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Shorter communication

Culturally adapted CBT (CA-CBT) for Latino women with treatment-resistant PTSD: A pilot study comparing CA-CBT to applied muscle relaxation

Devon E. Hinton [a,b,c,*], Stefan G. Hofmann [d], Edwin Rivera [c], Michael W. Otto [d], Mark H. Pollack [a,b]

[a] Massachusetts General Hospital, MA, USA
[b] Harvard Medical School, MA, USA
[c] Arbour Counseling Services, Lowell, MA, USA
[d] Department of Psychology, Boston University, MA, USA

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ABSTRACT

We examined the therapeutic efficacy of a culturally adapted form of CBT (CA-CBT) for PTSD as compared to applied muscle relaxation (AMR) for female Latino patients with treatment-resistant PTSD. Participants were randomized to receive either CA-CBT ($n = 12$) or AMR ($n = 12$), and were assessed before treatment, after treatment, and at a 12-week follow-up. The treatments were manualized and delivered in the form of group therapy across 14 weekly sessions. Assessments included a measure of PTSD, anxiety, culturally relevant idioms of distress (*nervios* and *ataque de nervios*), and emotion regulation ability. Patients receiving CA-CBT improved significantly more than in the AMR condition. Effect size estimates showed very large reductions in PTSD symptoms from pretreatment to posttreatment in the CA-CBT group (Cohen's $d = 2.6$) but only modest improvements in the AMR group (0.8). These results suggest that CA-CBT can be beneficial for previously treatment-resistant PTSD in Latino women.

Though there is good evidence for the efficacy of cognitive-behavior therapy (CBT) for treating PTSD in non-ethnic groups, there are no studies that specifically examine the efficacy of CBT for PTSD in adult Latino population (for one recent review, see Horrel, 2008). One study of an intervention with Latino youth with PTSD demonstrated efficacy compared to waitlist (Stein et al., 2003). This is striking gap in the literature, given the size of the Latino population in the United States, which is expected to represent 25% of the population by 2050 (U.S. Census Bureau, 2004).

We have piloted a manualized CBT treatment for treatment-resistant PTSD for Southeast Asian refuge populations. The treatment has been shown to be effective in treating PTSD in several trials: in a Vietnamese refugee sample, as compared to waitlist, Cohen's $d = 2.5$ (Hinton et al., 2004), and in a Cambodian refugee sample, in comparison to waitlist, Cohen's $d = 2.2$ (Hinton et al., 2005).

We refer to the treatment as culturally adapted CBT (CA-CBT) because it is designed to address certain key treatment challenges in minority and refugee populations (Table 1) and because it includes adaptations of key CBT techniques for these groups (Table 2). To amplify on one of these examples, there is evidence that traditional trauma-memory exposure is difficult to tolerate even for educated, English-speaking populations, with worsening at certain points of the treatment (for a review, see Cahill, Foa, Hembree, Marshall, & Nacash, 2006; Markowitz, 2010). Given that ethnic minority and refugees are often highly distressed, and given that they have a different cultural context, these techniques are more likely to have negative results, including worsening of symptoms and drop out. In an exposure-based treatment study, African Americans were found to drop out twice as often as Caucasian patients (55% versus 27%; Lester, Resick, Young-Xu, & Artz, 2010). In CA-CBT, we use a unique approach to exposure to increase acceptability (see Tables 1 and 2). For a discussion of whether therapy needs to be adapted for other cultural groups, and to what extent, see Bernal and Domenech Rodriguez (2009); Castro, Barrera, and Holleran Steiker (2010); Hinton and Otto (2006); Hwang (2006); Otto and Hinton (2006).

The present study compares our culturally adapted CBT to another credible, active treatment, namely, applied muscle relaxation. There is evidence that AMR offers some benefit for PTSD, with a within-subjects effect size of 0.8 in one study (Vaughan et al., 1994). We hypothesized that, as compared to AMR, our CA-CBT would be more effective in the treatment of Latino patients with PTSD, as evinced in greater improvement in PTSD- and anxiety-related measures and a measure of culturally specific idioms of distress. In addition, we hypothesized that given CA-CBT's focus on emotion regulation (particularly emotional flexibility) that patients treated by CA-CBT would show greater improvement than the AMR group on that dimension.

* Corresponding author. Massachusetts General Hospital, Department of Psychiatry, 15 Parkman Street, WACC 812, Boston, MA 02114, USA.
E-mail address: devon_hinton@hms.harvard.edu (D.E. Hinton).

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Table 1
Key treatment barriers and psychopathologies among ethnic minorities and refugees and how they are addressed in CA-CBT.

Problem	How addressed in CA-CBT
Poor English skills, minimal education, and lack of familiarity with Western psychological concepts	The treatment is specifically designed to be easily understood by individuals who have little formal education, consistent with the needs of refugee or disadvantaged populations (Hinton & Otto, 2006; Otto & Hinton, 2006). The treatment emphasizes emotion regulation and emotional and psychological flexibility because these concepts are easily explained and are key concerns for these groups (e.g., Hinton, Lewis-Fernández et al., 2009; Hinton, Rasmussen, Nou, Pollack, & Good, 2009); emotion regulation techniques such as decentering/distancing, meditation, and applied stretching are readily understood and learned by patients.
Prominent somatic complaints (e.g., in Latino populations: Escobar & Canino, 1989; Lewis-Fernández et al., 2008; Pole, Best, Metzler, & Marmar, 2005)	The treatment targets somatic symptoms in multiple ways: it addresses panic attacks, panic disorder, and pathological worry; it modifies catastrophic cognitions; it educates about somatic symptoms caused by arousal and PTSD; it includes interoceptive exposure to and re-association to somatic sensations; it has two units that specifically address somatic complaints; and it includes stretching, applied muscle relaxation, and breathing retraining, which reduce arousal and somatic symptoms.
Culturally specific syndromes, idioms of distress, and understanding of symptoms (a key treatment target in traumatized Latino and other ethnic groups; Hinton & Lewis-Fernández, 2010)	The treatment specifically elicits and addresses the patient's understanding of arousal-related mental and somatic symptoms and specifically addresses the group's understanding of the physiology of these symptoms, the group's cultural syndromes, and the group's idioms of distress: in the case of Latino populations, concerns about "*nervios*" and "*ataque de nervios*."
Poor tolerance of traditional exposure	After eliciting recent trauma recall at the beginning of each session, we have the patient practice a trauma-processing protocol that involves a series of steps, each of which is an emotion regulation technique: acceptance; loving-kindness meditation; multi-sensorial, living-in-the-present, mindfulness meditation; applied muscle relaxation with a visualization encoding psychological and emotional flexibility.

Table 2
Adapting key CBT techniques for treating ethnic minority and refugee populations: examples from CA-CBT.

Key CBT technique	Sociocultural adaptation
Loving-kindness meditation (Hofmann & Hinton, submitted for publication; Hutcherson, Seppeal, & Gross, 2008)	We use culturally consonant imagery: for Latino populations, presenting the compassion meditation in Christian-type imagery (involving a light and heat emanating from the heart, analogous to the sacred heart of Jesus, or Sagrado Corazón de Jésus); for Southeast Asians, using Buddhist-type imagery (involving coolness and water flowing from the heart and body).
Modifying catastrophic cognitions about PTSD and anxiety symptoms, including those related to cultural syndromes (Clark & Ehlers, 2004; Foa & Rothbaum, 1998; Resick & Schnicke, 1993)	In several sessions, we ask patients about their understanding of their anxiety and PTSD symptoms and their ways of coping with those symptoms. One session specifically addresses cultural syndromes (e.g., *nervios* and *ataque de nervios* in the Latino population) and catastrophic misinterpretations of somatic and psychological sensations, and it includes modification of culturally related catastrophic cognitions, for example, concerns that somatic and mental symptoms indicate a dangerous disorder of *nervios* or an imminent *ataque de nervios*.
Educating about PTSD and trauma-cued recall (Resick & Schnicke, 1993)	This is done using easily understood imagery, such as analogizing the amygdala and conditioned responses to a "limbic child" who remembers everything and who takes out DVDs about bad events in the past that have to do with what is going on in the present moment: if the trauma occurred on a rainy day, the "limbic child" will take out DVDs of bad things that happened on rainy days; if dizziness was present during a trauma, the "limbic child" may take a DVD of that trauma event whenever dizziness is experienced.
Positive reframing of trauma cues	This is done by using the "limbic child" analogy. We suggest that the patient have the "limbic child" take out DVDs of good events related to current experiencing – if it rains, have the limbic child play a DVD of rice growing bountifully in the rain; if the patient is dizzy, have the "limbic child" play DVDs of when he or she rolled down a hill while playing as a child.
Teaching emotion regulation techniques	When we present emotion regulation techniques, we also discuss methods traditionally used by the group in question (e.g., among Caribbean-Latino patients, opening the bible at random to read a passage; doing the rosary; lighting a votive candle), and encourage their use as well. We teach easily learned emotion regulation techniques like decentering and applied stretching paired with culturally appropriate imagery.
Presenting key lessons with culturally appropriate analogies ("cultural bridging"; Hwang, 2006)	We use culturally appropriate analogies in other places as well, such as using examples of the group's cuisine to positively frame that fact that the treatment will take time to complete and that several components need to be learned – analogous to the steps in preparing such a dish (e.g., in the Caribbean-Latino case, the stew, *sancocho*).
Interoceptive exposure to anxiety-type sensations (through head rotation and hyperventilation), in conjunction with re-association to positive images, to treat fear of somatic and mental symptoms (Falsetti & Resnick, 2000; Hinton et al., 2004; Otto, Penava, Pollack, & Smoller 1996)	In the interoceptive exercises, we provide culturally specific re-associations to somatic sensations: traditional games in the culture in question that induced dizziness: in the Caribbean-Latino case, being spun while blindfolded during piñata games. To promote acceptability with interoceptive exposure, we frame exposure as a way of learning what symptoms are produced by this procedure and that are harmless and as a way of practicing how to have the sensations evoke positive images and ideas rather than catastrophic cognitions and trauma recall.
Applied relaxation techniques, including both applied muscle relaxation and applied stretching, with positive self-statements that pair bodily flexibility to emotional flexibility (Öst & Breitholtz, 2000; Öst & Westling, 1995)	We have the patient perform a culturally appropriate visualization: in the case of Latino patients, after AMR-type relaxation of the shoulders, the patient visualizes a palm tree and its fronds swaying in the wind at a sunny and sandy beach (an image encoding the idea of flexibility; see Hinton, 2008) and enacts analogous movements – by straightening the spine, through tightening the abdominal musculature, and by making rotational movements at the neck – all the while evoking self-statements about adaptive and flexible adjustment.
Exposure and modification of fear networks	Exposure is followed by practicing of a trauma-processing protocol, a set of emotion regulation techniques, which includes visualizations that are culturally adapted for the group in question (e.g., applied stretching of tense muscles followed by head rotation and a palm-tree visualization in the case of Latino patients).