HOW IMPORTANT IS THE THERAPEUTIC ALLIANCE IN TREATING OBSESSIVE-COMPULSIVE DISORDER WITH EXPOSURE AND RESPONSE PREVENTION? AN EMPIRICAL REPORT

Michael G. Wheaton, Jonathan D. Huppert, Edna B. Foa, and H. Blair Simpson

Abstract

Objective: Substantial research has established exposure and response prevention (EX/RP) as an effective treatment for obsessive-compulsive disorder (OCD). Yet, the role of the therapeutic alliance as a factor in EX/RP remains a relatively understudied area. We sought to investigate this issue and explore which aspects of the alliance matter most to treatment outcome.

Method: Data came from 37 adult OCD patients who completed 17 sessions of manualized EX/RP as part of a randomized controlled trial of SRI augmentation. Patients rated the therapeutic alliance at the third therapy session using the Working Alliance Inventory-Short form (WAI-SF), which includes three subscales to rate alliance dimensions (Goal, Task, and Bond) as well as a total score reflecting the overall strength of the working alliance. OCD symptoms were rated at baseline and post-treatment using the Yale-Brown Obsessive-Compulsive Scale (YBOCS). In addition, therapists rated the degree to which patients adhered to between session EX/RP assignments.

Results: Adjusting for baseline severity, total score on the WAI-SF did not significantly predict post-treatment YBOCS. Follow-up analyses revealed that higher scores on the Task subscale were significantly associated with lower post-treatment severity. Scores on the Task subscale also predicted degree of patient adherence to between session EX/RP assignments, which mediated the relationship between task alliance and treatment outcome.

Conclusions: Although overall ratings of the quality of the therapeutic alliance were not related to EX/RP outcomes, the degree to which patients and therapists allied on the tasks of therapy did predict outcomes, suggesting that this particular aspect of the therapeutic alliance matters most to EX/RP outcomes. Better agreement on the tasks of therapy also related to better EX/RP adherence, which mediated treatment outcome. Limitations and clinical implications are discussed.

Key words: obsessive-compulsive disorder, OCD, exposure and response prevention, EX/RP, therapeutic alliance, patient adherence

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Introduction

For adults with obsessive-compulsive disorder (OCD), cognitive behavioral therapy (CBT) consisting of exposure and response prevention (EX/RP) is a recommended treatment (Koran et al. 2007, Koran and Simpson 2013, NICE 2013). Yet, not all patients are helped by EX/RP (e.g., 75-80% of patients respond and only 40-52% achieve remission; Farris et al. 2013, Simpson et al. 2006, Simpson et al. 2008, Simpson et al. 2013). Considerable study has gone into identifying predictors of EX/RP treatment response as a way to maximize outcomes. One factor hypothesized to be important in how much patients benefit with EX/RP is the quality of the therapeutic alliance between the patient and therapist (Keeley et al. 2008).

The therapeutic alliance has been the subject of a great deal of psychotherapy research and meta-analysis suggests that a good therapeutic alliance predicts favorable outcomes across a wide range of psychotherapies and disorders (Horvath et al. 2011). However, relatively little empirical research has

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investigated the alliance as a factor in EX/RP outcomes. Given the stressful nature of EX/RP procedures (i.e., planned confrontations with feared stimuli in exposures and refraining from compulsive rituals) one would expect that a positive working relationship between the therapist and patient would be a key part of treatment. Indeed, a Norwegian sample consisting of 37 adult OCD patients indicated that ratings of the therapeutic alliance (based on patient report on the Helping Alliance Questionnaire [HAQ; Luborsky 1984]) predicted EX/RP outcomes in the expected direction (Vogel et al. 2006). That is, patients who rated the alliance more strongly tended to have lower levels of symptoms at post-treatment. Two reports in Dutch samples had similar findings: higher alliance ratings on the Barret-Lennard Relationship Inventory (RI; Lietaer 1976) were associated with better EX/RP outcomes (Hoogduin et al. 1989, Keijsers et al. 1994).

To-date only one treatment study has published findings on the relationship between alliance and EX/RP outcomes in an adult OCD sample using the most common measure of alliance: the Working Alliance Inventory (Horvath and Greenberg 1989). Simpson et al. (2010) completed a clinical trial comparing EX/RP (N=15) to EX/RP augmented with motivational interviewing (N=15). As reported on in two publications (Maher et al. 2012, Simpson et al. 2011), in the full sample, higher ratings of the overall therapeutic alliance (rated by patients after three therapy sessions using the Working Alliance Inventory –Short Form [WAI-SF; Horvath and Greenberg, 1989) predicted better EX/RP outcomes. A limitation of this study is that it combined patients receiving slightly different treatments and had a relatively small sample size (N=28 for prediction analyses). In addition, this previous study did not report on which aspects of the alliance most relate to treatment outcome. Specifically, the alliance is a multidimensional construct containing three main domains (Bordin 1979), including the degree to which the therapist and patient connect in a mutually supportive and respectful way (bond alliance), the degree to which the patient and therapist concur on what goals the patient is working towards (goal alliance) and the degree to which the patient and therapist agree on the tasks that the therapy will employ in order to reach those goals (task alliance). Maher et al. (2012) speculated that goal and task alliance might be key to good outcomes, but did not investigate individual components specifically.

In the present study, we sought to replicate and extend previous work on the relationship between alliance and outcomes. We capitalized on data from a large randomized controlled trial (RCT) that included a group of patients undergoing manualized EX/RP who rated the quality of the alliance at the third therapy session using a version of the WAI-SF. Based on the data reviewed above, we hypothesized that the quality of the alliance would predict degree of EX/RP response. We also explored the different aspects of the alliance (as measured via the subscales of the WAI-SF) as individual predictors of outcome.

Finally, we also sought to investigate the mechanism by which alliance might impact outcome. One possibility is that patients who have a better working relationship with their therapists do a better job completing between session EX/RP assignments (i.e., doing homework exposures and following response prevention instructions, hereafter referred to as *patient adherence*). Substantial previous research suggests that the degree to which patients adhere to treatment procedures predicts EX/RP outcomes (Abramowtiz et al. 2002, Simpson et al. 2011, Tolin et al. 2004). Thus, it is possible that forming a strong working alliance might lead patients to better adhere to treatment, thereby leading to better outcomes. Indeed, in the previously mentioned study there was a significant indirect effect in which the effect of alliance on outcome was mediated by patient adherence (Maher et al. 2012, Simpson et al. 2011). Therefore we sought to replicate this finding in an independent sample to determine whether patient adherence mediates the relationship between therapeutic alliance and EX/RP outcomes.

Method

Overview

The parent study was an RCT of SRI augmentation strategies described elsewhere (Simpson et al. 2013). Eligible participants were randomized to EX/RP, risperidone, or pill placebo; only participants who completed EX/RP (n = 37) are included in this report. The study was conducted at two academic outpatient clinics in New York City, New York, and Philadelphia, Pennsylvania. Patients provided written informed consent and Institutional Review Boards at both sites approved the study protocol.

Participants

Data came from 37 patients with DSM-IV OCD who completed 17 sessions of EX/RP as part of a RCT comparing serotonin reuptake inhibitor (SRI) augmentation strategies (Simpson et al. 2013). Eligible patients were adults (age >18) with a principal diagnosis of OCD as determined by the Structured Clinical Interview for DSM-IV (SCID; First et al. 2001), who remained symptomatic despite receiving an SRI at a maximally tolerated dose for 12 weeks or more. Patients were excluded on the basis of 1) diagnosis of bipolar or psychotic disorder; 2) current substance abuse or dependence; 3) clinically significant suicidal ideation; 4) severe depression (≥ 25 on the 17-item Hamilton Depression Rating Scale [HDRS; Hamilton 1960]); 5) primary hoarding symptoms; or 6) previous trial of risperidone (≥ 0.5 mg/day for 8 weeks) or EX/RP (≥ 8 sessions over 2 months) while taking an SRI.

Study procedures

EX/RP sessions were 90 minutes long and followed a manualized course (Kozak and Foa 1997) consisting of two introductory sessions followed by 15 exposure sessions, daily homework assignments (self-directed exposures and response prevention), and phone check-ins between each session. Therapists were doctoral-level clinicians (PhD or PsyD), who participated in weekly group supervision phone calls in order to standardize treatment delivery across the two sites. Independent evaluators blinded to treatment condition assessed patients' OCD symptoms at baseline (week 0), mid-treatment (week 4) and post-treatment (week 8).

Measures

Working Alliance Inventory-Short form (Hatcher and Gillapsy 2006). The WAI-SF is a 12-item version adapted from the original 36-item instrument (Horvath and Greenberg 1989). In the present study, the WAI-SF was rated by the patient at the beginning of the third therapy session. Each item is rated on a 7-point Likert

scale. The items comprise three subscales representing three components of the alliance: Bond ("I feel that my therapist appreciates me"), Goal ("My therapist and I are working towards mutually agreed upon goals") and Task ("I believe the way we are working with my problem is correct"). The three subscales are summed to create a total score (ranging from 12-84) that represents a global measure of the strength of the alliance. The WAI-SF has shown adequate reliability and validity (Hatcher and Gillapsy 2006). In the present study, total scores on the WAI-SF demonstrated good reliability (alpha = .87). The subscales also demonstrated good reliability (Goal =.81, Task =.80, Bond = 86).

Yale Brown Obsessive Compulsive Scale (YBOCS; Goodman et al. 1989a, Goodman et al. 1989b). The YBOCS is a semi-structured interview considered the "gold standard" OCD severity measure. The YBOCS assesses the severity of obsessions and compulsions in the past week. Each of the 10 items is rated on a 5-point Likert scale with total scores ranging from 0 to 40. The YBOCS has excellent inter-rater reliability and good test-retest reliability (Goodman et al. 1989a, Goodman et al. 1989b). Internal consistency in the present sample was acceptable (alpha = .73).

Patient EX/RP Adherence Scale (PEAS; Simpson et al. 2010). The PEAS is a clinician-administered measure of the degree to which the patient adhered to between session EX/RP assignments (i.e., homework). The PEAS consists of three items: (a) the percentage of assigned HW exposures that the patient attempted, (b) the quality of the attempted exposures, and (c) degree of success with response prevention since the last session (percentage of urges to ritualize that the patient resisted). Each PEAS item is rated by the therapist on a 7-point Likert-type scale. The three items are averaged at each session, and then across sessions to compute a global measure of treatment adherence. In the present study, the PEAS was rated by the treating clinician based on the assignments from the previous session once exposures had begun (i.e., sessions 4-17). The PEAS demonstrated good reliability in the present sample (alpha = .89).

Statistical methods

To test whether overall quality of the therapeutic alliance predicts EX/RP outcome, we computed a regression predicting post-treatment YBOCS scores. In the first step, baseline YBOCS was entered to control for initial symptom severity. In Step 2, WAI-SF Total score was entered as the independent variable. In subsequent exploratory analyses we tested the association between the subscales of the WAI-SF (Task, Bond, Goal) and post-treatment YBOCS. We also explored the associations between alliance and patient adherence (PEAS scores), including a mediational model in which alliance scores relate to post-treatment symptoms through patient adherence. Overall significance was set at *alpha*< .05. SPSS was used for all analyses. We employed the SPSS macro provided by Preacher and Hayes (2008) to test mediation.

Results

Sample description and EX/RP outcomes

The sample was 51.4% female and 89% of participants were non-Hispanic White. Participant age ranged from 18 to 65 (M = 33.78; SD = 12.54). **Table 1** presents the means and standard deviations of all study measures, as well as their inter-correlations. Overall, mean scores on the YBOCS decreased significantly from baseline (*M*=27.03, *SD*=3.98) to post-treatment (*M*=13.0, *SD*=6.09, *t*(36) =12.0, *p* <.001).

The sample mean on the WAI-SF was 75.6 (SD=7.36, range = 59-84). This average rating on the WAI-SF corresponds to 90% of the maximum possible on the measure, indicating that most patients highly rated the strength of the working alliance. Working alliance ratings were not related to demographic variables: WAI-SF scores were not significantly correlated with patient age (*r*=.25, *p*=.15) and did not differ by gender (*t*=1.45, *p*>.15) or ethnicity (collapsing categories to compare non-Hispanic White to all other categories, *t*=.85, *p*>.4). In addition, WAI-SF scores were not associated with baseline OCD severity (*r*=.13, *p*=.47). **Table 1** shows the inter-correlations among the WAI-SF subscales. The subscales were moderately to highly inter-correlated with the exception that the Bond and Task subscales were not significantly correlated (*r*=.26, *p*=.13).

Does the therapeutic alliance predict EX/RP outcomes?

In the first step of our regression model, baseline YBOCS did not predict post-treatment YBOCS (R^2=.01, p=.61). In Step 2, total score on the WAI-SF did not account for significant additional variance in post-treatment scores (ΔR^2=.02, β=-.11, *p*=.52). Follow-up

Table 1. *Sample descriptives*

			Correlations (r)					
Measure	*M (SD)*	*Range*	Post-YBOCS	WAI-Total	WAI-Goal	WAI-Bond	WAI-Task	PEAS
Baseline YBOCS	27.03 (3.98)	19 – 34	.05	.13	.18	.16	.02	-.16
Post-treatment YBOCS	13.0 (6.09)	0 – 25	--	-.10	.02	.13	-.34*	-.55**
WAI-SF	75.6 (7.36)	59 - 84		--	.88**	.80**	.76**	.09
WAI-Goal	26.23 (2.13)	21 - 28			--	.74**	.50**	-.03
WAI-Bond	25.31 (3.38)	15 - 28				--	.26	-.17
WAI-Task	24.06 (3.65)	13 - 28					--	-.37*
PEAS	5.33 (.89)	2.93 – 7.0						--

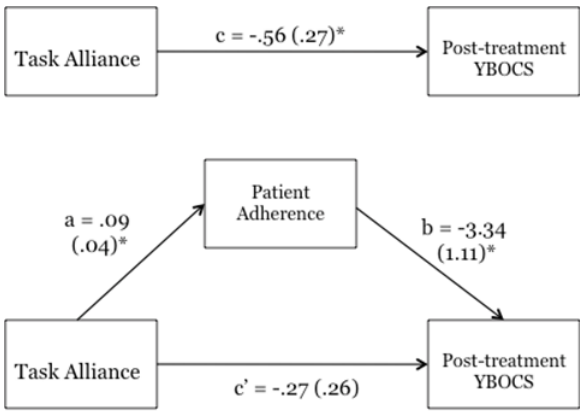
Note. YBOCS = Yale-Brown Obsessive Compulsive Scale; PEAS = Patient EX/RP Adherence Scale; WAI-SF = Working Alliance Inventory – Short Form.
*p<.05
**p<.01

analyses revealed that post-treatment OCD severity was not significantly predicted by either the Goal (R^2<.01, β= .02, *p*=.9) or Bond (R^2=.02, β=.13, *p*=.45) subscales of the WAI-SF. However, higher scores on the Task subscale were significantly predictive of lower post-treatment scores (R^2=.12, β=-.34, *p*<.05). Scores on the Task subscale also predicted treatment adherence on the PEAS (R^2=.13, β=.37, *p*<.05) in the expected direction (i.e., greater task alliance predicted greater patient adherence).

Mediational analysis with patient adherence

Figure 1 presents a model in which patient adherence mediates the association between task alliance and post-treatment OCD symptoms. As shown, the significant direct association between the WAI-SF Task subscale and post-treatment YBOCS (*c* path) was reduced in magnitude and non-significant once the mediator was accounted for (*c*′ path). In line with current recommendations (Preacher and Hayes 2004, Preacher and Hayes 2008) we tested for mediation by

Figure 1



**p<.05*

Note. YBOCS = Yale-Brown Obsessive Compulsive Scale

bootstrapping the indirect effect (taking the mean of 5,000 bootstrapped resamples from the data). The point estimate for the indirect effect was -.29 (*SE* = .02). The bias-corrected bootstrapped 95% confidence interval did not contain zero (95% CI=-.63 to -.1), indicating the mediation effect was significant, *p*<.05. To estimate the effect size of the mediation effect we calculated the proportion of the total effect that was mediated (1– (*c*/*c*')). This showed that 51.5% of the relationship between task alliance and treatment outcome was mediated by patient adherence.

Discussion

We examined the relationship between patient-rated therapeutic alliance and treatment outcome in a sample of OCD patients receiving manualized EX/RP as part of a RCT of SRI augmentation strategies. Contrary to our hypothesis and much of the literature on alliance-outcome relationships, the overall strength of the therapeutic alliance did not relate to EX/RP outcomes in the present study. However, one facet of the alliance, the degree of agreement on the tasks of therapy, did predict EX/RP outcome. In addition, task-related alliance ratings predicted the degree to which patients adhered to EX/RP procedures, and mediational analysis found that the relationship between task alliance and treatment outcome was mediated by patient adherence.

That overall strength of the therapeutic alliance did not predict EX/RP outcomes is inconsistent with several previous reports in the literature (Hoogduin et al. 1989, Keijsers et al. 1994, Vogel et al. 2005), including work from our group (Maher et al. 2012, Simpson et al. 2011). The present study's failure to replicate our prior finding in this new sample merits reflection. The two studies were similar in certain design elements (manualized EX/RP involving 15 exposure sessions). However, they also differed in other design elements (e.g., medication status and potential to be randomized to antipsychotics or placebo in the present study versus motivational interviewing-augmented EX/RP in the other). The two studies also used slightly different versions of the Working Alliance Inventory and had different therapists. Although any of these factors might have affected the results, what seems most likely is that the high ratings of the alliance in our sample (sample mean was 90% of maximum possible score vs. 74% in Maher et al. 2012) resulted in a restricted range of alliance scores, limiting our ability to predict outcome variance. This ceiling effect of alliance suggests either that alliance could be viewed as necessary but not sufficient for good EX/RP outcome (as there is still outcome variance despite relatively uniform, high alliance ratings) or that more sensitive measures of alliance may need to be developed.

In addition, we measured alliance early on in treatment (third session), while some other reports have assessed alliance later in treatment (rated at 6th session in Vogel et al. 2005 and 10th session in Hoogduin et al. 1989). It is possible that ratings of the alliance that come later in treatment (once exposure work has begun and more potential obstacles to the alliance arise) are a better predictor of outcome. Indeed, Hoogduin et al. (1989) reported that patient ratings of the therapeutic relationship taken at the second therapy session were uncorrelated with outcomes, while ratings made after the 10th session did relate to treatment outcomes. However, later ratings risk confounding symptom improvement with alliance ratings such that those who improve may be more likely to highly rate the alliance. Thus, we would contend that early alliance is a "purer" rating of alliance in terms of its ability to predict outcome. On the other hand, Crits-Christoph et al. (2011) have suggested that alliance ratings taken in a single time point may underestimate the true effect of alliance due to instability of the measure. They suggest that at least four measurements are necessary. Thus, future studies might benefit from taking alliance ratings across multiple time points across treatment. This would allow for more stable ratings as well as time lagged analyses to examine the direction of the alliance-symptom change effect if it is found.

While the present study did not find an overall alliance-outcome relationship, it did, however, demonstrate a relationship between ratings on task alliance and EX/RP outcomes. This finding has clinical implications, as it suggests that patients and therapists agreeing on what tasks will constitute the therapy predicts how much patients improve at post-treatment. Our data also suggests that degree of adherence to between session EX/RP procedures mediates the relationship between task alliance and outcomes, indicating that when therapists and patients highly agree on therapy tasks, patients adhere to therapy procedures,

and good outcomes are likely. In contrast, if there is less agreement on the tasks of therapy, patients appear to adhere less, and thereby experience less therapeutic benefit. These results highlight the importance of psychoeducation and making an explicit agreement on the treatment plan early in treatment. Our results also hint that spending extra session time to form a strong agreement on therapy tasks might improve therapy outcomes, though this possibility requires future empirical testing. Indeed, our current data on mediation could be viewed as simply reflecting the same process twice: patients who express willingness to adhere end up doing so and therefore improve.

Our results should be interpreted within the context of study limitations. It is important to note that we cannot make causal determinations about the alliance-outcome relationship given that there was no experimental manipulation in our study. While it could be the case that a strong working relationship leads to greater patient adherence and therapy outcomes, it could also be that patients who feel that treatment will be helpful develop a better alliance. Thus alliance and outcome might influence one another in a reciprocal fashion. In addition to studies that try to improve task agreement, other future studies could employ time-lagged ratings of alliance and OCD severity to investigate whether changes in symptoms precede or follow changes in the therapeutic relationship.

Another important limitation, as mentioned above, was the somewhat restricted range of alliance scores present in our sample, which could have weakened our ability to detect a relationship between alliance and outcomes. The therapists in the present study were highly trained at EX/RP and thus these alliance ratings may not generalize to broader clinical practice. In addition, although therapists were not present when the patients filled out the alliance measure, reporting on the alliance may have been subject to demand characteristics on the part of the patients (i.e., desire to rate the alliance highly in order not to hurt the relationship). Finally, all of the patients in our study were taking SRI-medications and most were non-Hispanic White. Thus, future research in non-medicated and more diverse samples is warranted.

In conclusion, the present study raises some questions regarding the importance of the overall therapeutic alliance as a predictor of outcomes, but provides support for the notion that agreement on therapy tasks is an important factor in EX/RP outcomes. Task agreement did predict outcome and this effect was mediated by patient adherence. Future research is needed to explore how the therapeutic alliance may change over the course of treatment, and what factors influence therapist variability in alliance scores (Hagen et al. 2016). This future work would benefit from independent ratings of the alliance (i.e., objective coding of therapy sessions) to remove the potential biases of having patients rate the alliance. In addition, research is needed to test whether interventions to improve agreement on the tasks of EX/RP (e.g., extra treatment planning time for patients who require it) can improve patient adherence to EX/RP procedures and thereby maximize therapeutic outcomes.

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