



Published in final edited form as:

Cogn Behav Pract. 2006 November 1; 13(4): 261–270. doi:10.1016/j.cbpra.2006.04.007.

Modifying Exposure-Based CBT for Cambodian Refugees with Posttraumatic Stress Disorder

Michael W. Otto and
Boston University

Devon E. Hinton
Massachusetts General Hospital and Harvard Medical School

Abstract

Cambodian refugees represent a severely traumatized population living in the United States. In this paper, we describe the modification of a cognitive-behavior therapy program to facilitate delivery of an exposure-based treatment for posttraumatic stress disorder while addressing some of the challenges brought by differences in language and culture between providers and patients. Our treatment modifications include the use of metaphors and culturally relevant examples to aid the communication of core concepts by interpreters, an emphasis on teaching the “process” of exposure therapy rather than relying on specific exposure practice in the group setting, a focus on interoceptive exposure to allow more effective group practice and to address culturally specific symptom interpretations, attention to the way in which treatment procedures interacted with culturally specific beliefs, and efforts to integrate treatment services within the community. Although data are limited, results to date suggest that this modified treatment was acceptable to patients and offered benefits on the order of large effect sizes.

A large body of research supports the efficacy of cognitive-behavior therapy (CBT) for posttraumatic stress disorder (PTSD; for a meta-analytic review see Otto, Penava, Pollock, & Smoller, 1996b). Well-controlled trials have consistently shown benefit for CBT over control conditions, with support for treatments emphasizing imaginal or *in vivo* exposure as well as those emphasizing cognitive restructuring in the context of repeated exposure to accounts of the trauma (e.g., Foa et al., 1999; Foa, Rothbaum, Riggs, & Murdock, 1991; Resick, Nishith, Weaver, Astin, & Feuer, 2002).

Despite the success of these strategies, there is little evidence to suggest these treatments have been applied to refugee populations in need. In clinical practice, the application of empirically supported psychosocial treatments appears to be woefully low in general (Goisman et al., 1993; Goisman, Warshaw, & Keller, 1999). Moreover, the application of these treatments to refugee populations is further hampered by language barriers, differences in expectations regarding treatment, and other challenges to access to care such as low socioeconomic status (Stephenson, 1995; Uba, 1992). These barriers extend to research studies as well. For Cambodian refugees with PTSD, the few treatment studies completed have tended to focus on pharmacotherapy rather than CBT (Boehnlein, Kinzie, Ben, Fleck, 1985; Kinzie & Leung, 1989).

The purpose of this paper is to describe the process of modifying CBT for the treatment of PTSD in a sample of Cambodian (Khmer) refugees. Our project was motivated by the

tremendous need for effective psychosocial treatments for this cohort. Not only do these individuals represent a distinct and severely traumatized cultural group living in the United States (Carlson & Rosser-Hogan, 1991, 1994; Kinzie, Fredrickson, Ben, Fleck, & Karls, 1984; Mollica, Wyshak, & Lavelle, 1987; Ngor, 1987), but for this project we selected patients who had failed to respond to an adequate trial of state-of-the-art pharmacotherapy for PTSD (Ballenger et al., 2000): treatment with a serotonin selective reuptake inhibitor alone and in conjunction with benzodiazepine treatment. Also, we restricted our sample to women, who, among Southeast Asian refugees, have been found to have higher symptom levels than men (Chung, Bemak, & Kagawa-Singer, 1998), although we encountered no reasons to believe our treatment efforts would not be appropriate for Cambodian men. In a very small randomized trial for this distressed and treatment-resistant cohort, we found that our modified CBT offered benefit over a comparison treatment on the order of large effect sizes (Otto et al., 2003). Similar treatment elements were also applied successfully to a sample of Vietnamese refugees with PTSD and panic disorder (Hinton, Pham, Bird, Tran, & Otto, submitted for publication). In this report we detail both the process of selecting core treatment elements and modifying the manner of delivery of CBT to severely traumatized Cambodian refugees.

When considering how to deliver CBT to this population, we had to consider four core challenges. First, because most of the Cambodian refugees at the clinic spoke little or no English (and were nonliterate in both languages), treatment services had to be offered in Cambodian. Second, limitations on our clinical resources necessitated that treatment be offered in a group format (allowing 6 patients to be treated for every 90 minutes of clinician and interpreter time). Third, cultural barriers (expectations about the nature of the treatment required) may reduce the acceptability or utilization of treatment interventions. Finally, treatment had to be adapted to the degree of somatic presentation and culture-specific interpretations of somatic symptoms that characterizes Cambodian refugees with PTSD (Cheung, 1993; Hinton & Otto, 2006—this issue).

These challenges for the application of CBT also tended to interact with one another to compound barriers to treatment. For example, treatment in a group setting introduces the problem of how to individualize the exposure-based aspects of treatment. One way to solve this problem is provided by the group format for Cognitive Processing Therapy (Resick & Schnicke, 1993), where patients write and rewrite individual accounts of their trauma as part of homework assignments. However, because our patient cohort was nonliterate in both English and Cambodian, writing assignments, and by extension, bibliotherapy of any kind, was not an option for our patient population.

Addressing Treatment Challenges—Setting and Language

At the outset of treatment planning, we faced the question of where to hold the group treatment sessions. Patients were referred from a local community mental health clinic where they had sought and failed to respond adequately to pharmacologic treatment for PTSD symptoms. Because we were offering a novel service in the context of a research study from off-site personnel, we decided to make use of an offer from a local Buddhist temple to hold the sessions in their meeting room. The temple was already seen as the source of supportive as well as religious services, and relaxation training (via audiotapes) was offered as part of these services. Given our focus on the acquisition of coping skills (including relaxation), we made use of the natural synergy between the relaxation focus of the temple and our treatment. All sessions were held in the temple meeting room, with therapists, interpreters, and patients removing their shoes at the temple entrance, and sitting in a circle on the rug provided for such meetings. Hence, treatment was delivered in a community setting that supported the acquisition of coping skills, and we adopted community standards for the style of important meetings between individuals. Nonetheless, there are indications, from service development efforts in Cambodia

(Somasundaram, van de Put, Eisenbruch, & de Jong, 1999), that use of a nearby clinic setting also would have been acceptable to patients.

We also had to be attentive to the nature of the group experience. During the Pol Pot reign, intellectuals were often the first Cambodians targeted for death (Kiernan, 1996). The presence of spectacles or the absence of work-calluses on the hands were signifying factors of Cambodians who would not be of use to the regime's demands for forced labor. Consequently, many of the survivors of Pol Pot's reign were farmers and laborers who had had no formal education. Consistent with these realities, our group members were nonliterate (in Cambodian as well as English) and had little "classroom" experience other than their history of repeated Khmer Rouge indoctrinations (Ngor, 1987).

The history of indoctrination sessions by the Khmer Rouge, suffered by our patients, brought a challenge all its own. In the indoctrination sessions during the Pol Pot reign, Cambodians were forced to attend a meeting at the end of the long work day, sitting for hours listening to the lecturing of the Khmer Rouge (Ngor, 1987). During these meetings, it was not uncommon for a person who had been arrested (for an offense such as stealing a banana or for having been a former soldier or educated person) to be brought in front of the group, beaten, and perhaps executed, sometimes by evisceration. Likewise, during the meeting workers might be publicly disciplined for some fault (e.g., failure to work hard enough) and threatened with death should these complaints not be corrected. As a consequence we had to ensure our group treatment avoided a "classroom" quality, both because overly instructive interventions may be foreign to the learning mode of our patients and the group format itself may be a trauma cue of indoctrinations.

Our response to these issues was twofold. Although the interventions to be delivered required therapists to take an active, teaching role in treatment, we tried to pace interventions and topics so that patients felt free to discuss more social topics and change the flow of interactions. In addition, we explicitly discussed how the group format might remind them of the Pol Pot period, and asked group members to tell us if they were feeling particularly uncomfortable or if trauma memories arose unexpectedly in group.

A related issue in making treatment accessible concerned the timing and nature of communications between therapists, interpreters, and patients. We were fortunate to have interpreters who also had mental health experience, were sympathetic to the plight of the patients, and understood the importance of confidentiality. Nonetheless, the sheer delay in communication—where a question or comment from the therapist has to be interpreted, then discussed among group members, and then interpreted back to the therapist—engendered a number of challenges. The time delay prevents the therapist from quickly responding to misunderstandings or off-track discussions, underscoring the need for clear communications. At the same time, communications had to be brief and efficient, using discrete "sound bites" that did not overwhelm the interpreters with content. Also, compared with Western traditions, Cambodians tend to focus on somatic aspects of distress, especially for acute anxiety states (see Hinton & Otto, 2006—this issue). For all these reasons, concepts discussed by the therapists needed to be well-grounded in known concepts. Inaccurate terms could easily result in a process similar to the telephone game—a children's game where a sentence or story is whispered from one person to the next until it comes back to the original source—whereby the concept interpreted back to the therapist may have little bearing on the originally desired communication. Accordingly, one of our core goals in structuring treatment was to adopt a communication style that could withstand the interpretation process. Our solution was to deliver as many core concepts of therapy in terms of metaphors that operate across cultures, and by adopting concepts from the Cambodian culture for use in explanations whenever possible.

Communication Strategies: The Value of Metaphors

The most central metaphor to our treatment process—one that we believe summarizes much of the task of exposure-based treatment for PTSD—is the metaphor of the “Limbic Kid.” As detailed by Otto (2000, p. 171), the Limbic Kid is a metaphor designed to help patients discriminate current reality from the rush of symptoms and memories that may be activated by trauma cues, and to guide patients toward adaptive processing of these cues and emotions. The limbic system is used as a reference point to help patients think about the automatic responses that occur in response to trauma and other fear-related cues, and to make sense of emotional responses that may seem to “fire” in a manner quite distinct from ongoing cognition.

The focus on changing the automatic responses to the “limbic system” helps underscore that repeated practice with trauma cues will be required to alter the processing of limbic-related circuits. The “kid” portion of the metaphor is used to help patients adopt the role of a supportive parent, who may need to keep a wayward limbic system on track.

For use of this metaphor, patients are first educated about the range of trauma-related cues that may activate the limbic system and trauma memories: external stimuli (sights, sounds, smells, etc.), emotions and behavioral responses (e.g., feelings of dread and being “frozen with fear” experienced at the time of the trauma), and meaning cues (conceptualizations of the trauma) that reflect the clusters of stimuli integrated into a “network” of associations (as described by Foa & Kozak, 1986). Because it is a primitive system (the “reptilian brain”), when faced with a cue of the trauma, the Limbic Kid can’t tell whether “you” are really in danger or whether you are simply faced by reminders of a past danger. Nonetheless the Limbic Kid may warn you, perhaps with a rush of emotions and memories linked to the original trauma. This rush of emotions and memories is like the Limbic Kid system shouting, “Help, help—danger!” The Limbic Kid is like a child who, after watching a frightening movie, perceives a monster lurking in his or her closet. Like a frightened child, the Limbic Kid can not tell whether the situation is truly dangerous or is just reminiscent of something that was frightening in the past.

Patients are then asked to consider what a caring parent might do to help the child at this moment of fear. The most common answer (either provided by patients or described by the therapist) is to comfort the child by coming into the child’s room, turning on the light, soothing the child with a hug and kind words, and then pointing out that what looked like a monster may simply be the child’s clothes in the closet. We discuss this as a model for the treatment procedures to follow; we help patients understand the source of their fears (or other trauma-related emotions) in terms of a past event and soothe themselves while discriminating historical fears from the current situation (even though current cues may be reminders of the past traumatic event). In short, we asked patients to use their existing knowledge about parenting and to gently and kindly “parent” their Limbic Kid (as they might treat their own frightened child).

In addition to this central metaphor, we also applied a number of metaphors and examples throughout the treatment to try to link concepts to well-known, and sometimes culture-specific, events and traditions. The following paragraphs represent a few examples of this process.

The Step-by-Step Learning and Application of Skills

In Session 1, we sought to orient patients to the skill-acquisition focus of our treatment. Because we knew that the potential value of some component skills may not be evident to patients until later in treatment, we sought to link this reality with a common event in patients’ lives. Accordingly, we discussed the steps in making a noodle dish (*num beunycok*). To make this meal, one prepares the noodles in a series of steps entirely distinct from the steps required to make the sauce. Only later are the two elements of the dish combined to make part of a delicious dinner.

Discriminating Trauma Memories from Current Reality

To aid patients in their task of differentiating current situations from the trauma memories that might be cued by these sensations, we used a television metaphor. The viewing of videotapes on home televisions was a regular activity in the Cambodian-refugee neighborhood in which we worked, and accordingly, we discussed how a cue from the present (e.g., a sore neck from feeling anxious and tense during the day) may set off memories “that play like a video” of a trauma from the past (e.g., a sore neck from being struck on the back of the head by a Khmer Rouge officer).

Symptom Exposure and the Game Hung

To bolster symptom acceptance and reinterpretation, using interoceptive exposure as a guide (see below), we discussed symptom induction in the context of games that were popular among Cambodian children. For example, according to our understanding of the game “Hung,” participants had to gather a stick that was thrown some distance away and return it to a base. But to make this task particularly difficult, the player had to hold his or her breath while running to the stick, and then return to the base while making a “Hung” exhaling sound (to prove that no breath was being taken). As one might guess, the game resulted in feelings of dyspnea and lightheadedness, and these symptoms—and one’s ability to tolerate them—were often the source of some of the joy and laughter in the game. Accordingly, the game served as an ideal example of ways in which sensations, reminiscent of anxiety and panic symptoms, could be interpreted in an innocuous fashion.

Emotional Acceptance and the Three bows

As discussed further below, we sought to teach emotional acceptance skills as a way to aid the processing of the trauma cues to which patients were exposed in everyday life. Our goal was to help patients acknowledge the emotional impact the trauma had on their lives, without being waylaid or anxious about these emotions. We operationalized this process in terms of three steps:

1. Acknowledgment that the trauma was severe (“It hurt me”).
2. Acknowledgment that the trauma had enduring effects (“It is sad that I had to bear the trauma; I am sad/I wish I didn’t have to go through that”).
3. Returning a focus to the present (“I am glad to be here now, and I want to give myself a good life”).

Three steps were useful because for many Cambodians, three bows are used to address the Buddha shrine in the temple. Just as they used three bows to respect the Buddha, we asked them also to use three thoughts (with pauses in between) to convey their respect for the enormity of the experience they survived during the Pol Pot years and after.

Core Elements of Treatment

Perhaps the most central problem we grappled with was how to offer exposure-based treatment in a group setting of non-English-speaking Cambodian patients. Given the overwhelming nature of the trauma; that all group members shared many similar trauma experiences (including being starved, beaten, overworked, and threatened with death; and seeing others tortured and killed, including family members and friends), and that communication between therapists and patients was limited by language interpretation, we were concerned that presentations of trauma material could not be managed well enough so that it could be adequately paced for reasonable exposure experiences. In addition, the sheer number of trauma experiences gave us such a wide variety of topics for exposure, we were sure that an adequate job could not be accomplished in such short-term treatment. Accordingly, we devoted our

efforts to teaching patients about the process of exposure, with rehearsal of trauma “processing” skills.

This strategy is consistent with recent discussions of dissemination efforts in CBT (Hayes, Wilson, Strosahl, Gifford, & Follette, 1996). Rather than focus on procedural elements of CBT (e.g., use of prolonged imaginal exposure for the treatment of PTSD), we focused on what we believed was an essential element in recovery from PTSD—learning to change the meaning of trauma cues so that overwhelming emotions from the past are not elicited. In short, we defined our job as therapists as helping patients respond to cues of the trauma in a new way by (1) acknowledging the source of the induced memory/emotion/flashback in the Pol Pot time, (2) labeling and acknowledging the emotions induced by these cues (and resulting memories), (3) differentiating (discriminating) the memories from the current experiences (“I am not back in the Pol Pot time, I am in Massachusetts on my street corner”), (4) deciding about the degree of “safety” of the current situation as compared to the time of the original trauma, (5) and allowing/accepting the feelings that had been induced. We believed that if we taught these skills well enough, patients would be prepared to conduct their own reprocessing of trauma cues when these cues were encountered in daily life. Our initial conduit for practicing this process in session (and promoting the acceptance we sought with Step 5) was in the context of interoceptive exposure—exposure to the somatic sensations of anxiety and associated emotions.

We have recommended use of interoceptive exposure as a regular feature of cognitive-behavioral treatment of PTSD (Otto et al., 1996a, 1996b) based on several factors. Emotional and somatic sensations are an expected part of trauma memories (response components) as elucidated by network theory (Foa & Kozac, 1986). Accordingly, these sensations can serve the dual function of being a trauma cue (“I felt this way during the shooting”) and a strategy for engaging the fear network (using fear sensations). Such engagement of emotion is hypothesized to be important for modifying (incorporation of new information) the fear network (Foa & Kozac, 1986). In addition, fears of the somatic sensations of anxiety (as operationalized as anxiety sensitivity) tend to be especially pronounced in PTSD as they are in panic disorder (Taylor, Koch, & McNally, 1992) and, hence, may play a role in inducing cognitive or overt avoidance of processing trauma memories. As concerns cognitive avoidance, we (Otto et al., 1996a, 1996b) have argued that it is important clinically to be:

... alert to the way in which symptoms may “fold back upon themselves” in the context of exposure sessions. Exposure to traumatic material induces autonomic arousal (e.g., rapid heart rate, muscle tension, flushing) in patients, and may also induce feelings of dissociation. These feelings may be interpreted as threatening in their own right (e.g., “I am about to lose control,” “I’ll go crazy if I keep this up”); more significantly, they may be experienced as additional cues of the original trauma (at which time the patients may have experienced autonomic arousal, dissociation, and/or fears of loss of control or death). This rush of additional, interoceptive cues of the trauma may lead the patients to feel that the trauma is going to happen again, or that they cannot tolerate the memories. This experience may increase the patients’ sense that trauma-related memories are uncontrollable, unpredictable, and dangerous; thus, it may lead to increased cognitive avoidance. (p. 236).

All of these factors encourage exposure to relevant emotional sensations as part of exposure interventions. For our treatment of Cambodian patients in a group setting, interoceptive exposure provided us with a way of rehearsing emotional acceptance skills; exposing patients to a more controllable element of the trauma memories; and reducing the likelihood that these emotions, induced by trauma cues in the world, would lead to an overwhelming affective experience. For the Cambodian patients it also provided them with a crucial strategy for reducing their culture-specific fears of symptoms.

As discussed by Hinton and Otto (2006, this issue; see also Hinton, Um, & Ba 2001a, 2001b, 2001c), these culture-specific beliefs appear to play a dramatic role in increasing the aversiveness of somatic sensations of anxiety. For example, Cambodians tend to believe that a vapor-like “*Wind*” travels through vessels in the body much like blood, and the blockade of *Wind* is thought to be dangerous and potentially life threatening. Specific areas of concern include fears that muscular tension in the neck area may indicate imminent rupture of blood vessels; that limb coolness or joint pain may reflect *Wind* blockage and indicate possible imminent loss of limb use; that fatigue may reflect energy depletion of *Wind* to the point of heart attack and death; that tinnitus may reflect dangerous pressure from unreleased *Wind*; that abdominal sensations may reflect rising *Wind* that may cause asphyxia, heart attack, and dizziness; and that dizziness itself may indicate the risk of syncope and death.

Interoceptive exposure, wherein many of the symptoms reminiscent of *Wind* were induced, provided a means to reduce fears of these symptoms, much in the same way that interoceptive exposure is used to eliminate catastrophic misinterpretations of symptoms in panic disorder, regardless of their source. In such panic treatment, patients are provided with an alternate explanatory model for symptoms (“It is panic disorder, not a stroke, that is driving these symptoms”), information on the role of catastrophic interpretations in increasing fears and symptoms, and step-by-step experiences in learning to become comfortable with these sensations (e.g., Craske, Meadows, & Barlow, 1994; Otto, Jones, Craske, & Barlow, 1996a; Otto, Safren, & Pollack, 2004). Given evidence that interoceptive exposure in combination with cognitive restructuring is helpful in cases of panic disorder comorbid with PTSD (Falsetti & Resnick, 2000), we felt confident in our application of these procedures, as long as we were sensitive to ways our treatment interacted with culturally specific beliefs.

Providing New Information Relative to Culturally-Specific Beliefs

We explicitly did not challenge the concept of *Wind* or its treatment (with the “cupping” or “coining” procedures discussed by Hinton & Otto, 2006, this issue), but introduced an alternate label and explanation for these symptoms and acknowledged that at times these symptoms may “mimic” (provide a false alarm for) the apparent effects of *Wind*. We helped patients discriminate anxiety symptoms from their *Wind*-related fears by: (a) predicting the conditions under which anxiety symptoms would arise (i.e., in relation to trauma cues), and (b) providing patients with repeated demonstrations of an alternative account of symptoms, using in-session symptom provocation (first with interoceptive exposure, and later in treatment, with limited discussions of trauma cues) as a tool. By talking about the syndrome of PTSD early in treatment, and then providing experiences that could help patients reinterpret the meaning of symptoms (as trauma-related anxiety responses vs. *Wind*), we helped patients consider an alternative account of the etiology and meaning of symptoms and the interventions appropriate for these symptoms. We then relied on treatment benefits to help solidify this conceptualization. This process is consistent with the idea that although the labeling and accounting of trauma-related symptoms may differ by culture, identification of these symptoms as a syndrome has more universal acceptance across cultures (Breslau, 2004; Young, 1995).

As judged by patient self-report, as Cambodian patients became more comfortable with interoceptive exposure procedures, they became more likely to interpret symptoms as anxiety-rather than *Wind*-induced. Moreover, trauma memories became easier to discuss and process as the patients were no longer induced to avoid these topics due to the emergence of feared sensations. The tolerability of treatment procedures was reflected by retention of all group members in the pilot study.

It is notable that among the treatment effects observed in our small pilot study of Cambodian women with PTSD (Otto et al., 2003), we obtained particularly large effect sizes for the benefits of CBT relative to the control condition for measures of fears of somatic sensations.

Specifically, we obtained large between-group effect sizes (Cohen, 1977) for reductions in reexperiencing and avoidance/numbing symptoms ($d=.82$ and $.85$, respectively), and a medium effect size ($d=.45$) for reductions in hyperarousal symptoms; and very large between-group effect sizes for the advantage of CBT for reducing fears of anxiety sensations as assessed by the Anxiety Sensitivity Index ($d=1.07$), as well as a Cambodian version of anxiety sensitivity incorporating fears of symptoms associated with *Wind* ($d=1.2$) and a measure of somatization ($d=1.3$).

Overall, the application of interoceptive exposure to alter both catastrophic interpretations of symptoms and trauma-related memories was applied most formally in terms of a “cue protocol” that patients were asked to use to learn to respond differently to trauma-related cues. The cue protocol has three interrelated goals/procedures:

1. Help patients reduce immediate distress by replacing catastrophic interpretations of symptoms (ranging from fears of loss of control to culturally distinct fears of death or disability due to blockage of *Wind*) with interpretations based on the Limbic Kid model of trauma-related responses.
2. Rehearse acceptance and empathy for the emotions and symptoms arising from reexposure to the trauma cue (i.e., rehearse adaptive emotional processing).
3. Identify the trauma cue, and rehearse the distinction between past danger and current safety.

To achieve these goals, the cue protocol incorporated the following treatment elements:

1. Identify the source of the distress: internal (e.g., sore neck) and external cue (e.g., “I became frightened when I smelled smoke; smoke reminds me of the gunpowder and burning bodies of the Pol Pot time”).
2. Normalize the emotions (e.g., “These feelings of fear make sense: the smoke reminded me of the Pol Pot time, and that was a horrible time”).
3. Use the Limbic Kid model in this normalization (e.g., “I can feel my Limbic Kid shouting; it is shouting ‘danger, danger’ because the kid thinks that smoke means the Pol Pot time is here; but the kid is wrong, I am relatively safe here in the United States. Smoke is OK even though it gives me old feelings of fear”).
4. Respect the emotions. (e.g., “These memories bring strong emotions, I need to respect these emotions, but also know that I am safe from the Pol Pot trauma”).
5. Care for yourself (e.g., “These memories are hard on me; let me take a moment and relax a little, and maybe I can do something nice for myself, given what I have been feeling”).
6. Remind yourself that you survived the trauma (e.g., “Even though I have some bad memories, I am glad to be here now”).

The cue protocol was introduced in Session 4 of a 10-session treatment utilizing a weekly 90-minute group format. Thereafter, the cue protocol was rehearsed every session in the context of discussion of the trauma cues experienced by patients during the previous week (or elicited in session in interoceptive exposure practice). Treatment also included a backdrop of informational, cognitive, and skill-acquisition interventions. In particular, we emphasized relaxation and diaphragmatic breathing skills as part of mindfulness training. Our goal in this brief series of sessions for such severe PTSD was to provide patients with a model and practice of treatment procedures so that they could continue these procedures beyond the confines of regular sessions with our CBT specialists.

As is clear from our description of core interventions, our exposure-based treatment stressed themes of acceptance and mindfulness. These strategies are consistent with Buddhist philosophy and have been receiving increasing attention in the CBT literature (e.g., Hayes et al., 1996; Roemer & Orsillo, 2002; Toneatto, 2002; and see Otto et al., 2003, for mindfulness application for interoceptive exposure procedures). Because the Cambodian language is rich in concepts drawn from Buddhism, our task at times consisted of giving a positive evaluation of traditional Buddhist meditation and mindfulness techniques (Bemak, Chung, & Bornemann, 1996), as well as instruction in the particulars of mindfulness in the context of our emotional-processing protocol.

Relaxation Training Reconsidered

A particularly difficult issue for us was whether to include relaxation and diaphragmatic breathing training in the treatment protocol. In the panic literature, questions have been raised whether these strategies may sap some of the efficacy of exposure-based treatment (e.g., Schmidt et al., 2000), perhaps by keeping patients engaged in trying to control symptoms rather than learning to not fear these symptoms. However, in the case of Cambodian patients, these symptom-management strategies offer at least three potential advantages. First they offered the potential of helping patients reconceptualize symptoms as anxiety-related (rather than *Wind*-related), as they observed the decrease in symptoms with application of skills. Second, the sheer number of somatic symptoms experienced by our Cambodian patients motivated us to use these strategies. Finally, relaxation training did provide a link to the mindfulness strategies applied in Buddhism, and applied specifically at the Buddhist temple where we held our sessions. Accordingly, we integrated relaxation training and diaphragmatic breathing skills into our treatment protocol, and tended to emphasize mindfulness (and culturally appropriate relaxation imagery: e.g., a lotus blossom) in the context of these procedures.

The Flow of Treatment

Below we provide a general outline of the flow of these interventions across the 10 weekly sessions.

- Session 1—GOAL: Provide an overview of the disorder and the process of treatment.
 1. Provide a description of the symptoms of PTSD and a model of the network of emotional associations linked to the trauma.
 2. Introduce the idea that treatment is skill based and will proceed in a step-by-step fashion, with some skills learned independently, then later combined for efficacy for PTSD (using the noodle dish, *num beunycok*, metaphor).
 3. Discuss the inherent difficulties in providing group treatment for their particular trauma, noting that group settings may be a trauma cue.
 4. Introduce the notion of discriminating between past cues of trauma and current safety.
 5. Convey respect for the group members as “survivors” of an extraordinary trauma.
- Session 2—GOAL: Review and extend the overview of treatment, initiate self-monitoring with limited self-talk, and, if possible, assist patients in talking about symptom experiences.
 1. Provide a fuller example of the Limbic Kid metaphor, and introduce the concept of talking to oneself (cognitive interventions).
 2. Introduce the idea of being aware of the multiple meanings of trauma cues, like seeing two “television screens” at once—one trauma based (historical) and one current (relative safety here in the United States).

3. Discuss somatic symptoms of anxiety/panic in terms of the Limbic Kid model, and discriminate this symptom interpretation from culturally distinct catastrophic thoughts.
4. Introduce relaxation training as a strategy for calming the body and relieving the intensity of some of the somatic symptoms of anxiety.
5. Assign monitoring of the television screens and labeling of symptoms in terms of the Limbic Kid model.

• Session 3—GOAL: Engender self-report of trauma cues (with the self-monitoring assignment), and further rehearse the essential feature of discriminating between feelings of historical danger based on trauma cues and current safety (attending to cultural interpretations).

1. Rehearse symptoms experienced over the last week.
2. Rehearse the coping strategy for trauma cues: Identification and labeling of the emotion, identification of the source of the emotion (past trauma or current), talking respectfully to the Limbic Kid, and identifying current safety.
3. Rehearse labeling of emotions in terms of the Limbic Kid relative to catastrophic thoughts.
4. Rehearse relaxation application to somatic symptoms.
5. Assign self-monitoring.

• Sessions 4 and 5—GOAL: In this and subsequent sessions, much greater attention will be placed on the in-session use of the cue protocol. In general, sessions will include a review of the trauma-related experiences of symptoms that occurred during the week, followed by an in-session completion of the cue protocol.

Elements of the session will include:

1. Review of trauma cues and symptoms experienced over the last week.
2. Review of questions about the model.
3. Specific review of smell or anger cues (see Hinton & Otto, 2006—this issue).
4. Discuss the tolerability of interventions applied thus far.
5. Review the degree to which anxiety interpretations of symptoms are being used instead of catastrophic interpretations.
6. Introduce and rehearse diaphragmatic breathing (rehearse brief relaxation skills).

• Session 6—GOAL: Transition from a focus on cognitive-skills and relaxation strategies to interoceptive exposure procedures.

1. Open a discussion of “safe” interpretations of interoceptive sensations (e.g., dizziness) by asking about games played as a youth by the patients that may have induced dizziness. Specifically, discuss the “Hung” game. Use these memories as a basis for an innocuous interpretation of induced sensations. Repeat interoceptive exposure practice under these conditions.
2. Assign home practice of all procedures.

• Session 7—GOAL: Provide more experience with interoceptive exposure procedures and overrehearse innocuous explanations of symptoms.

1. Review experiences with interoceptive exposure—ask whether emergent sensations were any less frightening given the practice last session. Underscore any benefits

mentioned by group members (“This is the reason for our practice, so that the sensations can no longer ‘push you around and frighten you’; the exposure practice can help you remember that these sensations may feel odd, but are safe”), and discuss the importance of practice of the sensations so that group members remember that these sensations can be safe.

2. Discuss the difference between *Wind* sensations and anxiety sensations that feel similar to *Wind*: “These sensations feel similar to *Wind*, but are from anxiety; they feel odd but are safe.”
 3. Induce various symptoms with interoceptive exposure via head rolling, overbreathing, chest-tightness, and head-between-the-knees procedures. Discuss the resulting symptoms in terms of “Hung” and other dizziness games of childhood.
 4. Review a “well-being” approach: that due to the hard work that is being practiced in group, it will be important for group members to provide themselves with pleasurable breaks. Discuss small, inexpensive positive events that the patients may want to incorporate into their days. For example, sitting in a favorite chair with a favorite beverage is one such low-cost way to provide oneself with an enjoyable break.
 5. Close the session with a brief relaxation practice.
- Sessions 8 and 9—GOAL: These sessions represent a transition back to more direct trauma work and the forging of a specific link between interoceptive exposure and the trauma protocol.
 1. Review memories of and use of interoceptive exposure procedures. Did patients experience sensations? Did the sensations scare them, or did they remember their experiences in group? Did any group members “play with” the sensations out of session (induce them)?
 2. Discuss the interpretation of symptoms relevant to childhood (“Hung”) games. Then, induce at least two sensations using interoceptive exposure procedures. Work to ensure that sensations are interpreted within the “games” model.
 3. Discuss sources of anxiety during the week, and query how well the self-talk procedures are working.
 4. Address the fact that it has been several sessions since discussion of trauma memories. Ask whether trauma memories have come up in the last week.
 5. Rehearse the trauma protocol, with specific attention to training in three emotional-acceptance steps: (a) the trauma was severe (it hurt me), (b) it is sad that I had to bear the trauma (I am sad/I wish I didn’t have to go through that), and (c) I am glad to be here now. Provide patients with the “three bows” metaphor to understand the use of these three steps—with a pause between each one—to appropriately respect trauma memories when they arise.
 6. Specifically review smell or anger cues, and the use of the trauma protocol.
 7. Continue with a discussion of well-being, with a focus on both noticing and scheduling pleasant events.
 8. Close the session with a brief relaxation practice.
 - Session 10—The final session of treatment is devoted to review of the cue protocol and discussion of what patients have learned during the group. Despite the end of formal sessions, the process of treatment will be described as ongoing, with the patients taking on the role of therapist for themselves and continuing to guide themselves in the skills and procedures they found most helpful during treatment.

Concluding Comments

We conceptualized our project on modifying CBT for the treatment of PTSD in Cambodian refugees as both a small clinical trial (Otto et al., 2003) and a dissemination project to ensure that empirically supported psychotherapy was being offered to patients in particular need. Training of an on-site therapist and the bicultural workers who acted as interpreters led to further clinical application of these strategies to other Cambodian refugees as well as other Asian refugees with PTSD (e.g., Hinton et al., submitted for publication). For us, this work provided meaningful experiences with survivors of overwhelming trauma, and helped us hone our repertoire of cognitive-behavioral interventions for PTSD into a series of core and supporting interventions that could be communicated in an efficient manner in a group setting. Although our results to date are based on very small sample sizes, they are supportive of the feasibility, acceptability, and efficacy of these interventions for Cambodian refugees with PTSD. Results such as these encourage the further refinement of strategies to ensure that people from diverse cultures can engage in and benefit from empirically supported CBT.

References

- Ballenger JC, Davidson JR, Lecrubier Y, Nutt DJ, Foa EB, Kessler RC, McFarlane AC, Shalev AY. Consensus statement on posttraumatic stress disorder from the International Consensus Group on Depression and Anxiety. *Journal of Clinical Psychiatry* 2000;61(Suppl 5):60–66. [PubMed: 10761680]
- Bemak, F.; Chung, R.; Bornemann, T. Counseling and psychotherapy with refugees. In: Pederson, P.; Draguns, J.; Lonner, W.; Trimble, J., editors. *Counseling across cultures*. Vol. 4. London: Sage; 1996. p. 243-265.
- Boehnlein JK, Kinzie JD, Ben R, Fleck J. One-year follow-up study of posttraumatic stress disorder among survivors of Cambodian concentration camps. *American Journal of Psychiatry* 1985;142:956–959. [PubMed: 4025594]
- Breslau J. Cultures of trauma: Anthropological views of posttraumatic stress disorders in international health. *Culture, Medicine & Psychiatry* 2004;28:113–126.
- Carlson EB, Rosser-Hogan R. Trauma experiences, posttraumatic stress, dissociation, and depression in Cambodian refugees. *American Journal of Psychiatry* 1991;148:1548–1551. [PubMed: 1928471]
- Carlson EB, Rosser-Hogan R. Cross-cultural response to trauma: A study of traumatic experiences and posttraumatic symptoms in Cambodian refugees. *Journal of Trauma Stress* 1994;7:43–58.
- Cheung P. Somatisation as a presentation in depression and post-traumatic stress disorder among Cambodian refugees. *Australian and New Zealand Journal of Psychiatry* 1993;27:422–428. [PubMed: 8250785]
- Chung RC, Bemak F, Kagawa-Singer M. Gender differences in psychological distress among Southeast Asian refugees. *Journal of Nervous and Mental Disease* 1998;186:112–119. [PubMed: 9484311]
- Cohen, J. *Statistical power analysis for the behavioral sciences*. New York: Academic Press; 1977. (Rev. ed.)
- Craske, MG.; Meadows, E.; Barlow, DH. *Mastery of your anxiety and panic and agoraphobia supplement (therapist guide)*. Vol. 2. San Antonio, TX: Psychological Corporation; 1994.
- Falsetti S, Resnick H. Cognitive-behavioral treatment for PTSD with panic attacks. *Journal of Contemporary Psychotherapy* 2000;30:163–179.
- Foa EB, Dancu CV, Hembree EA, Jaycox LH, Meadows EA, Street GP. A comparison of exposure therapy, stress inoculation training, and their combination for reducing posttraumatic stress disorder in female assault victims. *Journal of Consulting and Clinical Psychology* 1999;67:194–200. [PubMed: 10224729]
- Foa E, Kozak M. Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin* 1986;99:20–35. [PubMed: 2871574]
- Foa EB, Rothbaum BO, Riggs DS, Murdock TB. Treatment of posttraumatic stress disorder in rape victims: A comparison between cognitive-behavioral procedures and counseling. *Journal of Consulting and Clinical Psychology* 1991;59:715–723. [PubMed: 1955605]

- Goisman RM, Rogers MP, Steketee GS, Warshaw MG, Cuneo P, Keller MB. Utilization of behavioral methods in a multicenter anxiety disorders study. *Journal of Clinical Psychiatry* 1993;54:213–218. [PubMed: 8101186]
- Goisman RM, Warshaw MG, Keller MB. Psychosocial treatment prescriptions for generalized anxiety disorder, panic disorder, and social phobia, 1991–1996. *American Journal of Psychiatry* 1999;156:1819–1821. [PubMed: 10553751]
- Hayes SC, Wilson KG, Strosahl K, Gifford EV, Follette VM. Experiential avoidance and behavioral disorders: A functional dimensional approach to diagnosis and treatment. *Journal of Consulting and Clinical Psychology* 1996;64:1152–1168. [PubMed: 8991302]
- Hinton D, Otto MW. Symptom presentation and symptom meaning in Cambodian refugees with posttraumatic stress disorder and panic disorder. *Cognitive and Behavioral Practice* 2006;13 (this issue).
- Hinton DE, Pham T, Tran M, Safren SA, Otto MW, Pollack MH. CBT for Vietnamese refugees with treatment-resistant PTSD and panic attacks: A pilot study. *Journal of Traumatic Stress* 2004;17:429–433. [PubMed: 15633922]
- Hinton D, Um K, Ba P. *Kyol goeu* (“wind overload”) part I: A cultural syndrome of orthostatic panic among Cambodian refugees. *Transcultural Psychiatry* 2001;38:403–432.
- Hinton D, Um K, Ba P. *Kyol goeu* (“wind overload”) part II: prevalence, characteristics and mechanisms of *kyol goeu* and near-*kyol goeu* episodes of Cambodian patients attending a psychiatric clinic. *Transcultural Psychiatry* 2001;38:433–460.
- Hinton D, Um K, Ba P. A unique panic disorder presentation among Cambodian refugees: The sore-neck syndrome. *Culture, Medicine, and Psychiatry* 2001;25:297–316.
- Kiernan, B. *The Pol Pot regime: Race, power, and genocide in Cambodians under the Cambodian Rouge, 1975–79*. New Haven: Yale University Press; 1996.
- Kinzie JD, Fredrickson RH, Ben R, Fleck J, Karls W. Posttraumatic stress disorder among survivors of Cambodian concentration camps. *American Journal of Psychiatry* 1984;141:645–650. [PubMed: 6711684]
- Kinzie JD, Leung P. Clonidine in Cambodian patients with posttraumatic stress disorder. *Journal of Nervous and Mental Disease* 1989;177:546–550. [PubMed: 2769247]
- Mollica RF, Wyshak G, Lavelle J. The psychosocial impact of war trauma and torture on Southeast Asian refugees. *American Journal of Psychiatry* 1987;144:1567–1572. [PubMed: 3688280]
- Ngor, H. *A Cambodian odyssey*. New York: Warner Books; 1987.
- Otto MW. Stories and metaphors in cognitive-behavior therapy. *Cognitive and Behavioral Practice* 2000;7:166–172.
- Otto MW, Hinton D, Korbly NB, Chea A, Phalnarith B, Gershuny BS, Pollack MH. Treatment of pharmacotherapy-refractory posttraumatic stress disorder among Cambodian refugees: A pilot study of combination treatment with cognitive-behavior therapy vs. sertraline alone. *Behaviour Research and Therapy* 2003;41:1271–1276. [PubMed: 14527527]
- Otto, MW.; Jones, JC.; Craske, MG.; Barlow, DH. *Stopping anxiety medication: Panic control therapy for benzodiazepine discontinuation (Therapist guide)*. San Antonio, TX: Psychological Corporation; 1996.
- Otto, MW.; Penava, SJ.; Pollock, RA.; Smoller, JW. Cognitive-behavioral and pharmacologic perspectives on the treatment of post-traumatic stress disorder. In: Pollack, MH.; Otto, MW.; Rosenbaum, JF., editors. *Challenges in clinical practice: Pharmacologic and psychosocial strategies*. New York: The Guilford Press; 1996. p. 219-260.
- Otto MW, Safren SA, Pollack MH. Internal cue exposure and the treatment of substance use disorders: Lessons from the treatment of panic disorder. *Journal of Anxiety Disorders* 2004;18:69–87. [PubMed: 14725869]
- Resick PA, Nishith P, Weaver TL, Astin MC, Feuer CA. A comparison of cognitive processing therapy with prolonged exposure and a waiting condition for the treatment of chronic posttraumatic stress disorder in female rape victims. *Journal of Consulting and Clinical Psychology* 2002;70:867–879. [PubMed: 12182270]
- Resick, PA.; Schnicke, MK. *Cognitive processing therapy for rape victims: A treatment manual*. Newbury Park, CA: Sage; 1993.

- Roemer L, Orsillo S. Expanding our conceptualizations of and treatment for generalized anxiety disorder: integrating mindfulness/acceptance-based approaches with existing cognitive-behavioral models. *Clinical Psychology: Science and Practice* 2002;9:54–68.
- Schmidt NB, Woolaway-Bickel K, Trakowski J, Santiago H, Storey J, Koselka M, Cook J. Dismantling cognitive-behavioral treatment for panic disorder: Questioning the utility of breathing retraining. *Journal of Consulting and Clinical Psychology* 2000;68:417–424. [PubMed: 10883558]
- Somasundaram DJ, van de Put WA, Eisenbruch M, de Jong JT. Starting mental health services in Cambodia. *Social Science and Medicine* 1999;48:1029–1046. [PubMed: 10390042]
- Stephenson PH. Vietnamese refugees in Victoria, B.C.: An overview of immigrant and refugee health care in a medium-sized Canadian urban centre. *Social Science and Medicine* 1995;40:1591–1596. [PubMed: 7660172]
- Taylor S, Koch WJ, McNally RJ. How does anxiety sensitivity vary across the anxiety disorders? *Journal of Anxiety Disorders* 1992;6:249–259.
- Toneatto T. A metacognitive theory for anxiety disorders: Buddhist psychology applied. *Cognitive and Behavioral Practice* 2002;9:72–78.
- Uba L. Cultural barriers to health care for southeast Asian refugees. *Public Health Reports* 1992;107:544–548. [PubMed: 1410235]
- Young A. Reasons and causes for post-traumatic stress disorder. *Transcultural Psychiatric Research Review* 1995;32:287–298.