

RESEARCH

Exposure Therapy for Posttraumatic Stress Disorder

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Exposure therapy is a well-established treatment for Posttraumatic Stress Disorder (PTSD) that requires the patient to focus on and describe the details of a traumatic experience. Exposure methods include confrontation with frightening, yet realistically safe, stimuli that continues until anxiety is reduced. A review of the literature on exposure therapy indicates strong support from well-controlled studies applied across trauma populations. However, there are many misconceptions about exposure therapy that may interfere with its widespread use. These myths and clinical guidelines are addressed. It is concluded that exposure therapy is a safe and effective treatment for PTSD when applied as directed by experienced therapists.

Exposure therapy, also referred to as flooding, imaginal, in vivo, prolonged, or directed exposure, is a well-established treatment for Posttraumatic Stress Disorder (PTSD) that requires the patient to focus on and describe the details of a traumatic experience in a therapeutic manner. Exposure methods share the common feature of confrontation with frightening, yet realistically safe, stimuli that continues until the anxiety is reduced. The rationale for exposure therapy is that by continuing to expose oneself to a safe, yet frightening, stimulus, anxiety diminishes, leading to a decrease in escape and avoidance behavior that was maintained via negative reinforcement (1).

In this article, we will first discuss the theory of Cognitive Behavioral Treatments (CBT), specifically exposure therapy, for PTSD. Next, we will demonstrate the efficacy of exposure therapy for PTSD by reviewing the

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relevant research findings and clinical conclusions. Important clinical guidelines that increase the likelihood of successful exposure therapy will be discussed. Finally, a number of common misbeliefs regarding exposure therapy that may contribute to the clinician's reluctance to use this treatment will be addressed.

THEORY

Emotional-processing theory holds that PTSD emerges due to the development of a fear network in memory that elicits escape and avoidance behavior (2, 3). Mental fear structures include stimuli, responses, and meaning elements. Any information associated with the trauma is likely to activate the fear structure. The fear structure in people with PTSD is thought to include a particularly large number of stimuli and, therefore, is easily accessed. Attempts to avoid this activation result in the avoidance and numbing symptoms of PTSD. Emotional-processing theory proposes that successful therapy involves correcting the pathological elements of the fear structure, and that this corrective process is the essence of emotional processing. Two conditions have been proposed to be required for fear reduction. First, the fear structure must be activated. Second, new information must be provided that includes elements incompatible with the existing pathological elements so they can be corrected. Exposure procedures consist of confronting the patient with trauma-related information, thus activating the trauma memory. This activation constitutes an opportunity for corrective information to be integrated, and thus modify the pathological elements of the trauma memory. Of particular relevance to PTSD is a study demonstrating that fear activation during treatment promotes successful outcome (4).

Several mechanisms are thought to be involved in the specific changes relevant to improvement of PTSD. First, repeated imaginal reliving of the trauma is thought to promote habituation and thus reduce anxiety previously associated with the trauma memory, and correct the erroneous idea that anxiety stays forever unless avoidance or escape is realized. Second, the process of deliberately confronting the feared memory blocks negative reinforcement connected with the fear reduction following cognitive avoidance of trauma-related thoughts and feelings. Third, reliving of the trauma in a therapeutic, supportive setting incorporates safety information into the trauma memory, thereby helping the patient to realize that remembering the trauma is not dangerous. Fourth, focusing on the trauma memory for a prolonged period helps the patient to differentiate the trauma event from other nontraumatic events, thereby rendering the

trauma as a specific occurrence rather than as a representation of a dangerous world and of an incompetent self. Fifth, the process of imaginal reliving helps change the meaning of PTSD symptoms from a sign of personal incompetence to a sign of mastery and courage. Sixth, prolonged, repeated reliving of the traumatic event affords the opportunity for focusing on details central to patients' negative evaluations of themselves and modify those evaluations (5). Many of the mechanisms discussed above also operate in *in vivo* exposure. However, the mechanisms most salient during *in vivo* exposure are the correction of erroneous probability estimates of danger and habituation of fearful responses to trauma-relevant stimuli.

EMPIRICAL LITERATURE ON EXPOSURE THERAPY

Exposure therapy, which assists patients in confronting their feared memories and situations in a therapeutic manner, has been used with great success for many years to treat a variety of disorders, including phobias, panic, obsessive-compulsive disorder. In the last 15–20 years, exposure has been applied and adapted for treatment of PTSD. In fact, exposure therapy has more empirical evidence for its efficacy than any other treatment developed for the treatment of trauma-related symptoms (6).

Reviews of the extant literature on the treatment of PTSD are quite positive regarding exposure therapy. Twelve studies were included in the review of exposure for PTSD in the ISTSS Treatment Guidelines, all finding positive results for this treatment with PTSD. These are also generally methodologically controlled studies, with eight of these studies receiving the AHCPR “A” rating, and many meeting a great number of the gold standards for clinical outcome studies (7).

The efficacy of exposure treatment for PTSD was first demonstrated with several case reports on war veterans (8–10). Six studies investigated exposure with Vietnam veterans; four were generally well controlled while two were uncontrolled. Keane et al. compared a combination of exposure and relaxation to a wait-list control for 24 veterans (11). Eleven subjects served as the clinical group and received a combination of 14–16 sessions of imaginal exposure and relaxation. This study demonstrated a reduction in PTSD symptoms, especially intrusive phenomena. These beneficial effects for reexperiencing symptoms were maintained at a six-month follow-up session, suggesting the durability of treatment effects. Cooper and Clum compared exposure to “standard” PTSD treatment (weekly individual and group therapies) for 14 completers and found exposure improved self-report of symptoms directly related to the trauma (12).

Boudewyns and Hyer compared exposure to traditional counseling in 51 veterans and found 75% of those designated as treatment successes had received exposure (13). Glynn et al. compared exposure alone with exposure plus behavioral family therapy to a wait-list control and found that both groups receiving exposure therapy exhibited more improvement in symptoms than the wait-list control group (14).

Although these studies with Vietnam veterans found some benefit from the PE compared to the control groups, the effects were small. In the Cooper and Clum study, PE improved the PTSD symptoms, but had little effect on depression or trait anxiety (12). A mixed picture emerged from the Keane et al. study; therapists rated exposure patients as more improved on PTSD symptoms than control subjects, but on self-report measures of these symptoms, no differences were detected (11). However, exposure patients did rate themselves as more improved on general psychopathology measures than did those in the wait-list control. Boudewyns and Hyer found no group differences on psychophysiological measures, but at the three-month follow-up, the exposure group improved more on the Veterans Adjustment Scale (VAS) (13). Regardless of treatment, a positive relationship was found between psychophysiological reduction to combat-related stimuli following treatment and improvement on the VAS. In further analysis of the data with additional patients, a slight superiority emerged for the exposure group. A higher percentage of the exposure-treated patients were classified as successes when compared with those receiving traditional therapy (13,15).

Flooding benefited Vietnam veterans with PTSD only on avoidance symptoms as measured by the Impact of Events Scale (IES) and self-recorded number of daily intrusions in an uncontrolled study (16). These equivocal results may be due to the fact that exposure therapy was conducted on all memories, including guilt-producing ones rather than focusing on anxiety-producing incidents. In another uncontrolled study with no comparison group, Frueh et al. found that treatment with exposure reduced anxiety in 15 male veterans (17). In summary, five of six studies of exposure with Vietnam veterans found positive effects for exposure therapy, and four of these were well controlled. The results of exposure therapy are more robust with other trauma populations.

Two very well-controlled studies examined exposure with female sexual-assault survivors (18,19). Firm conclusions can be drawn from the results that exposure was efficacious, as both studies met all seven of the gold standards for clinical outcome studies (7). In the first controlled study of the treatment of PTSD in rape survivors, participants were randomly

assigned to one of four conditions: stress-inoculation training (SIT), prolonged exposure (PE), supportive counseling (SC), or wait-list control (WL). SIT began with information regarding the assault and the survivor's history gathered in session 1, followed by brief breathing retraining to alleviate anxiety aroused by the discussion of the assault. The rationale for treatment was explained in session 2, and coping skills were taught in sessions 3–9. Skills were applied first to a nonassault-related example, and then to an assault-related example (18). SIT skills include relaxation, cognitive restructuring, preparing for a stressor, thought-stopping, covert modeling, and role-playing.

Prolonged exposure treatment consisted of nine biweekly individual sessions. The first two sessions were devoted to information gathering, explaining the treatment rationale, and treatment planning, including the construction of a hierarchy of feared situations for in vivo exposure. During the remaining sessions, survivors were instructed to relive, in their imagination, the traumatic experiences, describing it aloud “as if it were happening now.” Exposure continued for about 60 minutes and was tape-recorded so that survivors could practice imaginal exposure as homework by listening to the tape. The survivors were also given homework assignments, instructing them to approach feared situations or objects that were realistically safe. Detailed instructions for conducting exposure therapy with PTSD patients can be found in Foa and Rothbaum (5).

Supportive counseling focused on assisting patients in solving non-assault-related daily problems. Discussion of the assault itself was largely avoided because such discussions were viewed as a form of exposure. Patients were redirected to “here and now” issues when they began discussing the assault. Patients were taught problem solving, and therapists engaged in active listening and support. Survivors in the wait-list control were assessed at the same five-week intervals as the treated survivors and were contacted by phone in between to maintain contact. Treatments were delivered in nine biweekly 90-minute individual sessions.

All conditions produced improvement on all measures immediately posttreatment and at follow-up. SIT produced significantly more improvement on PTSD symptoms than WL immediately following treatment. At follow-up, PE produced superior outcome on PTSD symptoms. Clients who received PE continued to improve after treatment termination, whereas clients treated with SIT and SC approaches evidenced no change between posttreatment and follow-up (18). The exposure technique studied has proven successful even in cases complicated by other diagnoses, such as conversion mutism (20).

A second study compared PE, SIT, the combination of SIT and PE, and a wait-list control group for 78 patients (19). All three active treatments showed significant improvement in PTSD symptoms and depressive symptoms at post-test; the wait list did not improve. These treatment effects were maintained at six-month follow-up. On most outcome measures PE was more effective than the other two treatments, although this difference did not always reach significance. An examination of patients who achieved good end-state functioning showed that 46% of patients in PE, 21% of patients in SIT, and 32% of patients in SIT/PE achieved this goal at post-treatment. At six-month follow-up, 75% of patients in PE, 68% of patients in SIT, and 50% of patients in SIT/PE lost the PTSD diagnosis whereas all wait-list patients retained the diagnosis. The hypothesis that the combined treatment would be superior was not supported. The authors suggested that these results may be due to the fact the clients in that condition actually received less prolonged imaginal exposure and SIT training than participants in the individual treatments as treatment sessions were all equal in length.

In a third study by E.B. Foa, S.P. Cahill, and E. Hembree, 9–12 weekly sessions of PE alone were compared to PE combined with cognitive restructuring. Preliminary results indicated that both treatments were highly effective, but PE alone was more efficient. More than half the clients in that group achieved over 70% improvement on PTSD symptoms after 9 sessions; only 15% of the combined group achieved that status after 9 sessions, the remaining required 3 additional sessions to arrive at the same outcome (Data presented at the International Society for Traumatic Stress Studies Annual Meeting). Versions of the PE program have been helpful in preventing the development of chronic PTSD following rape (21) and in treating PTSD in abused children (22).

Four studies examined the efficacy of exposure for a mixed variety of traumas. Two were very well controlled (23, 24) and two were moderately well controlled (25, 26). In the Marks et al. study, exposure alone was compared to cognitive therapy alone, the combination of exposure and cognitive therapy, and to relaxation for 77 completers. All three active treatments led to more improvement than relaxation (23). The Tarrier et al. study compared imaginal exposure to cognitive therapy for a mixed sample of trauma survivors for 72 patients. The authors found that both treatments were equally effective in reducing symptoms from pretreatment, with no significant differences between the two treatments (24). Richards et al. examined the specific contributions of imaginal exposure and in vivo exposure for 14 survivors of various traumas and found that

both treatments led to improvements. At posttreatment and at one-year follow-up, no patients met criteria for PTSD. The only notable difference between the two forms of exposure was that in vivo exposure was more effective on phobic avoidance than imaginal exposure, regardless of the order of presentation (25). In the Thompson et al. report, exposure was effective for 23 survivors from a variety of traumas, but there was no comparison group (26).

Other forms of exposure involve actually confronting realistically safe situations, places, or objects repeatedly that are reminders of the trauma until they no longer elicit such strong emotions. Some therapists have patients write repeatedly about the trauma as a form of exposure (27). In systematic desensitization (SD), the patient is taught how to relax, then presented with reminders of the trauma gradually, working up a hierarchy from the least disturbing to the most disturbing. If they become very anxious or upset, they stop the trauma imagery, relax themselves, then go back to the material for exposure, until they can encounter all memories or situations without becoming upset. However, systematic desensitization has largely been abandoned in favor of pure exposure techniques in the past two decades.

A new medium for conducting exposure therapy has been introduced. Virtual Reality Exposure (VRE) presents the user with a computer-generated view of a virtual world that changes in a natural way with head motion. During VRE sessions patients wear the head-mounted display with stereo earphones that provide visual and audio cues consistent with being in a "Virtual Vietnam." Patients in one investigation are exposed to two virtual environments, a virtual Huey helicopter flying over a virtual Vietnam and a clearing surrounded by jungle. In this way, patients are repeatedly exposed to their most traumatic memories but immersed in Vietnam stimuli. The results of the first patient to complete the Virtual Vietnam treatment indicate preliminary success (28). This virtual Vietnam was also found helpful in an open clinical trial, leading to significant reductions in PTSD symptoms at follow-up assessments (29).

Exposure has the strongest empirical data to support its efficacy and has been evaluated with a greater number of trauma populations than any other treatment (6). Overall, the results from the studies discussed above support the efficacy of imaginal and in vivo exposure in reducing symptoms of PTSD resulting from a variety of traumas. These results are even more impressive given the methodological precision that was applied to many of these studies. A table summarizing the treatment outcome studies on exposure therapy can be found in *Effective Treatments for Posttrau-*

matic Stress Disorder: Practice Guidelines from the International Society for Traumatic Stress Studies (6).

CLINICAL GUIDELINES FOR EXPOSURE/DESCRIPTION OF TECHNIQUE

As stated previously, exposure methods share the common feature of confrontation with frightening stimuli that continues until the anxiety is reduced. By continuing to expose oneself to a frightening yet safe stimulus, anxiety diminishes, leading to a decrease in escape and avoidance behavior that was maintained via negative reinforcement (1). Habituation, decreased responding to the same stimulus when presented repeatedly over time, is one of the simplest and most straightforward mechanisms accounting for this reduction in anxiety.

As noted above, there are several variants of exposure. In imaginal exposure, the clients confront their memories of the traumatic event. The idea behind this type of treatment is that the trauma needs to be emotionally processed, or digested, so that it can become less painful (2, 3). Many survivors with PTSD mistakenly view the process of remembering their trauma as dangerous and, therefore, devote much effort to avoiding thinking about or processing the trauma. Imaginal reliving serves to disconfirm this mistaken belief. Some imaginal methods (5,18) involve the patient's discussing the trauma in detail in the present tense for prolonged periods of time (e.g., 45 to 60 minutes), with prompting by the therapist for any omitted details. Other forms of imaginal exposure (11,12) involve the therapist's presenting a scene to the patient based on information gathered prior to the exposure exercise. The duration and number of exposure sessions has also varied, sometimes within the same study. Finally, most exposure treatments do not consist solely of exposure, but include other components such as psychoeducation or relaxation training. The treatments that combine such components typically include vastly more time on exposure than on these other components, which are often presented as preliminary ways of building up to the exposure.

Frequently, important guidelines for exposure have been overlooked. Some of the more important guidelines are discussed below, adapted from Astin and Rothbaum (30) which, if followed, increase the likelihood of exposure therapy being effective. See Foa & Rothbaum (5) and Jaycox & Foa (31) for more detailed guidelines.

Patients should remain in the exposure situation long enough for their anxiety and distress to decrease. Clinicians may have a tendency to back off or discontinue exposure with signs of anxiety or distress in the patient. While this is a generally well-intentioned effort to protect the patient, it

actually reinforces avoidance of the trauma, impeding the necessary emotional processing. Initially, a certain amount of distress should be expected and normalized for the patient. Again, because the trauma memory itself is not dangerous, trauma-related affect will diminish if given the chance. The hope is that clients will learn that they do not need to fear their trauma memories. The therapist's job is to help the patient "ride out" the anxiety in a safe environment until it is significantly diminished and/or eliminated (30).

Short exposures may further sensitize, actually making the fear worse. For example, consider a small girl who is fearful of dogs following a dog bite. A typical in vivo exposure program might involve the child first being exposed to small fluffy nonthreatening dogs at a distance, but remaining in that situation long enough for her fear to decrease, allowing time for the child to see the animal poses no threat to her. Exposure would continue by increasing the size of the dog, decreasing the distance from the dog, and increasing the similarity to the appearance of the dog that bit her. In all cases, she must be allowed to stay near the animal until her fear decreases to recognize that the animal poses no threat to her. If she is exposed to a dog, experiences fear, and the dog is removed while she still feels fear, her fear would be expected to remain unchecked. She would not be able to convince her body that she did not narrowly escape another attack. Her body would respond with fear in the presence of the dog and would experience relief upon the removal of the dog. This is not a therapeutic exposure (32).

Patients should be allowed to progress at their own pace during the exposure therapy. While it is necessary for effective treatment for exposures to be long enough, repeated enough, and detailed enough, it is essential to go at the patient's pace. This is especially true in the first exposure when the patient is likely to be experiencing high levels of affect. Pushing the patient for details should be avoided in the first exposure. Individuals differ in their speed of habituation and response to anxiety-provoking situations, and these differences must be taken into account. Sufficient time to allow for habituation is essential prior to proceeding to a new trauma memory or to the next level of the hierarchy (for in vivo exposure). If the patient's anxiety and distress do not significantly decrease before the end of the session, the patient should be assisted in relaxing and/or debriefing. If patients are highly anxious after exposure, it is crucial to help them relax prior to ending the session. This helps them learn that they can think about the trauma and experience strong feelings, but that these thoughts and feelings are manageable.

The therapist should encourage the patient to use as much detail as possible, especially for the worst parts of the trauma. The tendency here is to let the patient summarize the worst parts or to skip over them entirely. For example, a rape survivor might give a detailed account of being abducted, but when she reaches the description of the actual penetration, she may say something vague like, "then he did it." This essentially allows patients to go through the motions of doing exposure, yet at the same time, avoid critical elements of the trauma that they may find distressing or embarrassing. As described above, such avoidance impedes emotional processing of the trauma and short-circuits the exposure treatment.

Finally, therapists should gauge their responses according to patients' reactions to exposure. Problematic responses tend to fall at two extremes: either patients have difficulty engaging in the memory or feeling trauma-related emotions; or patients are so engaged in the trauma that they are overwhelmed by trauma-related affect. Frequently, when patients become engrossed in the exposure, they have difficulty remembering that they are not actually in the trauma at that moment. In such situations, it is appropriate for the therapist to remind patients that they are in a safe place, and what they are dealing with is just a memory. This may help these patients detach slightly from the exposure, hopefully making the trauma-related affect more manageable.

The more typical and troublesome scenario is the patient who has trouble engaging in the exposure. Often, trauma victims are confused about whom to trust and may anticipate betrayal or expect mistreatment. This interferes with relationships, including the therapeutic relationship. Successful exposure requires that patients trust the therapist, allowing them to engage in the very memories they have been actively avoiding.

The relationship between the survivor and therapist is one relationship among many and can be a powerful therapeutic tool in working on these trust issues. The patient enters therapy in need of help, voluntarily submitting to an unequal relationship in which the therapist has superior power and status. Inevitably, feelings related to the universal childhood experience of dependence on a parent are aroused. Those feelings exaggerate the power imbalance in the therapeutic relationship, rendering the patient vulnerable to exploitation. The therapist's appropriate use of this power to foster recovery is of special importance to patients who are already suffering as the result of another's exploitative exercise of power (33). In addition, the patients' experience of acceptance and understanding by the therapist as they relive traumatic experiences is an important part of their recovery.

Avoidance can be quite direct, but frequently may be amazingly subtle. Patients may go through the motions of exposure, but distance themselves emotionally, describing the trauma in a flat, matter-of-fact fashion. Many trauma survivors have learned to dissociate as a form of avoidance, and may not even realize that they are detaching from the trauma memory. In this situation, the therapist can try to engage the patient in the memory in a gentle manner. This can sometimes be accomplished by prompting for more details ("where are you standing as he attacks?"), asking about emotions and thoughts during the trauma ("what are you feeling as he says that?"), and probing for sensory memories ("can you smell him?"). Anything that makes the memory more vivid may help patients to engage emotionally. During the preparation stages before exposure begins, it is crucial to encourage patients to allow themselves to feel those emotions and answer any fears about what will happen if they do so. After the exposure is over, it is also important to reinforce this message, and praise their efforts to engage in trauma-related emotions (30).

CASE SUMMARY

The following case summary provides a description of exposure therapy and illustrates the techniques described above.

Natalie was an attractive, 24-year-old, single Caucasian woman when she presented for treatment. She was complaining of difficulty with sex even though she was in a committed relationship. She said her boyfriend was becoming very frustrated and she felt bad that he thought it was his fault. She described avoiding sex, especially certain acts, and freezing up during sex with intrusive images of the assault. She was also withdrawing from people and not sleeping well.

She had been raped when she was 21, and a college student. She came home late after dancing with friends in a club and was awakened in the middle of the night by someone tying her hands together behind her back. Her assailant, who had broken in silently through a window in her apartment, raped her vaginally and orally in her bedroom and in the living room and then followed her into the bathroom and forced her to take a shower to wash off any evidence. To make matters worse, the police in this small town actually accused Natalie of making up the rape story.

Natalie was treated with nine sessions of PE as described in Foa and Rothbaum (5). The first session was spent in gathering information about the assault, other traumatic events, and her reactions to the assault. Natalie had a history of depression even before the assault and a turbulent childhood with unstable parents. She spent a great deal of time growing up

with her grandparents who were good caretakers. She described some suicidal ideation following the assault but no attempts. The second session was spent explaining PTSD and PE to Natalie in detail and watching a brief videotape describing PE. The "Common Reactions to Assault" handout was discussed and she was given a copy to take home. She indicated that she thought it would be helpful to share that with her boyfriend so that he could better understand what she was going through and know it wasn't his fault. The hierarchy for in vivo exposure was constructed. Many of the items were related to sex and included seeing her boyfriend naked, him seeing her naked, allowing him to perform oral sex on her, and performing oral sex on him. Imaginal exposure was begun in session #3. In this first session, Natalie went through the recounting of the rape three times for a total of 60 minutes. It was tape-recorded and she was given the tape to listen to for homework. She was able to recount many of the details of the assault without much apparent emotion. She teared up briefly, but did not cry or appear too emotionally upset. When discussing her reactions, she admitted that she was able to talk about it pretty easily and thus wasn't sure this therapy would work. The therapist inquired if she thought she was distancing herself from her emotions about it and she said possibly, but maybe there just wasn't that much there.

At the beginning of the fourth session, we reviewed her homework. She had not practiced imaginal exposure by listening to the tape and had not done her in vivo exposure homework. She said she was busy with schoolwork and hadn't had time. Repeated exposure and practice were emphasized and discussed, and then imaginal exposure began. Again, she was able to recount the assault without too much emotional display. Again following the exposure, we discussed the possibility that she was avoiding and distancing herself emotionally. At the fifth session, she had listened to the tape once and had done some in vivo exposure homework. She was encouraged to include all of the details of the assault in this session, not glossing over anything. The therapist prompted her for more information in this session. She was able to include more information, especially regarding certain sexual acts and her shame, and became very upset and cried during much of the exposure. Afterwards, she was praised for her courage and her reactions were discussed. She could see that she had been protecting herself and trying to pretend that it didn't bother her as much as it had. She could also admit that she was avoidant in doing her homework between sessions. In subsequent sessions, she reported more compliance with homework, although it was never 100%. She was able to admit certain aspects of the assault that shamed her and scared her more

than others. She cried during several sessions during the imaginal exposure but was never as emotional as in the third session. In discussions following the exposure, she was able to reevaluate her thoughts of guilt, shame, and responsibility, finally putting the blame on the assailant. In the last few sessions, we focused more on “hot spots” in the imaginal exposure, fast-forwarding to the aspects that still caused her more pain. In the last session, we went through the entire assault again, including all of the details. By the end of therapy, she had completed all of the items on her in vivo hierarchy list, much to her boyfriend’s pleasure. He was good about allowing her to be in control and that helped her a great deal. She had gotten him to agree it was her decision for some time to come so she could continue to practice these sexual acts with him but feel she was in control. By the end of therapy, her PTSD symptoms had improved, her depression had lessened considerably, and she was tentatively engaging in previously avoided sexual acts with her boyfriend and feeling positive about the future. Her gains were maintained at the six-month follow-up assessment.

MYTHS ABOUT EXPOSURE THERAPY

There are a number of beliefs of clinicians and researchers that have led them to be less than enthusiastic about exposure therapy in their work with trauma survivors. Several of these myths will be addressed below (30).

Clinicians and researchers may erroneously believe that encouraging trauma survivors to relive their trauma in imagination, the key component in exposure, is cruel and revictimizing. Even though these memories are not dangerous in and of themselves, they often feel dangerous to the survivor because they have been linked with trauma-related affect. In reality, successful exposure treatment reduces the survivor’s intrusive memories and diminishes painful affect associated with those memories. It is also important to remember that the pain is there already. The therapist is not creating new pain, but must access the emotions to assist the patient in emotionally processing the memory so that it can become less painful.

A second myth regarding exposure is that a majority of patients are reluctant or unwilling to participate in such treatments. On the contrary, the majority of patients have been willing to participate and there is not a higher dropout rate in exposure therapy than in other treatments (18).

Another common misconception about exposure therapy is that it reduces the trauma survivors’ autonomy by “forcing” them to recall the painful memory. However, understanding avoidance is key to understanding PTSD. The trauma memories intrude into consciousness because they

have not been adequately processed, and because these memories are painful, the survivors avoid them, preventing them from being processed. This vicious cycle has to be broken in order for trauma survivors to gain control over the traumatic memories. Exposure actually empowers trauma survivors to be able to be in charge of their trauma memories. Confrontation with painful information which they would rather avoid is crucial to trauma therapy. While this may be accomplished in a number of ways, exposure therapy is a very efficient and effective way to assist the survivor confront traumatic memories. It is important to describe treatment and explain the rationale so that patients can make informed choices about their treatment. Another way of viewing this is that therapists are helping patients to do what they have not been able to do alone.

Another myth is that exposure does not allow trauma survivors to recover at their own pace. Again, it is important to recognize that these patients have not recovered when left to their own pace. As mentioned, therapist sensitivity to individual differences in the patients' speed of habituation and response to anxiety-provoking situations is an essential component of effective exposure therapy. At the same time, it is essential that the patients' exposures are long enough and frequent enough to allow adequate processing.

Many clinicians may erroneously believe that exposure therapy can only be used with survivors of discrete traumas such as rape, motor vehicle accidents, and natural disaster. Exposure-based treatments were first systematically applied to combat veterans, then to rape survivors, and ultimately expanded to a variety of trauma populations. Even within a discrete trauma, there can be multiple events and/or multiple perpetrators. In Rothbaum's current studies with rape survivors and mixed-trauma survivors, many have a history of childhood sexual abuse and other chronic trauma. Naturally, with multiple events to cover, additional sessions are sometimes necessary. However, using the worst memories and/or typical incidences representative of the trauma as a whole usually allows generalization to the complete trauma experience (5).

Other clinician/researchers may fear that exposure can only be used with individuals who are healthy and stable and that it cannot be used with the typical trauma survivor who is complex and fragile. In fact, it is rare to find a PTSD patient with just PTSD as the majority have other comorbid conditions. As with most outpatient treatments of trauma, care must be taken with patients who are imminently suicidal, psychotic, or who have a history of psychotic decompensation. There have been no studies of any trauma-focused therapy with these populations. Therapists must switch

from trauma therapy to crisis management and containment when a patient becomes actively suicidal. At the same time, however, many PTSD clinical researchers have successfully treated trauma patients with a history of multiple psychiatric hospitalizations, multiple suicide attempts, dissociation, treatment resistance to other therapeutic interventions, borderline intelligence, mild brain injuries, and comorbid disorders, such as depression, panic disorder, and substance abuse.

Another myth is that exposure only affects changes in trauma-related anxiety and PTSD symptoms. In fact, most strong affects will habituate in the absence of adverse consequences. Many patients note that their feelings of depression, rage, sadness, and guilt diminish with successful exposure therapy. Generally, in addition to reducing PTSD, studies have shown Prolonged Exposure also reduces related problems, such as depression and self-blame (6). Pitman et al. did find equivocal results when they used exposure to guilt- and shame-producing stimuli in a few combat veterans whose guilt and shame were often related to their behavior in wartime (34). Additionally, patients whose primary response is anger rather than anxiety may not benefit as much from exposure (4). Preliminary research by Novaco and Chemtob suggests that some trauma populations may benefit from anger management in conjunction with trauma treatment (35). Also, exposure is frequently combined with cognitive restructuring to address other issues crucial to trauma resolution, such as self-blame or distorted relationships or worldview, and to help deal with material that emerges during the exposure.

A final myth is that controlled studies of exposure therapy only use "clean" PTSD patients. The reality is that research participants are not usually excluded for multiple-trauma history, other comorbid conditions or for Axis II pathology. Generally, the primary exclusionary factors are limited to substance dependence, imminent suicidal risk, history of psychosis or mania, illiteracy, and mental retardation (6). As mentioned above, the typical PTSD patient is also suffering from comorbid disorders, so there may be no such thing as a "clean" PTSD patient.

In summary, we have reviewed empirical evidence that supports the use of exposure therapy for PTSD patients and have discussed several clinical considerations and myths. Although in this paper we are clearly advocating the use of exposure therapy for PTSD, we end on a word of caution. Only therapists trained in exposure therapy should attempt it with patients, as bad exposure therapy is simply bad therapy. However, when done properly, exposure therapy is a highly effective treatment for PTSD.

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