in Obsessive-Compulsive Disorder. Springer; New York: 2005. p. 283-304.

Mancebo M, Eisen J, Pinto A, Greenberg B, Dyck I, Rasmussen S. The Brown Longitudinal Obsessive Compulsive Study:Treatments received and patient impressions of improvement. Journal of Clinical Psychiatry. in press.

Miller IW, Bishop S, Norman WH, Maddever H. The Modified Hamilton Rating Scale for Depression: reliability and validity. Psychiatry Research. 1985; 14(2):131–142. [PubMed: 3857653]

O'Sullivan G, Noshirvani H, Marks I, Monteiro W, Lelliott P. Six-year follow-up after exposure and clomipramine therapy for obsessive compulsive disorder. Journal of Clinical Psychiatry. 1991; 52(4):150–155. [PubMed: 2016246]

Pinto A, Mancebo MC, Eisen JL, Pagano ME, Rasmussen SA. The Brown Longitudinal Obsessive Compulsive Study: clinical features and symptoms of the sample at intake. Journal of Clinical Psychiatry. 2006; 67(5):703–711. [PubMed: 16841619]

Rasmussen S, Hackett E, DuBoff E, Greist J, Halaris A, Koran LM, et al. A 2-year study of sertraline in the treatment of obsessive-compulsive disorder. International Clinical Psychopharmacology. 1997; 12(6):309–316. [PubMed: 9547132]

Simpson, HB.; Liebowitz, MR. Combining pharmacotherapy and cognitive-behavioral therapy in the treatment of OCD. In: Abramowitz, JS.; Houts, AC., editors. Concepts and Controversies in Obsessive-Compulsive Disorder. Springer; New York: 2005. p. 359-376.

Table 1

Frequencies and Intraclass Correlation Coefficients (ICC) for Test-Retest Stability of the TAS-P (N= 17)

TAS Items	Time1	Time2			
Cognitive-Behavioral Therapy (CBT)	**n (%)**	**n (%)**	**ICC**	**df**	**P**
Doctor or other professional recommended CBT for OCD	15 (88.2)	13 (76.5)	0.78	16	**.002**
Currently receiving CBT for OCD	8 (47.1)	8 (47.1)	1.00	16	**.000**
Number of sessions of CBT lifetime:			0.84	12	**.002**
0	6 (35.3)	7 (41.1)			
1-4	2 (11.8)	2 (11.8)			
5-10	5 (29.4)	4 (23.5)			
11-15	2 (11.8)	2 (11.8)			
16-20	0 (0.0)	0 (0.0)			
Greater than 20	2 (11.8)	2 (11.8)			
Stopped attending CBT before completing therapy	3(17.6)	2(11.8)	0.78	16	**.002**
Decided not to participate in CBT despite recommendation	3 (17.6)	3 (17.6)	1.00	16	**.000**
Medications					
Doctor or other professional recommended medication for OCD	17 (100)	17 (100)	1.00	16	**.000**
Currently taking medication for OCD	15 (88.2)	14 (82.3)	0.88	16	**.001**
Length of time taken medication for OCD			0.94	16	**.000**
Never	0 (0.0)	0 (0.0)			
Less than 6 months	3 (17.6)	3 (17.6)			
6 months - 1 year	4 (23.5)	3 (17.6)			
1 - 2 years	2 (11.8)	2 (11.8)			
2 - 5 years	3 (17.6)	3 (17.6)			
Greater than 5 years	5 (29.4)	6 (35.3)			
Have taken medication less frequently or at a smaller dose than was prescribed.	7 (41.1)	7 (41.1)	0.71	16	**.009**
Decided not to take medication for OCD even though it was recommended.	5 (29.4)	4 (23.5)	0.98	16	**.000**

Note: Time1= Intake interview; Time2 = 1 to 2 weeks following intake interview.

Table 2

Agreement between TAS-P and psychiatric chart review data (N=28)

	Medical Chart				
TAS-P: Cognitive-Behavioral Therapy (CBT)	**No**	**Yes**	**Agreement n (%)**	**Cohen's k (SE)**	**P**
Currently Receiving CBT					
No	14	1	26 (92.8)	.86 (.10)	**.000**
Yes	1	12			
Doctor Recommended CBT					
No	2	3	24 (85.7)	.42 (.23)	**.019**
Yes	1	22			
Stopped attending CBT before completing therapy[a]					
No	19	2	22 (84.6)	.51 (.21)	**.010**
Yes	2	3			
Decided not to participate in CBT despite recommendation[1]					
No	14	6	16 (61.5)	.30 (.20)	.877
Yes	4	2			
TAS-P: Medications					
Currently Taking Psychotropic Medication					
No	1	1	27 (96.4)	.65 (.32)	**.000**
Yes	0	26			
Doctor Recommended Psychotropic Medication[b]					
No	0	0	28 (100.0)	*	*
Yes	0	28			
Patient took medication less frequently or at a smaller dose than was prescribed					
No	16	2	23 (82.1)	.60 (.16)	**.001**
Yes	3	7			
Patient decided not to take medication for OCD even though it was recommended.					
No	17	0	22 (78.6)	.50 (.16)	**.002**
Yes	6	5			

[a] Two participants did not respond to this item because they had never received a CBT recommendation (n=26).

[b] No statistics are computed because chart data indicated all participants were recommended medication and were taking medication.

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Table 3

Frequencies of Reasons Endorsed for CBT Nonadherence and Kendall's τ Correlations with ADQ subscales (n=22)[a]

TAS Reason(s) for Nonadherence -CBT	N (%)	BAR	UTI	INT	SUB	INS
Perceived Environmental Barriers	11 (50.0)	**-.23** *	-.06	-.09	-.08	.01
Too busy or treatment was inconvenient						
Did not have enough money to pay for CBT						
Health insurance plan did not cover CBT						
CBT not available						
Perceived Utility of Treatment	9 (40.9)	-.13	-.02	-.06	-.02	.00
Did not think CBT for OCD would work for me						
CBT not helpful for my OCD in the past						
CBT would not teach me anything new						
Beliefs Regarding Severity of Illness	5 (22.7)	-.08	**-.22** *	-.01	-.08	.04
OCD not severe enough to justify need for CBT						
OCD symptoms were too severe to participate						
Relationship With Clinician	5 (22.7)	-.18	-.07	-.14	-.17	.05
Did not think CBT provider was good						
OCD symptoms too personal to discuss						
Too anxious/fearful to participate in CBT Stigma/Confidentiality	12 (54.5) 2 (9.09)	-.07[b]	.03[b]	.02[b]	-.05[b]	.03[b]
Worried about stigma/being labeled mentally ill						
Embarrassed for people to find out I was in treatment						
Did not want there to be a “record” of treatment						

Note: ADQ subscales BAR=Support/Barriers; UTI=Perceived Utility; SEV=Perceived Severity; INT=Interpersonal Aspects of Care; SUS= Perceived Susceptibility; SUB= Subjective Norms; INS=Intensions. Lower scores on the ADQ indicate lower levels of adherence.

[a] = respondents were participants who reported nonadherence to CBT (n=22)

[b] = fewer than 5 participants endorsed this domain.

* Kendall's τ B rank correlation coefficients is significant at the 0.05 level (2-tailed).

** Kendall's τ B rank correlation coefficients is significant at the 0.01 level (2-tailed).

Table 4

Frequencies of Reasons Endorsed for Medication Nonadherence and Correlations with ADQ subscales (N=46)[a]

TAS Reason(s) for Nonadherence - Medication		BAR	UTI	INT	SUB	INS
	N (%)	τ	τ	τ	τ	τ
Perceived Environmental Barriers	11 (23.9)	-.12	.05	-.06	-.02	.01
Did not have enough money to pay for medication						
Too busy or treatment was inconvenient						
Health insurance plan did not cover medication						
Perceived Utility of Treatment	19 (41.3)	-.15	**-.21** *	-.16	.11	-.12
Medication not helpful for my OCD in past						
Did not believe in taking medication for OCD						
Beliefs Regarding Severity of Illness	10 (21.7)	-.01	.04	-.02	.06	.05
OCD not severe enough to justify need for medication						
Relationship with Clinician	6 (13.0)	**-.23** *	-.16	-.18	-.01	**-.23** *
Did not feel comfortable with clinician						
OCD symptoms too personal to discuss						
Did not like side effects of medication	36 (78.3)	**-.21** *	-.16	-.14	-.14	.13
Too anxious/fearful of taking medications	19 (41.3)	-.10	.09	.06	.07	-.01
Stigma/Confidentiality	5 (10.9)	-.05	-.01	-.08	.03	.01
Worried about stigma/being labeled mentally ill						
Embarrassed for people to find out I was in treatment						
Did not want there to be a “record” of treatment						

Note: ADQ subscales BAR=Support/Barriers; UTI=Perceived Utility; SEV=Perceived Severity; INT=Interpersonal Aspects of Care; SUS= Perceived Susceptibility; SUB= Subjective Norms; INS=Intensions. Lower scores on the ADQ indicate lower levels of adherence.

[a] = respondents were participants who reported nonadherence to medication (n=46)

* = Kendall's τ B rank correlation coefficients is significant at the 0.05 level (2-tailed).

** = Kendall's τ B rank correlation coefficients is significant at the 0.01 level (2-tailed).

Table 5

Demographics variables and symptom severity of participant who reported nonadherence and adherence to CBT and pharmacological recommendations for OCD.

	Noncompliant with CBT recommendation (n=22)	Compliant with CBT recommendation (n=44)	Statistic[a]	df	p
Age at intake, M±SD	42.5± 7.6	37.8± 15.1	1.68t	63.98	.098
Female, n (%)	13 (59.1)	24 (54.5)	0.12c	1	.726
Employed, n (%)	8 (36.4)	24 (54.5)	1.94c	1	.164
Caucasian, n(%)	21 (95.5)	41 (93.2)	1.03c	3	.597
Married, n(%)	11 (50.0)	16 (36.4)	2.41c	4	.662
2 year college degree or higher n (%)	14 (63.6)	27 (61.3)	4.32c	6	.663
Y-BOCS, M±SD	23.27± 7.5	18.20±8.0	2.47t	64	**.016** *
MHRSD, M±SD	13.43±6.5	8.48±6.8	2.78t	63	**.007** **

	Noncompliant with Medication recommendation (n=46)	Compliant with Medication recommendation (n=35)	Statistic	df	p
Age at intake, M±SD	38.78± 11.9	40.67± 15.8	-.487t	31.06	.630
Female, n (%)	22 (48.9)	21 (60.0)	1.18c	1	.277
Employed, n (%)	26 (57.8)	18 (51.4)	0.21c	1	.649
Caucasian, n (%)	44 (97.8)	34 (97.1)	0.83c	3	.669
Married, n (%)	19 (42.2)	12 (34.3)	2.95c	4	.567
2 year college degree or higher n (%)	31 (67.4)	16 (45.7)	4.32c	6	.663
Y-BOCS, M±SD	20.71±8.2	18.51±8.6	1.18t	79	.242
MHRSD, M±SD	11.07±6.9	7.46±6.3	2.42t	78	**.018** *

Note: Y-BOCS = Yale Brown Obsessive Compulsive Scale, MHRSD = Modified Hamilton Rating Scale for Depression, ADQ=Adherence Determinants Questionnaire

[a] For statistic column: c=chi square, t= t-test

* p <.05

** p < .01