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“How Will It Help Me?": Reasons Underlying Treatment Preferences Between Sertraline and Prolonged Exposure in PTSD

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Abstract

Individuals with posttraumatic stress disorder (PTSD) often wait years before seeking treatment. Improving treatment initiation and adherence requires a better understanding patient beliefs that lead to treatment preferences. Using a treatment-seeking sample ($N = 200$) with chronic PTSD, qualitative reasons underlying treatment preferences for either prolonged exposure (PE) or sertraline (SER) were examined. Reasons for treatment preference primarily focused on how the treatment was perceived to reduce PTSD symptoms rather than practical ones. Patients were more positive about PE than SER. Individual differences did not reliably predict underlying preference reasons, suggesting that what makes a treatment desirable is not strongly determined by current functioning, treatment, or trauma history. Taken together, this information is critical for treatment providers, arguing for enhancing psychoeducation about how treatment works and acknowledging pre-existing biases against pharmacotherapy for PTSD that should be addressed. This knowledge has the potential to optimize and better personalize PTSD patient care.

Keywords

PTSD; treatment preference; prolonged exposure; sertraline; reasons

Introduction

Through work impairment, hospitalization, and health visits, posttraumatic stress disorder (PTSD) is more costly than any other anxiety disorder (Greenberg et al., 1999). In the 1.64 million returning veterans, it is estimated that approximately 300,000 individuals currently suffer from PTSD or major depression (Tanielian & Jaycox, 2008), potentially costing \$4.0 to \$6.2 billion in a two-year time frame (Eibner et al., 2008). Providing evidence-based treatment for those in need could reduce these costs by as much as 27% (Eibner et al., 2008). Cognitive behavioral therapies and selective serotonin reuptake inhibitors (SSRIs) are both effective treatment options for PTSD (e.g., Foa et al., 2009). Nevertheless, a significant

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number of individuals with PTSD do not seek treatment for trauma-related psychopathology, or wait years, even decades, after their traumatic event occurred to seek treatment (Wang et al., 2005). Even among those who do seek treatment for trauma-related difficulties, dropout is an issue, ranging from approximately 20–27% for psychotherapy for PTSD (Hembree et al., 2003), similar to other psychiatric disorders such as major depression (e.g., Fournier et al., 2009), and 30–37% for pharmacotherapy (e.g., Brady et al., 2005; Davidson et al., 2001). To maximize treatment initiation, adherence, and effectiveness, patients' treatment preferences and what shapes these preferences must be better understood. More specifically, understanding the beliefs underlying treatment preference may help clinicians address the concerns of patients who are hesitant to start treatment or with those who have difficulty with adherence.

Cognitive behavioral therapies such as prolonged exposure (PE) and SSRIs are very different treatment approaches; thus, patients are likely to have a clear preference for one treatment or another (Barlow, 2004). Indeed, a preference for psychotherapy for trauma-related difficulties has been found in several studies (Becker et al., 2007; Feeny et al., 2009; Zoellner et al., 2003), although Roy-Byrne and colleagues (2003) found that individuals who experienced a physical or sexual assault were interested in *both* medication and counseling, with only a slight preference for counseling when forced to choose only one treatment option.

To date, most treatment preference research has focused on individual differences, such as demographic characteristics (e.g., ethnicity, gender) and severity of psychopathology as predictors of preference, but findings so far have been inconsistent. Several studies (e.g., Dwight-Johnson et al., 2000; Givens et al., 2007) found that ethnic minorities were less interested in pharmacotherapy than Caucasians, but others have found the opposite result (Zoellner et al., 2009) or that ethnicity was not associated with preference (Roy-Byrne et al., 2003; Angelo et al., 2008). Other demographic variables have not been any more consistent in predicting preference. Roy-Byrne et al. (2003) found that women were more interested than men in receiving *any* form of treatment, therefore gender did not uniquely predict preference for either psychotherapy or pharmacotherapy. Similarly, the presence of co-occurring disorders has been associated with a greater willingness to try either psychotherapy or pharmacotherapy for panic disorder (Hazlett-Stevens et al., 2002). Thus, treatment preference has been inconsistently related to individual difference factors.

Treatment preference research has also focused on past treatment experiences as a predictor of treatment choice. Among primary care patients with current depressive symptoms, a preference for counseling rather than medication was associated with having no recent antidepressant treatment (Dwight-Johnson et al., 2000). However, in a treatment-seeking sample of female assault survivors (Feeny et al., 2009), treatment choice was not associated with past therapy or medication usage. Angelo et al. (2008) similarly found that receiving prior psychotherapy or pharmacotherapy did not influence treatment choice in a trauma-exposed community sample, even after taking into account effectiveness of prior treatment. Overall, given that demographic factors, psychopathology, and past treatment history are not consistent predictors of preference, other, more idiographic factors, such as underlying beliefs or perceptions, may be critical to explaining why patients prefer one treatment over another.

Perceptions of *why* or *how* a given treatment works may have a greater impact on treatment preference than individual differences (Zoellner et al., 2009). When asked to provide open-ended reasons for treatment preferences, reasons such as the expected efficacy of the treatment, potential costs, required time commitment, concern about dependency and/or side effects, and the mechanism of therapeutic action are commonly cited (Wagner et al., 2005;

Cochran et al., 2008). Angelo et al. (2008) found that these reasons predicted choice of psychotherapy or pharmacotherapy over and above demographic and psychopathology variables; in fact, the *only* significant predictor of preference was citing a reason about the therapeutic mechanism (e.g., “You need to talk about it”). Consistent with this, Zoellner et al. (2009) modeled treatment preference for PTSD and found that participants’ beliefs about treatment were the strongest predictors of their treatment preference. Participants were more likely to choose psychotherapy when they had positive reactions to the psychotherapy rationale and believed that it was more credible, and the same was true for pharmacotherapy (Zoellner et al., 2003; Zoellner et al., 2009). In summary, any examination of the determinants of treatment preference must take into account patient perceptions about the treatment, including factors such as its perceived efficacy and mechanism.

Despite patients’ reasons for preference being crucial to understanding positive and negative attitudes toward treatment, few studies have examined these reasons in a treatment-seeking sample (Prins et al., 2008), and none have in a PTSD sample. In the present study, we examined reasons underlying treatment preference for either psychotherapy (prolonged exposure, or PE) or medication (sertraline, or SER) among two hundred treatment-seeking men and women with a primary diagnosis of chronic PTSD. These two treatment options were chosen because they are commonly used and generally efficacious interventions for PTSD (Foa et al., 2009). To examine treatment preference, patients with PTSD viewed standardized videotaped rationales for both PE and SER provided by a psychiatrist or a psychologist. After viewing these rationales, they were asked to write in an open-ended format their top reasons for their treatment preference. Importantly, the treatment rationales mirrored those given by clinicians in standard clinical practice, and the open-ended response format for clients was similar to the type of feedback a clinician might elicit at an intake session.

There were three goals of the present study. First, the present study sought to qualitatively examine the reasons individuals gave for their treatment preference. Second, the present study sought to examine whether particular types of reasons were more associated with preference for either cognitive behavioral psychotherapy (PE) or medication (SER) for PTSD. The final goal of the present study was to examine whether individual differences (e.g., demographic characteristics, prior treatment history, severity of psychopathology) predicted underlying reasons cited.

Methods

Participants

Two hundred treatment-seeking individuals (75.5% female, $n = 151$) with a diagnosis of chronic PTSD were participants in the current study. On average, participants were 37.4 years old ($SD = 11.3$), and 70% were not college educated. Approximately half of the sample (48.5%) reported an annual income of \$20,000 or less. Patients were Caucasian (65.5%), African American (21.5%), and 13.0% were from other backgrounds. The sample reported a variety of traumas including adult sexual assault (31.0%), adult non-sexual assault (22.5%), childhood assault (24.0%), accident (13.5%), death/violence to a loved one (6.5%), and combat/war (2.5%).

Patients were recruited for a PTSD treatment outcome study via referrals from media advertisements, medical professionals, and local victim assistance agencies. Care in recruitment was made so as to not present a bias toward either form of therapy being examined. Eligible participants were between the ages of 18–65 and had a primary diagnosis of DSM-IV chronic PTSD. Exclusion criteria included: a) a current diagnosis of schizophrenia, other psychotic disorder, unstable bipolar disorder, substance dependence, or

depression requiring immediate psychiatric treatment (e.g., suicidal intent or plan); and b) an ongoing relationship with the perpetrator, for assault cases.

Approximately 35% of individuals who completed an intake evaluation were not eligible for the study, most often because PTSD was not the primary diagnosis or they did not meet PTSD diagnostic criteria. An additional 16% were eligible but declined participation or did not follow through with entering the study. The remaining individuals entered the study ($N = 200$).

Materials

Videotapes of Treatment Rationales—A set of standardized treatment rationales were developed and vetted by a team of psychologists and psychiatrists with expertise in cognitive behavioral therapy and pharmacotherapy for PTSD. The rationales for PE and SER were matched on length (approximately 5 min) and content (similar subsections). In each rationale, a therapist talks about the treatment option as if s/he was with a patient, discussing basic background information, hypothesized treatment mechanism and procedures, and side effects. Wording was matched wherever possible. For example, the PE rationale said, “Because PTSD may be a disorder of failed emotional processing, PE may be a particularly logical treatment option,” whereas the SER rationale said, “Because PTSD may be a disorder of brain chemical messengers, Zoloft may be a particularly logical treatment option.” Rationales are available upon request. Presentation was counterbalanced across type of therapist (psychiatrist vs. psychologist), gender of therapist, and treatment order (PE or SER first).

Treatment Preference and Reasons for Treatment Preference—To assess treatment preference, patients were asked, “If you had a choice between individual therapy, medication, or no treatment to help you with your trauma-related symptoms (e.g., nightmares, upsetting thoughts, fear), which would you choose?” The order of listing of the choices was counterbalanced across individual therapy and medication.

After making a choice, patients were asked, “Please give five reasons for your choice.” Using qualitative coding procedures developed by Cochran et al. (2008) and refined by Angelo et al. (2008), reasons were categorized into one of five content categories: 1) Health: potential psychological or physical side effects of the treatment (e.g., “I think PE would make me so much worse at first I’m afraid to try it”); 2) Practical: the convenience or inconvenience of the treatment (e.g., “I can’t remember to take pill on a daily basis”); 3) Efficacy: how likely it is that the treatment will work (e.g., “PE seems like it would offer more permanent improvement”); 4) Mechanism: the way in which the treatment works (e.g., “Medication decreases overactivity in the brain”); and 5) Other: did not fall into a clear category (e.g., “Drugs are against my personal beliefs”). Content was also categorized by whether the reason was about prolonged exposure, sertraline, or neither/unable to determine, and by whether the valence of the statement was positive (e.g., “Therapy would help me overcome my fears”), negative (e.g., “I don’t like the drowsy feeling of medicine”), or neutral (e.g., “I just need help”).

Using a coding manual, two raters practiced coding a separate data set until they reached acceptable reliability ($k > .80$). During coding, raters were blind to treatment preference and treatment condition. Interrater reliability was acceptable to good across content categories (health, $k = .89$; practical, $k = .79$; efficacy, $k = .71$; mechanism, $k = .70$), as well as treatment categories (PE, $k = .97$; SER, $k = .97$; neither: insufficient number to calculate reliability) and valence (positive, $k = .95$; negative, $k = .97$; neutral: insufficient number to calculate reliability). One set of ratings was randomly chosen for data analysis.

Measures

Interview Measures

PTSD Symptom Scale-Interview Version (PSS-I): The PSS-I (Foa et al., 1993) is a 17-item, clinician-administered measure that produces a score of PTSD severity and diagnostic status rated for the past two weeks. This measure was used to determine PTSD diagnosis for the study. The PSS-I demonstrates good convergent validity and inter-rater reliability (Foa & Tolin, 2000). Approximately 10% of cases were analyzed for interrater reliability; reliability was high for PTSD severity scores ($ICC = .985$) and PTSD diagnosis ($\kappa = 1.00$).

Structured Clinical Interview for the DSM-IV (SCID-IV): The SCID-IV (First et al., 2002), a semi-structured clinical interview, was utilized to assess supplemental diagnosis and to confirm that PTSD was the primary diagnosis. This measure has acceptable inter-rater reliability (Lobbestael et al., 2011). Approximately 10% of cases were analyzed for interrater reliability, reliability was acceptable for current major depression ($\kappa = .68$, $p_{pos} = .88$, $p_{neg} = .80$), anxiety disorders ($\kappa = 1.00$, $p_{pos} = 1.00$, $p_{neg} = 1.00$), substance abuse disorders ($p_{pos} = .00$, $p_{neg} = 1.00$), and other diagnoses ($p_{pos} = 0.00$, $p_{neg} = 1.00$).

Self-Report Measures

PTSD Symptom Scale-Self-Report (PSS-SR): The PSS-SR (Foa et al., 1997) is a 17-item measure that rates DSM-IV PTSD symptom frequency and severity; it has good convergent validity (Foa et al., 1997).

Beck Depression Inventory (BDI): The BDI (Beck et al., 1961) is a 21-item measure that assesses depression severity; it demonstrates good reliability and validity (Beck et al., 1996).

Anxiety Sensitivity Index (ASI): The ASI (Reiss et al., 1986) is a 16-item measure that examines anxiety resulting from arousal symptoms. It demonstrates good convergent validity (Reiss et al., 1986).

Emotion Regulation Questionnaire (ERQ): The ERQ (Gross and John, 2003) is a 10-item measure that assesses how individuals manage, or regulate, positive and negative emotions. The suppression subscale measures the tendency to inhibit expression of emotion; the reappraisal subscale measures the tendency to alter or reframe an emotional situation to change its emotional impact. This measure has acceptable convergent and discriminant validity (Gross and John, 2003).

Peritraumatic Dissociative Experiences Questionnaire (PDEQ): The PDEQ (Marmar et al., 1997) is a 10-item measure that assesses the extent of dissociation that occurred during and immediately after the traumatic event. This measure assesses a retrospective report of depersonalization, derealization, amnesia, out of body experience, and altered time perception during a specific traumatic event. This measure has acceptable to strong convergent validity (Marmar et al., 1997).

Procedure

Informed consent was obtained and patients completed interview measures at an initial intake assessment with an independent evaluator. Diagnostic information was obtained through the PSS-I and SCID-IV. Patients eligible for the study returned for a randomization appointment, during which they watched the videotaped clinician treatment rationales for PE and SER. Participants were asked to select their treatment preference and to provide five reasons for their preference, with their primary, or most important reason listed first. After

providing their treatment preference and reasons underlying this preference, randomization then occurred such that randomization did not impact preferences reported here.

Results

Qualitative Reasons Underlying Treatment Preferences

Valence of reasons—We first examined individuals' primary reason for treatment preference and whether individuals discussed PE or SER more positively or negatively. In general, individuals gave more reasons about PE (57.0%, $n = 114$) than about SER (42.0%, $n = 84$), $\chi^2 (1, N = 198) = 4.55, p < .05$. Primary reasons about PE and SER differed in terms of valence (positive vs. negative), $\chi^2 (1, N = 198) = 6.52, p < .05$, with more positive reasons about PE (62.8%, $n = 86$) than SER (35.8%, $n = 49$), $\chi^2 (1, N = 135) = 10.14, p < .01$, and no differences between PE (44.4%, $n = 28$) and SER (55.6%, $n = 35$) for negative reasons.

Across all five possible reasons for preference, reasons were split more evenly between PE (52.2%, $n = 419$) and SER (42.9%, $n = 368$), *ns*, but there were still more positive reasons about PE (64.6%, $n = 323$) than SER (35.4%, $n = 177$), $\chi^2 (1, N = 500) = 42.63, p < .001$, and fewer negative reasons about PE (33.2%, $n = 92$) than SER (66.8%, $n = 185$), $\chi^2 (1, N = 277) = 31.22, p < .001$. Thus, across both primary and all reasons provided, statements about prolonged exposure were more likely to be positive than about sertraline.

Categories of reasons—We next examined the content of the primary reasons for treatment preference. The most common primary reasons discussed the mechanism underlying the treatment ($n = 91, 45.5\%$), the treatment's perceived efficacy ($n = 63, 31.5\%$), or potential health concerns or side effects associated with the treatment ($n = 36, 18.0\%$). Practical concerns were not commonly mentioned ($n = 9, 4.5\%$). Other reasons were excluded from analyses due to insufficient numbers ($n = 1, 0.5\%$). Practical and health reasons were cited less frequently than mechanism and efficacy reasons, $\chi^2 (1, N = 199) = 59.70, p < .001$. Thus, conceptual reasons for treatment preference that discussed how, why, or whether a treatment would work were cited more than practical reasons.

We next descriptively examined the valence of each of these categories. When an individual's primary reason for treatment preference was a mechanism reason ($n = 91$), the majority were positive reasons about PE (64.8%, $n = 59$), followed by negative reasons about PE (14.3%, $n = 13$), positive reasons about SER (13.2%, $n = 12$), and negative reasons about SER (7.7%, $n = 7$). Among primary efficacy reasons ($n = 63$), the majority were positive reasons about PE (39.7%, $n = 25$) or SER (41.3%, $n = 26$), and there were few negative reasons about PE (3.2%, $n = 2$) or SER (12.7%, $n = 8$). Among primary health reasons, the majority were negative reasons about PE (36.1%, $n = 13$) or SER (47.2%, $n = 17$) and there were few positive reasons about PE (5.6%, $n = 2$) or SER (11.1%, $n = 4$). Although there were insufficient numbers to conduct quantitative analyses, mechanism and efficacy reasons were largely positive statements about PE and SER, while health reasons were more often negative and tended to reflect concerns about undesirable side effects of either treatment.

When we examined content across all five reasons, 40.4% ($n = 324$) were mechanism reasons, 29.3% ($n = 235$) were efficacy reasons, 22.3% ($n = 179$) were health reasons, 5.4% ($n = 43$) were practical reasons, and 2.6% ($n = 21$) of reasons did not fall into one of the four main categories. Content was not equally divided among the five categories, $\chi^2 (4, N = 802) = 410.79, p < .001$, again with practical and health reasons cited less frequently than mechanism and efficacy reasons, $\chi^2 (1, N = 781) = 145.42, p < .001$.

When individuals cited a mechanism reason, the reason was more likely to be about PE (79.9%, $n = 258$) than SER (20.1%, $n = 65$), $\chi^2(1, N = 323) = 115.32, p < .001$. PE mechanism reasons and SER mechanism reasons differed in terms of valence, $\chi^2(1, N = 323) = 25.67, p < .001$, with more positive (85.6%, $n = 220$) than negative (14.7%, $n = 38$) PE reasons, $\chi^2(1, N = 258) = 128.39, p < .001$, and a nearly equal number of positive (56.9%, $n = 37$) and negative (43.1%, $n = 28$) SER reasons, *ns*.

Across all five reasons, there were fewer efficacy reasons about PE (41.1%, $n = 92$) than SER (58.9%, $n = 132$), $\chi^2(1, N = 224) = 7.14, p < .01$. PE and SER efficacy reasons also differed in terms of valence, $\chi^2(1, N = 224) = 6.37, p < .05$, with an equal number of positive PE and SER reasons $\chi^2(1, N = 182) = 1.78, ns$, but more negative reasons about SER than PE, $\chi^2(1, N = 42) = 11.54, p < .01$. Across all five reasons, individuals generally cited fewer health reasons about PE (30.9%, $n = 55$) than about SER (69.1%, $n = 123$), $\chi^2(1, N = 178) = 25.98, p < .001$. PE and SER health reasons differed in terms of valence, $\chi^2(1, N = 178) = 4.90, p < .05$, with an equal number of positive PE and SER reasons $\chi^2(1, N = 29) = 0.03, ns$, but more negative reasons about SER than PE, $\chi^2(1, N = 149) = 30.13, p < .001$.

Across individuals' top five reasons for preference, there were fewer practical reasons about PE (18.6%, $n = 8$) than SER (81.4%, $n = 35$), $\chi^2(1, N = 43) = 16.95, p < .001$. Cell sizes were too small to examine differences in valence between PE and SER.

In summary, the most commonly cited reasons for treatment preference discussed how the treatment worked and whether it would improve PTSD symptoms, and there were more negative opinions about SER than PE.

Reasons and actual treatment preference—Individuals who preferred SER ($n = 78$) cited primary reasons about treatment efficacy (38.5%, $n = 30$) and treatment mechanism (30.8%, $n = 24$) about equally, $\chi^2(1, N = 54) = 0.67, ns$, while those who preferred PE ($n = 122$) discussed mechanism (54.9%, $n = 67$) more than efficacy (27.0%, $n = 33$), $\chi^2(1, N = 100) = 11.56, p < .01$. Health, practical, and other reasons combined comprised only 30.8% of SER reasons and 18.1% of PE reasons. Across all five reasons, individuals who preferred SER were most likely to discuss treatment efficacy (41.4%, $n = 113$), $\chi^2(1, N = 273) = 57.42, p < .001$, while those who preferred PE were again most likely to discuss treatment mechanism (41.5%, $n = 324$), $\chi^2(1, N = 781) = 213.06, p < .001$. In general, when taking into account individuals' non-primary reasons for preference, individuals who preferred SER placed the most weight on the likelihood of successful treatment (i.e., treatment efficacy), while individuals who preferred PE generally focused more on how the treatment works (i.e., treatment mechanism).

Factors Associated with Giving a Mechanism, Efficacy, or Health Reason

To examine whether individual differences predicted the key categories of reasons that mattered most to individuals with chronic PTSD, we conducted a series of logistic regressions examining whether demographic characteristics, treatment and trauma history, pre-treatment psychopathology, and emotion regulation measures predicted giving a reason about treatment mechanism, efficacy, or health/side effects.

Demographic factors—Age, gender, income (greater vs. less than \$20,000 per year), employment (employed full time vs. not employed full time), education (bachelor's degree or higher vs. less), and minority status (Caucasian vs. minority) did not predict giving a primary mechanism, efficacy, or health reason.

Trauma and treatment history—Trauma history variables of time since trauma exposure, history of childhood sexual, and history of physical abuse were examined. As seen in Table 2, a history of sexual abuse was associated with almost two times the likelihood (Odds Ratio = 1.98) of citing a mechanism reason, and there was a trend for history of physical abuse being associated with a decreased likelihood. There was also a trend for the overall model to predict giving a primary mechanism reason, $\chi^2 (4, N = 197) = 6.72, p = .08$, 59.9% overall correct classification (28.9% positive, 86.0% negative). Trauma history variables did not predict primary efficacy or health reasons. Further, neither a history of prior psychotherapy or pharmacotherapy nor perceived helpfulness of prior treatment was associated with giving a primary mechanism or efficacy reasons. Cell sizes were too low to conduct a quantitative analysis for health reasons.

Psychopathology—We next examined whether the presence of current psychopathology (i.e., PTSD, depression, trait anxiety) was associated with giving a particular reason for treatment preference. For giving a primary mechanism reason, as seen in Table 2, lower depression (BDI) predicted giving a primary mechanism reason, though only modestly (Odds Ratio = .95), and there was a trend for psychopathology variables to predict giving a primary mechanism reason, $\chi^2 (3, N = 199) = 8.91, p < .05$, with 56.3% overall correct classification (39.6% positive prediction, 70.4% negative prediction). By contrast, when examining factors predicting giving an efficacy or health reason, PTSD severity, depression severity, and trait anxiety were not strongly associated.

Emotion regulation—Finally, we examined whether factors related to emotion regulation, specifically anxiety sensitivity (ASI), expressive suppression and reappraisal (ERQ), and peritraumatic dissociation (PDEQ), predicted reasons for treatment preference. As seen in Table 2, higher anxiety sensitivity was associated with a lower likelihood of selecting a mechanism reason, though only modestly (Odds Ratio = .97). The overall model was significantly different from the constant only model, $\chi^2 (4, N = 194) = 14.69, p < .01$, with 59.8% overall correct classification (49.4% positive, 68.6% negative).

Discussion

Among patients seeking treatment for PTSD, reasons underlying their preference for psychotherapy (PE) or pharmacotherapy (SER) were primarily focused on *how* the treatment was thought to work in reducing PTSD symptoms, rather than on practical issues like time commitment or even treatment side effects. Reasons about PE were generally more positive and about the perceived mechanism of the treatment, whereas reasons about sertraline were generally more negative and focused on the perceived efficacy of the treatment. This suggests that PE and sertraline are attractive to patients for different reasons. Finally, although some individual difference measures predicted providing a mechanism reason, many variables one would expect to be related did not reliably predict reasons patients gave for their treatment preference.

The main reasons underlying treatment preferences were more conceptual in nature, namely how the treatment works (e.g., “I need to talk about it”) and how effective it is (e.g., “I think medication will work better”), than practical, such as the time commitment required (e.g., “Medication is less time consuming”). Although practical issues such as travel and childcare costs may be critical for determining whether individuals initiate and adhere to PTSD treatment (Cahill & Foa, 2004; Zayfert & Becker, 2000), they do not appear to play a determining role in patient choice, suggesting a disconnect between wanting to pursue a treatment and actually following through with that goal. It may be that patients' preferences are guided largely by whether the treatment seems likely to work on a conceptual or abstract level. Previous research suggests that patients are looking for a treatment that matches their

etiological model of the disorder (Addis & Carpenter, 1999; Addis & Jacobson, 1996); that is, patients want a treatment that will directly address the issue that they believe led to their symptoms. Thus, conceptual reasons about treatment mechanism and effectiveness may have a greater impact on choice than practical factors or potential side effects because practical factors are unrelated to the etiology of PTSD.

Consistent with previous research findings that individuals with anxiety and mood disorders generally prefer psychotherapy to medication (Dwight-Johnson et al., 2001; Feeny et al., 2009), individuals in this study were also generally more positive about PE than sertraline. When we examined all of the top five reasons for preference, pharmacotherapy was still discussed more negatively, in part because many individuals reported concerns about physical side effects (e.g., "I do not want to become dependent on a drug."). This is somewhat surprising given that the pharmacotherapy rationale provided by the clinician explicitly stated that sertraline is generally well tolerated and associated with few, mild and often transitory side effects and that side effects were also described for PE. However, patients were instructed about the possibility of withdrawal symptoms upon sertraline discontinuation. A common belief about pharmacotherapy is that medication can be "addictive" (Bystritsky et al., 2005), despite serotonergic medications not being addictive and being the most commonly utilized treatment (Bakker et al., 2005; Choi, 2009; Sullivan & Neria, 2009). For the patients who raise side effect issues, directly addressing this common mistaken belief may be important as well as addressing a more general concern about being reliant on medications.

Interestingly, there were differences in the type of conceptual reason given depending on whether the individual preferred psychotherapy or pharmacotherapy. Those who preferred PE frequently cited the importance of talking about the trauma (its underlying mechanism); whereas those who preferred pharmacotherapy were generally concerned with whether the treatment worked (its effectiveness) rather than how it worked. Despite strong treatment rationales that equally emphasized hypothesized treatment mechanisms, it appears that the pharmacological explanation was not easily adopted by patients with chronic PTSD. The rationales were purposely written in non-technical language using simple analogies (e.g., "It's like your brain has an alarm system that never turns off"). It may be that the hypothesized mechanism for sertraline (e.g., neurochemical changes) is less consistent with an external cause of the symptoms (i.e., the trauma) than the hypothesized mechanism for prolonged exposure (i.e., emotional processing). In fact, when individuals are asked to explain the cause of their PTSD symptoms, few endorse a biological explanation (Spoont et al., 2005).

For patients with a history of childhood sexual abuse, there was almost a two times greater likelihood of providing a mechanism reason for their treatment preference, which suggests that individuals who have experienced childhood sexual abuse place particular importance on the way a treatment works (e.g., processing the memory in PE). Following childhood sexual abuse, a need to make meaning of the abuse is commonly reported (e.g., Simon, Feiring, & McElroy, 2010). Thus, childhood sexual abuse survivors may be more likely to report a mechanism reason for treatment preference than other trauma types. However, this interpretation should be tempered by the fact that the overall classification accuracy for mechanism reason was not particularly high. Future research should examine in more depth the impact of trauma type on PTSD treatment preference.

Other predictors such as age, time since trauma, gender, severity of psychopathology, and problems with emotion regulation did not reliably predict reasons underlying treatment preferences. Lower depression and higher anxiety sensitivity were associated with an increased probability of providing a reason about the underlying treatment mechanism,

though they were only weak predictors. In general, individual difference characteristics did not explain variability in reason content, which suggests that patients' beliefs about what makes a treatment credible or desirable is not strongly determined by their current functioning or trauma history (Zoellner et al., 2009).

A number of strengths and limitations of this study should be noted. When individuals gave their reasons for preferring either psychotherapy or pharmacotherapy, we did not limit their responses, but instead conducted in-depth qualitative analyses of all of their top five reasons for treatment preference using a well-developed coding manual (Angelo et al., 2008; Cochran et al., 2008) and blind coders trained to reliability. Although this was advantageous for understanding in-depth what patients believe, a quantitative, standardized assessment would have allowed us to examine more infrequently discussed reasons. A second issue is that we examined reasons for treatment preference for two specific forms of PTSD treatment, prolonged exposure and sertraline, within the context of a doubly randomized preference trial where individuals had to be theoretically willing to receive either treatment. Thus, the reasons and treatment preferences that individuals reported in this study were not hypothetical, but instead had the potential to determine which treatment they would actually receive. Our findings may not generalize to other forms of therapy, particularly non-cognitive behavioral ones, other SSRIs, or non-SSRIs, and do not speak to preferences across psychotherapy options or combined psychotherapy and pharmacotherapy. They also do not speak to how a specific clinical setting impacts patient preferences. Furthermore, our sample included few individuals presenting with combat-related PTSD whose treatment preferences could systematically differ from those of non-veterans, though a recent study suggests this is not the case (Reger et al., in press). However, it is a notable strength that this is the first study to examine such reasons among PTSD patients who have the potential to receive the treatments that are described to them.

In terms of clinical implications, these findings suggest that many individuals with chronic PTSD prefer psychotherapy because they place importance on the treatment mechanism, that is, talking about the trauma. Yet, exposure therapy is often underutilized because of clinicians' unwarranted concerns that direct discussion of the trauma could be harmful to the patient (Becker et al., 2009; Frueh et al., 2006; van Minnen et al., 2010). This clinician concern may be misguided in that clinicians may be "protecting" patients from a treatment that is actually consistent with their underlying etiological model and preference. On the other hand, treatment-seeking individuals with chronic PTSD may underestimate the importance of practical considerations when choosing a treatment, despite the fact that logistical issues often present barriers to treatment adherence and are related to PTSD treatment dropout (Cahill & Foa, 2004; Zayfert & Black, 2000). At the same time, a minority of patients expressed concerns about potential medication side effects that are not wholly realistic concerns (e.g., "addiction" with SSRIs). These concerns need to be addressed, while balancing this discussion with a realistic perspective on potential discontinuation issues such as receptor adaptation. When discussing different treatment options, health care providers may need to increase dialogue about logistical issues and set realistic expectations about the side effect profile of a treatment.

Conclusion

Despite the fact that consideration of treatment preference is thought to be critical to maximizing treatment initiation and adherence (Grilo et al., 1998; Roy-Byrne et al., 2003; Wagner et al., 2005), this is the first study to examine reasons underlying PTSD treatment preference in a large-scale treatment-seeking and receiving clinical sample. Among those seeking treatment for PTSD, patients want treatments that, in their minds, directly address the problem that led to their symptoms. As treatment providers communicate with patients

about treatment options, understanding and utilizing this knowledge about treatment-specific beliefs has the potential to optimize and better personalize patient care.

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References

- Addis ME, Carpenter KM. Why, why, why?: Reason-giving and rumination as predictors of response to activation- and insight-oriented treatment rationales. *J Clin Psychol.* 1999; 55:881–894. [PubMed: 10866023]
- Addis ME, Jacobson NS. Reasons for depression and the process and outcome of cognitive-behavioral psychotherapies. *J Consult Clin Psychol.* 1996; 64:1417–1424. [PubMed: 8991328]
- Angelo FN, Miller HE, Zoellner LA, Feeny NC. "I need to talk about it": a qualitative analysis of trauma-exposed women's reasons for treatment choice. *Beh Ther.* 2008; 39:13–21.
- Bakker A, van Balkom AJ, Stein DJ. Evidence-based pharmacotherapy of panic disorder. *Int J Neuropsychopharmacol.* 2005; 8:473–482. [PubMed: 15804373]
- Barlow DH. Psychological treatments. *Am Psychol.* 2004; 59:869–878. [PubMed: 15584821]
- Beck AT, Steer RA, Ball R, Ranieri W. Comparison of Beck Depression Inventories -IA and -II in psychiatric outpatients. *J Pers Assess.* 1996; 67:588–597. [PubMed: 8991972]
- Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J. An inventory for measuring depression. *Arch Gen Psychiatry.* 1961; 4:561–571. [PubMed: 13688369]
- Becker CB, Darius E, Schaumburg K. An analog study of patient preferences for exposure versus alternative treatments for posttraumatic stress disorder. *Behav Res Ther.* 2007; 45:2861–2873. [PubMed: 17612502]
- Becker CB, Meyer G, Price JS, Graham MM, Arsena A, Armstrong DA, Ramon E. Law enforcement preferences for PTSD treatment and crisis management alternatives. *Behav Res Ther.* 2009; 47:245–253. [PubMed: 19200945]
- Brady KT, Sonne S, Anton RF, Randall CL, Back SE, Simpson K. Sertraline in the treatment of co-occurring alcohol dependence and posttraumatic stress disorder. *Alcohol: Clin Exper Res.* 2005; 29:395–401. [PubMed: 15770115]
- Bystritsky A, Wagner AW, Russo JE, Stein MB, Sherbourne CD, Craske MG, Roy-Byrne PP. Assessment of beliefs about psychotropic medication and psychotherapy: development of a measure for patients with anxiety disorders. *Gen Hosp Psychiatry.* 2005; 27:313–318. [PubMed: 16168790]
- Cahill, SE.; Foa, EB. A Glass Half Empty or Half Full? Where We Are and Directions for Future Research in the Treatment of PTSD. In: Taylor, S., editor. *Advances in the treatment of posttraumatic stress disorder: Cognitive-behavioral perspectives.* New York: Springer Publishing Co; 2004. p. 267–313.
- Choi YJ. Efficacy of treatments for patients with obsessive-compulsive disorder: a systematic review. *J Am Acad Nurse Pract.* 2009; 21:207–213. [PubMed: 19366379]
- Cochran BN, Pruitt L, Fukuda S, Zoellner LA, Feeny NC. Reasons underlying treatment preference: an exploratory study. *J Interpers Violence.* 2008; 23:276–291. [PubMed: 18162641]

- Davidson J, Rothbaum B, van der Kolk B, Sikes C, Farfel G. Multicenter, double-blind comparison of sertraline and placebo in the treatment of posttraumatic stress disorder. *Arch Gen Psychiatry*. 2001; 58:485–492. [PubMed: 11343529]
- Dwight-Johnson M, Sherbourne C, Liao D, Wells K. Treatment preferences among depressed primary care patients. *J Gen Intern Med*. 2000; 15:527–534. [PubMed: 10940143]
- Dwight-Johnson M, Unutzer J, Sherbourne C, Tang L, Wells K. Can quality improvement programs for depression in primary care address patient preferences for treatment? *Med Care*. 2001; 39:934–944. [PubMed: 11502951]
- Eibner, C.; Ringel, J.; Kilmer, B.; Liccardo Pacula, R.; Diaz, C. The cost of post-deployment mental health and cognitive conditions. In: Tanielian, T.; Jaycox, LH., editors. *Invisible Wounds of War Psychological and Cognitive Injuries, Their Consequences, and Services to Assist Recovery*. Washington, DC: RAND Corporation Monograph Series; 2008.
- First, MB.; Spitzer, RL.; Gibbon, M.; Williams, JBW. *Structured Clinical Interview for DSM-IV-TR Axis I Disorders, Research Version, Patient Edition With Psychotic Screen*. New York: Biometrics Research, New York State Psychiatric Institute; 2002.
- Feeny N, Zoellner L, Mavissakalian M, Roy-Byrne P. What would you choose? Sertraline or prolonged exposure in community and PTSD treatment seeking women. *Depress Anxiety*. 2009; 26:724–731. [PubMed: 19544313]
- Foa EB, Cashman L, Jaycox L, Perry K. The validation of a self-report measure of posttraumatic stress disorder: The Posttraumatic Diagnostic Scale. *Psychol Assesss*. 1997; 9:445–451.
- Foa, EB.; Keane, TM.; Friedman, MJ.; Cohen, JA. *Effective treatments for PTSD: Practice guidelines from the International Society for Traumatic Stress Studies*. 2nd ed.. New York: Guilford Press; 2009.
- Foa EB, Riggs DS, Dancu CV, Rothbaum BO. Reliability and validity of a brief instrument for assessing post-traumatic stress disorder. *J Trauma Stress*. 1993; 6:459–473.
- Foa E, Tolin D. Comparison of the PTSD Symptom Scale-Interview Version and the Clinician-Administered PTSD scale. *J Trauma Stress*. 2000; 13:181–191. [PubMed: 10838669]
- Foa EB, Zoellner LA, Feeny NC, Hembree EA, Alvarez-Conrad J. Does imaginal exposure exacerbate PTSD symptoms? *J Consult Clin Psychol*. 2002; 70(4):1022–1028. 08. [PubMed: 12182265]
- Fournier JC, DeRubeis RJ, Shelton RC, Hollon SD, Amsterdam JD, Gallop R. Prediction of response to medication and cognitive therapy in the treatment of moderate to severe depression. *J Consult Clin Psychol*. 2009; 77(4):775–787. 08. [PubMed: 19634969]
- Frueh B, Cusack K, Grubaugh A, Sauvageot J, Wells C. Clinicians' perspectives on cognitive-behavioral treatment for PTSD among persons with severe mental illness. *Psychiatr Serv*. 2006; 57:1027–1031. [PubMed: 16816289]
- Givens J, Houston T, Van Voorhees B, Ford D, Cooper L. Ethnicity and preferences for depression treatment. *Gen Hosp Psychiatry*. 2007; 29:182–191. [PubMed: 17484934]
- Greenberg P, Sitsky T, Kessler R, Finkelstein S, Berndt E, Davidson J, et al. The economic burden of anxiety disorders in the 1990's. *J Clinical Psychiatry*. 1999; 60:427–435. [PubMed: 10453795]
- Grilo C, Money R, Barlow D, Goddard A, Gorman J, Hofmann S, Papp L, Shear M, Woods S. Pretreatment patient factors predicting attrition from a multicenter randomized controlled treatment study for panic disorder. *Compr Psychiatry*. 1998; 39:323–332. [PubMed: 9829138]
- Gross J, John O. Individual differences in two emotion regulation processes: implications for affect, relationships, and well-being. *J Pers Soc Psychol*. 2003; 85:348–362. [PubMed: 12916575]
- Hazlett-Stevens H, Craske M, Roy-Byrne P, Sherbourne C, Stein M, Bystritsky A. Predictors of willingness to consider medication and psychosocial treatment for panic disorder in primary care patients. *Gen Hosp Psychiatry*. 2002; 24:316–321. [PubMed: 12220797]
- Hembree EA, Foa EB, Dorfman NM, Street GP, Kowalski J, Tu X. Do patients drop out prematurely from exposure therapy for PTSD? *J Trauma Stress*. 2003; 16:555–562. [PubMed: 14690352]
- Lobbetael J, Leurgans M, Arntz A. Inter-rater reliability of the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID I) and Axis II Disorders (SCID II). *Clin Psychol Psychother*. 2011; 18:75–79. [PubMed: 20309842]

- Marmar, CR.; Weiss, DS.; Metzler, T. Peritraumatic dissociation and posttraumatic stress disorder. In: Bremner, JD.; Marmar, CR., editors. Trauma, memory, and dissociation. Washington, DC: American Psychiatric Association; 1998. p. 229-247.
- Prins MA, Verhaak PFM, Bensing JM, van der Meer K. Health beliefs and perceived need for mental health care of anxiety and depression--The patients' perspective explored. *Clin Psychol Rev.* 2008; 28:1038–1058. [PubMed: 18420323]
- Reiss S, Peterson R, Gursky D, McNally R. Anxiety sensitivity, anxiety frequency and the prediction of fearfulness. *Behav Res Ther.* 1986; 24:1–8. [PubMed: 3947307]
- Reger GM, Durham TL, Tarantino KA, Luxton DD, Holloway KM, Lee JA. Deployed soldiers' reactions to exposure and medication treatments for PTSD. *Psychological Trauma: Theory, Research, Practice, and Policy.* (in press).
- Roy-Byrne P, Berliner L, Russo J, Zatzick D, Pitman R. Treatment preferences and determinants in victims of sexual and physical assault. *J Nerv Ment Dis.* 2003; 191:161–165. [PubMed: 12637842]
- Simon V, Feiring C, McElroy S. Making meaning of traumatic events: Youths' strategies for processing childhood sexual abuse are associated with psychosocial adjustment. *Child Maltreat.* 2010; 15:229–241. [PubMed: 20498128]
- Spoont M, Sayer N, Nelson D. PTSD and Treatment Adherence: the role of health beliefs. *J Nerv Ment Dis.* 2005; 193:515–522. [PubMed: 16082295]
- Sullivan G, Neria Y. Pharmacotherapy in post-traumatic stress disorder: evidence from randomized controlled trials. *Curr Opin Investig Drugs.* 2009; 10:35–45.
- Tanielian, T.; Jaycox, LH. *Invisible Wounds of War Psychological and Cognitive Injuries, Their Consequences, and Services to Assist Recovery.* Washington, DC: RAND Corporation Monograph Series; 2008.
- van Minnen A, Hendriks L, Olff M. When do trauma experts choose exposure therapy for PTSD patients? A controlled study of therapist and patient factors. *Behav Res Ther.* 2010; 48:312–320. [PubMed: 20056195]
- Wagner A, Bystritsky A, Russo J, Craske M, Sherbourne C, Stein M, Roy-Byrne P. Beliefs about psychotropic medication and psychotherapy among primary care patients with anxiety disorders. *Depress Anxiety.* 2005; 21:99–105. [PubMed: 15965996]
- Wang P, Berglund P, Olfson M, Pincus H, Wells K, Kessler R. Failure and delay in initial treatment contact after first onset of mental disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry.* 2005; 62:603–613. [PubMed: 15939838]
- Zayfert C, Black C. Implementation of empirically supported treatment for PTSD: Obstacles and innovations. *The Behavior Therapist.* 2000; 23:161–168.
- Zoellner L, Feeny N, Bittinger J. What you believe is what you want: modeling PTSD-related treatment preferences for sertraline or prolonged exposure. *J Behav Ther Exp Psychiatry.* 2009; 40:455–467. [PubMed: 19577224]
- Zoellner L, Feeny N, Cochran B, Pruitt L. Treatment choice for PTSD. *Behav Res Ther.* 2003; 41:879–886. [PubMed: 12880643]

Table 1

Descriptive statistics for demographic, trauma history, and treatment history variables.

Variable	<i>M</i>	<i>SD</i>	Range
Time since target trauma (years)	12.0	12.7	0 – 51.4
Childhood sexual abuse history (% yes)	36.0%		
Childhood physical abuse history (% yes)	46.5%		
History of prior psychotherapy (% yes)	78.5%		
History of prior pharmacotherapy (% yes)	64.0%		
Psychotherapy helpfulness ^a	3.1	1.8	0 – 6
Pharmacotherapy helpfulness ^a	2.7	1.9	0 – 6

^aScale: 0 (*not at all helpful*) to 6 (*very helpful*)

Table 2**Prediction of Primary Reason Underlying Patient Preference**

	B	SE	Wald	p	Odds Ratio
Trauma History as a Predictor of Giving a Mechanism Reason					
Time since trauma (years)	.00	.01	0.09	.77	1.00
History of CSA	.68	.32	4.60*	.03	1.98
History of CPA	-.57	.31	3.36	.07	0.56
Psychopathology as a Predictor of Giving a Mechanism Reason					
PTSD severity (PSS-I)	.05	.03	3.03	.08	1.05
Depression severity (BDI)	-.05	.02	4.70*	.03	0.95
Trait anxiety (STAI-T)	.00	.02	0.02	.88	1.00
Emotion Regulation as a Predictor of Giving a Mechanism Reason					
Anxiety sensitivity (ASI)	-.03	.01	5.15*	.02	0.97
Reappraisal (ERQ)	.03	.02	1.97	.16	1.00
Expressive suppression (ERQ)	-.06	.03	3.71	.05	0.94
Peritraumatic dissociation (PDEQ)	.00	.02	0.06	.80	1.00

* $p < .05$. CSA = History of Childhood Sexual Abuse; CPA = History of Childhood Physical Abuse.