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COGNITIVE BEHAVIORAL MODELS, MEASURES, AND TREATMENTS FOR ANXIETY DISORDERS IN LATINOS: A SYSTEMATIC REVIEW

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There is a high incidence of anxiety disorders[1] in the Latino population, and cognitive behavior therapy (CBT) has been demonstrated to be an efficacious psychological treatment for a variety of anxiety conditions (Hofmann & Smits, 2008; Olatunji, Cisler, & Deacon, 2010; Stewart & Chambless, 2009). In this chapter, we examine the available evidence on the efficacy of CBT treatments for anxiety in Latinos. We also review the CBT models and measures used to evaluate outcomes in adult Latinos. Recently, an agenda for psychotherapy research with ethnic minorities was proposed by Lau, Chang, Okazaki, and Bernal (2016). A central question was the degree to which evidence-based treatments (EBTs) work with minorities. We refine the question further by examining the available evidence on the efficacy of CBT treatments for anxiety with Latinos.

[1]In a study of depression and anxiety in Latinos, Wassertheil-Smoller et al. (2014) found the prevalence of depression was 27%; depression and anxiety were highly correlated. The authors noted that anxiety symptoms followed a similar pattern as those for depression.

http://dx.doi.org/10.1037/0000091-007
Treating Depression, Anxiety, and Stress in Ethnic and Racial Groups: Cognitive Behavioral Approaches, E. C. Chang, C. A. Downey, J. K. Hirsch, and E. A. Yu (Editors)

Literature searches were conducted from August 2013 to October 2014 using selected keywords in different online databases (e.g., EBSCO Host, Dialnet, JStor, OvidSp, ProQuest, PubMed, PsycNET, Scielo, and Science Direct). These queries were conducted independently for all years before December 2014. An update of the literature searches was performed and produced an additional study for 2016. Randomized controlled trials (RCTs) and open clinical trials (OCTs) were key selection criteria. Twenty-three studies met the inclusion criteria for cognitive treatments for anxiety with Latino adults. EBTs such as CBT and metacognitive therapy were commonly studied treatments. In this chapter, we examine the state of the science on the efficacy of CBT for Latino adults with anxiety. The introductory chapter to this volume provides context on the demographics of Latinos and their health equity status. Here, we review the literature on the efficacy of CBT to determine its consideration as a well-established treatment for Latinos based on the Chambless and Hollon (1998) criteria modified to consider the adequacy of the sample size for this population group. On the basis of our systematic review, we then examine the CBT models used followed by an examination of the primary measures used to assess outcome in the treatment of anxiety with Latinos.[2] We conclude with a discussion of the role of culture, language, cultural adaptation, and the availability and accessibility of EBTs for Latinos.

SETTING CONDITIONS FOR MENTAL HEALTH ISSUES AND CARE FOR LATINOS IN THE UNITED STATES

The prominence of the Latino population is evident in different spheres of U.S. society (e.g., culture, food, music, art, politics, government, science). Nevertheless, these communities continue to face major disparities with regard to health equity. The Centers for Disease Control and Prevention showed that 29.1% of Latinos lacked health insurance (Ward, Schiller, Freeman, & Peregoy, 2013). Also, Latinos were twice as likely as non-Latino Blacks and 3 times as likely non-Latino Whites to lack a regular health care provider. Most uninsured Latinos are between the ages of 18 and 64 (Cohen & Martinez, 2012). The high percentage of noninsured Latinos represents a serious public health concern because this community is not receiving adequate treatment for a wide range of health conditions, such as diabetes, heart disease, HIV/AIDS, and mental health disorders. Wassertheil-Smoller et al. (2014)

[2]We use the terms *Latino* and *Hispanic* to refer to people from Puerto Rico, Cuba, Central or South America, and other people from Spanish cultures or origins. *Hispanic* was a label adopted by the deferral government in the 1970s to classify census data and administering federal programs. It also emphasizes the Spanish roots of these groups, whereas the term *Latino* encompasses individuals who speak different languages and have diverse origins.

noted that depression and anxiety are generally not treated among Latinos who lack health insurance; these authors also reported a correlation of 0.71 between depression and anxiety disorders for this group. Clearly, it is essential to attend to the health needs of Latinos, providing equity in health and mental health care.

Latinos have less access or use fewer mental health treatments than the general population, and the rates for most mental disorders are similar to the overall population. However, Latinos and non-Hispanic Whites show higher prevalence rates of affective disorders (e.g., major depression, social phobia) compared with African Americans, who show a lower prevalence of major depression and dysthymia (Woodward et al., 2012). Also, rates of mental disorders vary among Latino subgroups; Alegría et al. (2007) found that Puerto Ricans showed the highest overall prevalence rate of mental illness among Latino subgroups and the highest prevalence for depressive symptoms (58% more likely; Albert Einstein College of Medicine, 2014). In addition, Puerto Ricans show higher anxiety rates (18.3, CI [17.9, 18.8]) compared with other Latinos (Wassertheil-Smoller et al., 2014).

A central question is whether the treatments delivered are effective with specific mental disorders, such as anxiety, in Latinos. To answer this question, we look at efficacy and effectiveness studies that make up the evidence base for treatments (Miranda et al., 2005) for adults. Efficacy studies serve as the foundation for identifying outcomes associated with well-defined treatments, whereas effectiveness studies help evaluate the impact of such treatments in real-world settings (Miranda et al., 2005). The issue of external validity is not trivial; there seems to be a bias in the use of basic principles of science (Sue, 1999) given the paucity of efficacy studies with minority populations. In fact, the U.S. Surgeon General's supplementary report noted that minorities are largely missing from efficacy trials (Office of the Surgeon General, Center for Mental Health Services, & National Institute of Mental Health, 2001). The paucity of diverse populations in efficacy studies has led investigators to question whether EBTs can be generalized to ethnic and racial minorities, including Latinos.

In 1998, the American Psychological Association (APA) Society of Clinical Psychology (Division 12) established a Task Force on Promotion and Dissemination of Psychological Procedures that exposed criteria (for EBTs) and identified a list of EBTs (CBT, behavioral therapy, and interpersonal psychotherapy) demonstrating efficacy superior to a placebo or another comparison control in the treatment of anxiety, stress, depression, health problems, childhood problems, marital discord, and sexual dysfunction (Hall, 2001). A concern with the list was that none of the treatments showed adequate empirical support for the efficacy of EBTs for ethnic minority groups, in part due to the scarcity of minorities represented in the sample (Hall, 2001). Similarly, Bernal

and Scharró-del-Río (2001) noted that although they emphasized internal over external validity, most of the studies had little if any consideration of the cultural, interpretative, population, ecological, and construct validity of the intervention and the results reported, thus making these treatments unresponsive to the needs of EBTs for diverse groups. Various scholars have argued in favor of adapting psychotherapies for diverse populations that are based on both the evidence and the consideration of the culture, language, and context of the population in question (Bernal, Bonilla, & Bellido, 1995; Bernal & Domenech Rodríguez, 2012; Comas-Díaz, 2012; Hall, 2001; La Roche, 2012), including constructs such as the meaning of interdependence, spirituality, and discrimination, even if such constructs appear to be counter to mainstream values inherent in traditional psychotherapies.

Two decades after the publication of the Division 12 task force report, major challenges remain in generating studies with Latinos and other minorities. Mak, Law, Alvidrez, and Pérez-Stable (2007) examined the representation of ethnic minorities in studies of the National Institutes of Health. These authors found that less than half the studies provided complete ethnic information, ethnic minorities are still underrepresented (except African Americans) with no improvement in the last decade, subgroup analyses by specific ethnic groups were infrequently reported, and relatively small sample sizes of ethnic minorities in most studies were reported. Psychotherapy research has been slow to respond to the cultural aspect of therapy, considering psychotherapy as something that can be ethnocentric, decontextualized, ahistorical, and apolitical (Comas-Díaz, 2012). EBTs that are responsive to the demands of particular ethnic groups have been culturally adapted to focus on the specifics of language, ethnicity, culture, meanings, and values and have to be developed and tested (Bernal, Jiménez-Chafey, & Domenech Rodríguez, 2009; Miranda et al., 2005).

Latinos are one of the fastest growing ethnic minority groups and are projected to become the largest minority group in the United States, yet this population continues to face serious disparities in health and mental health care. Furthermore, it is not altogether clear whether psychological treatments that are considered "well-established" are available for this population group. Next, we turn to a description of the methods and results of the systematic review of the literature.

METHOD OF THE SYSTEMATIC REVIEW

Inclusion Criteria (Study Selection)

The studies included in this review met the following inclusion criteria: Outcome data were provided on mental health treatments for anxiety, the sample included any percentage of adult Hispanic and/or Latino participants,

studies were either RCTs or OCTs, measures were taken at pretreatment and posttreatment, and cognitive therapies were the primary treatment. Articles that did not report client or patient demographic information and that were on children and adolescents were excluded.

Search Strategy for Identification of Studies

The research team defined the most appropriate search terms for the systematic review with the assistance of librarians at the University of Puerto Rico (UPR). For modality or type of treatment, the terms used were *clinical trials*, *psychotherapy*, *drug therapy*, *prevention*, *intervention*, *treatment*, and *therapy*. The terms *efficacy* and *effectiveness* were included, as well as *Latinos* and *Hispanics* for the observed population in searches for measures of outcome. These terms were used on searches conducted between August 2013 and December 2014 using revised and selected keywords in various combinations including a keyword for modality, measure of results, and population. These searches were later updated to reflect the literature available until March 2016. Searches were conducted for abstract title and keywords specifically and used Boolean operators and quotation marks for groups of words to be searched together. The databases Scielo, PubMed, PsycNET, Science Direct, Dialnet, Cochrane, OvidSP, JStor, EBSCOHost, and ProQuest were independently searched for all years. All references found were downloaded into different EndNote libraries and organized according to specific keyword combinations, dates searched, and the database from which the references were obtained.

Selection of Studies

Studies were included if the articles provided demographic data of Latino participants, interventions for anxiety and other anxiety symptoms, or quantitative data regarding mental health treatments. Studies with any percentage of Latino or Hispanic participants were included in the study.

The terms *treatment*, *intervention*, and *Latino* or *Hispanic* were defined for the relevance and inclusion criteria of this review. Terms such as *Latinos*, *Hispanics*, and *Spanish-speaking* were considered as different labels for the same individuals or groups considered part of a broad cultural, language, ethnic, racial, or national group. A treatment was defined as a "behavioral program focused on ameliorating nonnormative psychological distress," reducing problem behaviors, or increasing adaptive behavior by the use of counseling, psychotherapy, training programs, and so forth (Weisz, Doss, & Hawley, 2005, p. 338).

The titles, abstracts, and full text of all relevant articles were reviewed and identified in the database searches. These data were recorded in a

spreadsheet documenting the reasons for inclusion or exclusion and read carefully for the reasons studies were or were not included. Percentage of Latinos or Hispanics was also recorded within the inclusion and exclusion spreadsheet. Data regarding type of study, mental health condition, and treatment for which the study was designed were included. Studies with a treatment model or intervention for anxiety and other anxiety symptoms were the only studies considered for inclusion and data analysis. The last inclusion criterion was the presence or absence of a treatment based on CBT ($N = 13$). Studies with treatments designed for any other treatment modality were excluded. Included studies were reassessed. The full texts were obtained independently by various team members through individual website search or the use of UPR's library system, each member in charge of an individual database. Figure 6.1 provides a summary of how the articles were obtained and selected.

Extraction of Data and Quality Assessment

Articles were selected on the basis of inclusion and exclusion criteria and were obtained in PDF form. Further analysis of the articles was conducted through tabulation in Excel spreadsheets of all study information, including author, title of article, year of publication, sample size (n), study design, condition, measures, experimental group, control group, pre and post measures, results, and percentage of Latino or Hispanic participants. For the experimental and control group categories, treatments and measures assigned to participants were identified. Data analysis was conducted through individual assessment of each of the articles and organized into the spreadsheets.

To evaluate the validity and quality of each study, the Cochrane risk of bias tool (modified) for quality assessment of RCTs was used (van Tulder, Furlan, Bombardier, & Bouter, 2003). This tool considers the external validity of treatments based on identifying, among other things, the use of randomization, concealment of allocation, and adequate blinding. The Cochrane system defines the validity and reliability of test results and/or treatments in a study according to the analysis of systematic errors and bias (Ryan, Hill, Prictor, & McKenzie, 2013).

Team members were trained on the use of the Cochrane tool, with each member responsible for carrying out quality assessment for RCTs. Quality assessments were performed independently, and the selection for each criterion of the Cochrane tool was coded, as well as the reason for its selection. To avoid bias, members could not comment or ask each other questions in relation to quality assessment or evaluation criteria. Once the evaluations were completed, members met and discussed the results, documenting

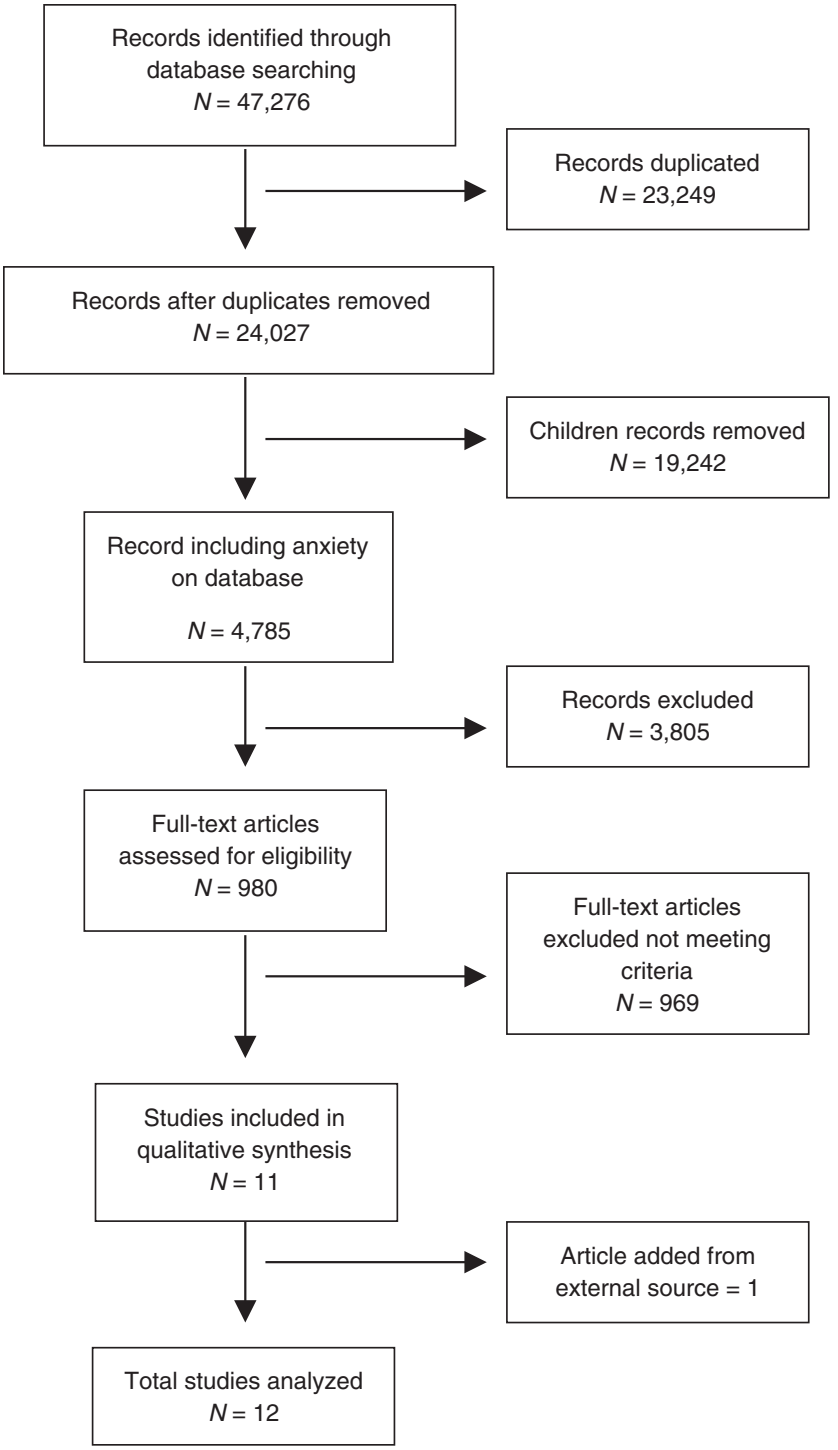

Figure 6.1. Article search and inclusion flowchart for cognitive behavior therapy studies with Latinos.

corrections and considering discrepancies in a new table. Corrections and discrepancies were also discussed with the rest of the team to finally determine whether the RCTs were rated as high risk, doubtful risk, or low risk of bias. For this coding process, the legend provided by the Cochrane rubric was used. It should be noted that the considerations based on Cochrane's criteria and guidance required a great deal of clarity and specificity to reach a determination. If details were omitted from an article (i.e., sequence generation, task concealment, blinding of both participants and personnel, data for incomplete results, reports of result selectivity, and other sources of bias) stipulated by the Cochrane rubric, the rater was bound to consider such omissions as a risk of bias.

The studies were also evaluated using the criteria developed by Chambless and Hollon (1998) based on the earlier work of the APA Task Force on the Promotion and Dissemination of Psychological Procedures, determining whether a treatment is well-established, probably efficacious, or experimental without sufficient evidence for efficacy. However, Chambless and Hollon did not provide a rubric, nor is there a detailed evaluation method to carry out the expected judgment (Weisz & Hawley, 1998). Using the task force criteria helped determine whether the treatments used had good designs with positive outcomes that were not due to other external factors. In this way, if the treatment were judged as efficacious, it could have been considered a study with high internal validity. To determine whether treatments used in each study were well-established treatments or probably efficacious treatments or neither, a team member studied the criteria established by the task force and extracted the treatments with their studies. These were organized in a table and were identified as well-established treatments, probably efficacious treatments, and treatments with limited evidence.

In addition to the criteria established by Chambless and Hollon (1998), we also considered the percentage of Latinos in the sample for the determination of a well-established treatment. On the basis of the distribution of the percentage of Latinos in treatment studies (Bernal et al., in press), we opted for the 60% mark as our cutoff point. Thus, we determined that for a designation of well-established treatment, there had to be at least two studies that demonstrated efficacy with over 60% Latino participation in the sample.

RESULTS AND DISCUSSION

The articles included in the systematic review are presented in Table 6.1. The information presented in summary form includes the author and year of publication, title of article, sample (*n*), percentage of Latino and Latina

TABLE 6.1
Cognitive Behavior Therapy Studies of Latinos/as for Anxiety by Author, Title, Sample Size, Percentage Latino/a, Design, Disorder/Treatment, Experimental/Control, and Results

Author (year)	Sample size	% Latinos	Design	Disorder/ treatment	Experimental/ control	Results
Barrios (2011)	279	18.90	RCT/OXO	PD, GAD, PTSD, SAD/CBT	CBT versus treatment as usual	CBT for anxiety disorders was effective in reducing anxiety symptoms, severity, and frequency of related depressive symptoms in both groups (Whites and Hispanics).
J. G. Beck et al. (2009)	44	2	RCT/OXO	PTSD/GCBT or MCC	GCBT ($n = 26$), MCC ($n = 18$)	GCBT did not appear to reduce comorbid anxiety and depressive disorders, unlike individual CBT.
Boden et al. (2012)	47	10.60		SAD/CBT	Immediate CBT or delayed CBT	CBT significantly mediated effects of SAD symptoms.
Bosic (1981)	30	10	RCT	Anxiety/RT	RT ($n = 15$), control ($n = 15$)	RT significantly reduced anxiety.
Chavira et al. (2014)	366	23.22	RCT	GAD/CBT versus UC	Meditation, CBT, or both/UC	Regression models showed no differences between Latino and NLW. CBT is effective for English-speaking Latinos.
Goldin et al. (2016)	108	9.3	RCT, OXO	Generalized SAD/group CBT versus MBSR	CBGT versus MBSR	CBGT and MBSR are both efficacious for treating SAD.

(*continues*)

TABLE 6.1
Cognitive Behavior Therapy Studies of Latinos/as for Anxiety by Author, Title, Sample Size, Percentage Latino/a, Design, Disorder/Treatment, Experimental/Control, and Results *(Continued)*

Author (year)	Sample size	% Latinos	Design	Disorder/ treatment	Experimental/ control	Results
Hinton et al. (2011)	24	100	RCT	PSTD/ CA-CBT	CA-CBT ($n = 12$), AMR ($n = 12$)	Both treatments showed improvements in all outcomes.
Olivares and García-López (2002)	30	100	OXO and follow-up	Phobia/CBT versus placebo	CBT/control ($n = 14$)	Those in CBT showed greater decrease in anxiety responses at posttest and 2-year follow-up.
Pérez Benítez et al. (2013)	11 (8 with post)	100	RCT/OXO	PTSD/CBT	CBT	CBT has the potential to be helpful to those experiencing PTSD symptoms.
Rodríguez Biglieri et al. (2007)	8	100	RCT, OXO	OCD in Ex/ PR and MT	Ex/PR versus MT	Both treatments showed clinical utility.
Roy-Byrne et al. (2010)	1004	19.5	RCT, OXO	GAD, social phobia, PTSD/ CALM	CBT versus UC	The CALM (CBT) group showed better improvement than the UC group.
Stanley et al. (2009)	134	12	RCT	UC/CBT versus EUC	CBT ($n = 70$), UC ($n = 64$)	No difference between CBT and EUC for GAD. CBT showed improvement in anxiety and depression.

Note. AMR = applied muscle relaxation; CA-CBT = culturally adapted CBT; CALM = coordinated anxiety learning and management; CBT = cognitive behavior therapy; EUC = enhanced usual care; Ex/PR = exposure and response prevention therapy; GAD = generalized anxiety disorder; GCBT = group cognitive behavior therapy; MBSR = mindfulness-based stress reduction; MCC = minimum contact comparison; MT = metacognitive therapy; NLW = non-Latino White; OCD = obsessive-compulsive disorder; OXO = pre–post evaluations; PD = panic disorders; PTSD = posttraumatic stress disorder; RCT = randomized controlled trial; RT = relaxation training; SAD = social anxiety disorder; UC = usual care.

participants, study design, anxiety condition and treatment, setting of the study, results, CBT model manuals, and measures used. The complete documents in PDF form were obtained for all studies that met the inclusion criteria. Of these 980 articles assessed for eligibility, 12 CBT studies were identified (Barrios, 2011; J. G. Beck, Coffey, Foy, Keane, & Blanchard, 2009; Boden et al., 2012; Bosic, 1981; Chavira et al., 2014; Dour et al., 2014; Goldin et al., 2016; Hinton, Hofmann, Rivera, Otto, & Pollack, 2011; Olivares & García-López, 2002; Pérez Benítez, Zlotnick, Gomez, Rendón, & Swanson, 2013; Rodríguez Biglieri, Vetere, & Keegan, 2007; Roy-Byrne et al., 2010; Stanley et al., 2009).

As can be seen in Table 6.1, there are four studies on anxiety conditions with a 100% Latino sample (Hinton et al., 2011; Olivares & García-López, 2002; Pérez Benítez et al., 2013; Rodríguez Biglieri et al., 2007). Despite their relatively small sample size ($n = 8, 11, 24, 30$, respectively), there are now four studies of CBT for anxiety with Latinos; this finding alone represents progress, given that not a single study on anxiety with adult Latinos was reported by Miranda et al. (2005).

Of the articles that had a 100% sample of Latinos, two studies (Hinton et al., 2011; Pérez Benítez et al., 2013) treated Latinos for posttraumatic stress disorder (PTSD), a third study (Olivares & García-López, 2002) provided treatment for the fear of public speaking (phobia), and a fourth (Rodríguez Biglieri et al., 2007) treated obsessive–compulsive disorder (OCD) with exposure and response prevention therapy and a metacognitive therapy. All these studies reported a decrease in anxiety responses and improvements in outcomes.

For well-established treatments, the first and second author evaluated the studies using the Chambless and Hollon (1998) criteria adapted to include at least one well-designed study with over 60% Latino participation. No study was identified as well-established for Latinos. However, CBT for PTSD was identified as a probably efficacious treatment, and CBT for OCD was identified as a treatment with limited empirical support.

The remaining eight studies had a varied sample size of Latino participants that ranged from 2% to 23%. The studies that provided information about the setting were carried out in either primary care or outpatient clinics. The Roy-Byrne et al. (2010) study on the treatment of anxiety in primary care settings is the "parent" study that generated two other studies reporting subanalyses on Latinos (Barrios, 2011; Chavira et al., 2014). The Barrios (2011) study is an unpublished dissertation that examined differential effectiveness of the coordinated anxiety learning and management (CALM) intervention on moderator analyses. Both Latinos and Whites showed benefits from the intervention. However, strong associations between acculturation and greater symptom severity were reported. The Chavira et al.

(2014) study is a published version of some of the analyses conducted by Barrios. Thus, we treated these two studies as essentially the same. The Roy-Byrne et al. study was conducted at 17 primary care clinics in four cities and three states (Little Rock, Arkansas; Los Angeles and San Diego, California; and Seattle, Washington). The Hinton et al. (2011) study was conducted in Boston, Massachusetts. Other study sites included South Florida (Pérez Benítez et al., 2013) and Texas (Stanley et al., 2009). The remaining studies did not provide specific information about the setting. Another study with a lower percentage of Latinos that included PTSD (J. G. Beck & Coffey, 2005) reported group CBT to be less effective than individual CBT in reducing comorbid anxiety and depressive disorders.

CBT was found to be effective for generalized anxiety disorder (GAD) in English-speaking Latinos (Chavira et al., 2014). However, the parent project detailed major efforts by the investigators in translating instruments, training on cultural aspects of treatment, and making available a Spanish-speaking therapist (Roy-Byrne et al., 2010). Stanley et al. (2009) found no differences between CBT and enhanced usual care, whereas Roy-Byrne et al. (2010) showed that a group receiving CBT for GAD, social phobia, or PTSD had more improvements than usual care. This large multisite study thus demonstrated that CBT was superior to usual care in the treatment of these conditions. Using the same multisite study, Chavira et al. (2014) examined differences between Latinos and non-Latino Whites on measures of functioning and clinical improvement over time for multiple outcomes and found no differences between the two groups, suggesting that CBT is effective for the more acculturated and English-speaking Latinos. In addition, social anxiety disorder (SAD) was significantly mediated with CBT in a study by Boden et al. (2012), and positive outcomes were reported with a group CBT and mindfulness-based stress reduction (Goldin et al., 2016). Last, anxiety was also reduced when using relaxation training with imagery in pregnant women with anxiety (Bosic, 1981).

Cognitive Behavior Therapy Models and Manuals

In this section we discuss the primary CBT models and manuals used in the treatments identified in this review with Latinos. The models are presented according to the percentage of Latinos in the sample. As will be apparent, there is a great deal of cross-fertilization in the use of the basic cognitive and behavioral strategies originally developed by Albert Ellis (1962), Joseph Wolpe (1973), Aaron Beck (1979), and Michael Meichenbaum (1977).

Pérez Benítez et al. (2013) based their CBT model for treating PTSD on a manual developed by Marks, Lovell, Noshirvani, Livanou, and Thrasher

(1998) that entailed cognitive restructuring (i.e., teaching skills on how to identify negative thoughts and strategies to reinterpret emotions and beliefs). Through the use of diaries, patients could examine and record negative thoughts and reevaluate these cognitions by reasoning. Socratic questioning was used, and homework was monitored to help modify negative thoughts. Previously audiotaped sessions were used so patients could listen and refresh the strategies taught in therapy.

Hinton et al. (2011) conducted a careful cultural adaptation of the CBT protocol for PTSD. The authors adapted their manual to address key treatment challenges in minority and refugee populations—for example, poor English skills and minimal education were addressed by making sure the treatment was designed to be understood by people who have little formal education. Another thing they addressed was the high dropout rate when using exposure strategies. The authors recognized that minorities and refugees experience high levels of distress, and adapted their strategies in a unique approach that increased acceptability. The manual was based on an earlier study of CBT for PTSD with Vietnamese patients. The CBT was administered individually, focusing on providing psychoeducation for PTSD (Hinton et al., 2004), training on how trauma reminders may produce catastrophic thoughts that generate panic attacks, cognitive restructuring of fear networks (Foa & Rothbaum, 1998; Resick & Schnicke, 1993), conducting interoceptive exposure inclusive of reassociation of pleasant images (Falsetti & Resnick, 2000), and using an emotional cognitive processing protocol (Foa & Rothbaum, 2001; Rachman, 1980).

Olivares and García-López (2002) adapted a CBT guide designed by Bados (1991) to reduce anxiety about speaking in public. The intervention consisted of six weekly 2- to 3-hour sessions. The therapy involved training in public speaking, exposure training, training in self-instruction, and breathing exercises. They based their protocol for CBT on Wells's (2007) approach to metacognitive therapy for anxiety and social phobia. In all, 17 weekly CBT sessions were provided on the topics of psychoeducation, modification of core beliefs, exposure, and relapse prevention. Participants were also assigned homework and exercises to practice what was discussed in the treatment sessions. The Roy-Byrne et al. (2010) study developed the CALM intervention inspired by an earlier large-scale study of primary care for depression treatment (Unützer et al., 2002). CALM is a computer-assisted CBT treatment of 10 to 12 weekly sessions. These sessions included psychoeducation, self-monitoring, hierarchy development, breathing training, relapse prevention, cognitive restructuring, and exposure to stimuli. Two other substudies on moderator and mediator analyses to predict outcome (Chavira et al., 2014; Dour et al., 2014; Pérez Benítez et al., 2013) used the CALM intervention of the parent study.

Stanley et al. (2009) developed a manual for CBT to treat adults with GAD. They provided information on how the therapist should incorporate activities and homework for patients and take into consideration their backgrounds to establish a better rapport with them. The manual provides an outline for the sessions. Session 1 involves psychoeducation, motivation, and breathing skills; Session 2, progressive muscle relaxation; Sessions 3 to 4, changing thoughts; Session 5, problem solving; Session 6, changing behavior and sleep skills; Session 7, reviewing and practice of coping skills; and Session 8, review and finalization. The manual goes into detail about how to carry out the topics, activities, and techniques to guarantee proper administration of the CBT.

Boden et al. (2012) examined the role of core cognitions or maladaptive beliefs in the context of an RCT for SAD. The manual used was developed by Heimberg, Brozovich, and Rapee (2010). CBT entailed 16 one-hour sessions on a weekly basis, which included cognitive restructuring and exposure, using in-session and in vivo experiences to reduce both maladaptive core beliefs and symptoms of SAD.

Bosic (1981) examined the effects of relaxation training on the anxiety of pregnant women. Specifically, participants in the trial were taught the techniques of progressive relaxation training (Jacobson, 1938) in combination with imagery rehearsal and transcendental meditation, following many of the procedures originally suggested by Wolpe (1973).

Goldin et al. (2016) used the Heimberg and Becker (2002) protocol for their group CBT for SAD, which consisted of 12 sessions lasting 2.5 hours each. The treatment focused on psychoeducation, cognitive restructuring skills, graduated exposure to fear-inducing social situations, relapse prevention, and closure. Participants also used parts of a workbook (Hope, Heimberg, Juster, & Turk, 2006) to complement parts of the treatment. Patients used the workbook for SAD, which outlined each treatment session along with homework assignments. In addition, activities and homework for participants between their sessions were used as a supplement.

Finally, J. G. Beck et al. (2009) based her group CBT intervention for PTSD on Blanchard et al.'s (2003) individual CBT, adapting it to a group therapy format. The treatment consisted of 2-hour sessions lasting 14 weeks. The group CBT was organized in the following manner: Session 1 involved psychoeducation about PTSD; Sessions 2 to 14, exposure (imaginal and in vivo and mindfulness meditation training and practice); Sessions 4 to 7, muscle relaxation for stress management; Sessions 6 to 8, cognitive therapy interventions; Session 9 to 10, assertion training for anger and application of cognitive interventions; Sessions 11 to 12, behavior activation regarding social isolation and depression; and Sessions 13 to 14, relapse prevention training.

Measures and Instruments

The use of valid and reliable instruments that accurately measure the construct of interest is essential in treatment outcome research. In working with culturally and linguistically diverse populations, the use of instruments that have been adequately translated and validated is fundamental. However, the process of translation and adaptation represents an added burden on researchers because it is time-consuming and costly. An impressive literature on cross-cultural translation and validation of instruments (e.g., Alegría et al., 2004; Bravo, 2003; Brislin, 1976; Bullinger, Anderson, Cella, & Aaronson, 1993; Canino & Bravo, 1999; Geisinger, 1994; Leong, Leung, & Cheung, 2010; Sousa & Rojjanasrirat, 2011) is now available to researchers. A central question regarding the translation of instruments is whether the original instrument is equivalent to the translated one. Richard Brislin (1976) was one of the first to present a process for the translation, back translation, and review of the original version, translated version, and the back-translated version to the original language. This process determines the equivalence of the adapted instrument to the original one by a panel of experts. Brislin's (1976) original model has been used widely in cross-cultural research (Chávez & Canino, 2005; Jones, Lee, Phillips, Zhang, & Jaceldo, 2001; Kleinman, Eisenberg, & Good, 1978; van de Vijver & Leung, 1997), and there are now adaptations of his model with criteria to establish equivalence.

A practical and user-friendly toolkit available on the Web (Chávez & Canino, 2005) presents a 12-step process for translation and adaptation along with definitions of equivalence criteria. Chávez and Canino (2005) discussed five types of equivalence: (a) semantic, (b) content, (c) technical, (d) conceptual, and (e) criterion or metric. Briefly, *semantic equivalence* establishes that the meaning of each item is the same for both cultures. *Content equivalence* refers to the degree to which the content of the items is relevant to the cultural group of interest. *Technical equivalence* is established when the original and translated versions of the measures for different cultures show similar psychometric properties. *Criterion equivalence* is concerned with interpreting the results of an instrument when examined in terms of cultural norms. For example, is the cutoff score for a measure of anxiety the same in both cultures? Finally, *conceptual equivalence* is established when the same theoretical construct (e.g., components of anxiety) is studied in the target cultures. For example, are the theoretically proposed factors for anxiety in an English-language culture the same as those in a Spanish-language culture?

With the notable exception of the Hinton et al. (2011), Chavira et al. (2014), and Barrios (2011) studies, no other studies have used cultural equivalence criteria for the translation and adaptation of instruments for working with Latinos (Chávez & Canino, 2005). In Table 6.2 we present

TABLE 6.2
Psychometric Information for Instruments by Study Author, Language, Alpha for the Study, Alpha for Latino Subsample, Alpha From Other Studies, and Reporting of Metric Equivalence

Author	Instrument	Language	Alpha for non-Latino	Alpha Latino sample	Alpha from other study	Alpha for Latino from other study	Metric equivalence	Translation: equivalence criteria
Barrios (2011)	ASI	Spanish	.79–.90	.93	NA	.91	Yes	Technical
	BSI	Spanish	.74–.84	.81–.91	NA	.89	Yes	Technical
	GADSS	Spanish	NR	NR	.9	NA	NA	Not specified
	OASIS	Spanish	NR	NR	.86–.91	NA	NA	Not specified
J. G. Beck et al. (2009)	BAI	English	.90–.94	NR	NA	.82	Yes	No translation
	CAPS	English	NR	NR	.97	.84	NA	No translation
	IES-R Intrusion	English	.92	NR	.91–.95	NA	NA	No translation
	Avoidance		.88					
	Hyperarousal		.86					
Boden et al. (2012)	LSAS-SR	English	.91–.97	NR	.78–.92	NA	Yes	No translation
Bosic (1981)	OASIS	English	NR	NR	.86–.91	NA	NA	No translation
	STAI	English	NR	NR	.86–.95	.89	NA	No translation

Chavira et al. (2014)	ASI	Spanish by certified translator	NR	NR	.79–.90	.93	Yes	Technical
	BSI	Spanish by certified translator	NR	NR	.74–.84	.81–.91	Yes	Technical
Goldin et al. (2016)	LSAS-SR	English	.92	NR	.78–.92	NA	Yes	No translation
Hinton et al. (2011)	Nervios Scale	Spanish and validated	NR	NR	NA	.94	NA	Technical and content
	SCL-90-R	Spanish and validated	NR	.81	.79	.75	Yes	Technical
Olivares and García-López (2002)	SADS	Spanish	NR	NR	.94	.92	Yes	Technical
Pérez Benítez et al. (2013)	CAPS	English and Spanish	NR	NR	.97	.84	NA	Not specified
Rodríguez Biglieri et al. (2007)	STAI	Spanish	NR	NR	.86–.95	.89	NA	Not specified
Roy-Byrne et al. (2010)	BSI	English	NR	NR	.74–.84	.81–.91	Yes	No translation
Stanley et al. (2009)	PSWQ	Spanish	NR	NR	.9	.94	Yes (women)	Not specified

Note. ASI = Anxiety Sensitivity Index; BAI = Beck Anxiety Inventory; BSI = Brief Symptom Inventory; CAPS = Clinician-Administered PTSD Scale; GADSS = Generalized Anxiety Disorder Severity Scale; IES-R = Impact of Event Scale–Revised; LSAS-SR = Liebowitz Social Anxiety Scale–Self-Report; NA = not available or not found in literature searches; NR = information not reported by author(s); OASIS = Overall Anxiety Severity and Impairment Scale; PSWQ = Penn State Worry Questionnaire; SADS = Social Avoidance and Distress Scale; SCL-90-R = Symptom Checklist-90-Revised; STAI = State–Trait Anxiety Inventory.

information on the outcome measures, such as the availability of English- and Spanish-language versions and internal reliability coefficients (alpha) for the overall sample, the Latino subsample, and other studies used as a point of comparison or benchmark.

As Table 6.2 shows, 12 studies reported using English- and/or Spanish-language versions of the instruments to assess anxiety. Three of those studies (Chavira et al., 2014; Hinton et al., 2011; Pérez Benítez et al., 2013) reported using validated procedures or certified translations of the instruments. For the studies with 100% Latino participants, the internal reliability for the instruments used ranged from .81 to .93, which is relatively high. This range is comparable to that of alpha coefficients found for other studies with Latino samples for the same instruments ($\alpha = .74–.97$; Daza, Novy, Stanley, & Averill, 2002; Martinez, Stillerman, & Waldo, 2005; Norton, 2007; Segura Camacho, Posada Gómez, Ospina, & Ospina Gómez, 2010). With regard to the use of translation equivalence for the instrument used, only the Hinton et al. (2011), Olivares and García-López (2002), Chavira et al. (2014), and Barrios (2011) studies reported having used technical and content equivalence as criteria for evaluating the Spanish-language versions.

Two studies (Barrios, 2011; Hinton et al., 2011) used instruments that reported proper procedures with the documentation on the measures used with Latino samples. For example, Barrios (2011) used instruments that were culturally tailored for Latinos, with an evaluation of the psychometric properties of the instruments used that provided a minimal test of how well the instruments work with a different population group under study. Hinton et al. (2011) used the Nervios Scale (Livanis & Tryon, 2010), which was designed specifically for a Latino sample, integrating an idiom that is native to the group. Unfortunately, not all studies provided adequate information on the psychometric properties of the instruments in their sample. The studies also lacked information on whether and to what extent the instruments were culturally adapted. Regardless of the instruments' reliability and validity, such information becomes less relevant if the instruments are not valid for the Latino samples under study.

As Table 6.2 shows, for the most part, the instruments used to evaluate anxiety have strong psychometric characteristics in terms of internal consistency and test–retest reliability. The table also presents studies on these measures that provide evidence of convergent validity with other measures of anxiety. We also identified studies that provided evidence of equivalence between the English- and Spanish-language instruments, such as with the Anxiety Sensitivity Index (Peterson & Heilbronner, 1987). Fewer studies were available on the translation and metric equivalence of the instruments.

CONCLUSION AND IMPLICATIONS

Our review of the research on CBT for anxiety with Latinos shows a growing literature that supports its efficacy and effectiveness. Progress has been made: There are now four studies on anxiety conditions that have a 100% Latino sample (Hinton et al., 2011; Olivares & García-López, 2002; Pérez Benítez et al., 2013; Rodríguez Biglieri et al., 2007). Although the sample sizes are relatively small, this finding alone represents progress, given that not a single study on anxiety with adult Latinos was reported in the review by Miranda et al. (2005).

The other eight studies we included in our review had less than 25% Latinos in the sample, ranging from a high of 23.2% to a low of 2%. It is not altogether clear what may be concluded from these studies with regard to efficacy for Latinos. One conclusion may be that CBT works as well for Latinos as for non-Latinos. That seemed to be the case in the large multisite study conducted by Roy-Byrne et al. (2010) that enrolled 1,004 patients with anxiety disorder in a trial of the CALM intervention versus usual care in 17 primary care clinics across four U.S. cities. In all, 194 Latinos participated in the trial. Those in the CALM condition showed significant improvements in anxiety compared with those in the comparison condition. The Barrios (2011) initial substudy was expanded by Chavira et al. (2014) in a careful comparison of Latinos versus non-Latino Whites that received CALM. In all, 85 patients randomized to CALM who selected CBT were Latinos and 285 were non-Latino Whites. The results showed equivalence for both groups, supporting the effectiveness of CBT for Latinos who were probably more acculturated and preferred English.

A question of interest is whether efficacy and effectiveness studies of CBT for anxiety with Latinos in English-language trials that do not attend to issues of diversity, such as language, culture, ethnicity, and discrimination, generalize to Latinos. In the Roy-Byrne et al. (2010) and Chavira et al. (2014) studies, the evidence suggests that CBT does generalize to Latinos. It may be the case that the same is true for the other studies in this review (J. G. Beck et al., 2009; Boden et al., 2012; Bosic, 1981; Goldin et al., 2016; Stanley et al., 2009), although subanalyses were not conducted to answer that question, and in some cases the sample sizes were simply too small to yield meaningful analyses. The caveat here, as Chavira et al. (2014) carefully pointed out, is that effectiveness is probably specific to a more acculturated group of Latinos who are fluent in or prefer English. Thus, in the absence of evidence to the contrary, using EBTs with Latinos for anxiety will likely be beneficial for English-speaking and acculturated Latinos. Although we simply do not know about the efficacy with Spanish-speaking Latinos, we believe that providing an EBT such as CBT is likely

to be more beneficial than offering a treatment with no evidence in any population.

There are currently no CBTs that meet the Chambless and Hollon (1998) criteria for well-established treatments for Latinos who are primarily Spanish speaking. We added another criterion[3] that included at least one well-designed study with over 60% Latino participation in the sample. We determined the cutoff point on the basis of a larger set of treatment studies with Latinos in which we found a bimodal frequency distribution with a natural break at about 60% (Bernal et al., in press). No study was identified as well-established for Latinos with anxiety. However, CBT for PTSD was identified as a probably efficacious treatment, and CBT for OCD was identified as a treatment with limited empirical support. Additional studies will be needed to establish CBT as probably efficacious for PTSD and OCD and well-established for Spanish-speaking Latinos.

Cognitive Behavior Therapy Models With Latinos

Roy-Byrne et al. (2010) was the only study in our review reporting the treatment manual used: a computer-assisted treatment (CALM) inspired by an earlier large-scale project on the treatment of depression in primary care settings (Unutzer et al., 2002). CALM was also used by substudies (Chavira et al., 2014; Pérez Benítez et al., 2013) to the parent project. Other studies we examined used a variety of manuals, with two manuals used in the treatment of PTSD (requiring an extensive search of the literature to identify their authors). One was by Pérez Benítez et al. (2013) who based their CBT model for treating PTSD on a manual developed by Marks et al. (1998). The other was by Hinton et al. (2011) who devised a cultural adaptation of the CBT protocol for PTSD based on an earlier study with Vietnamese

[3]The criteria are based on those from the Task Force on the Promotion and Dissemination of Psychological Procedures of Division of Clinical Psychology of the American Psychological Association (Chambless, Babich, & Crits-Christoph, 1995), which helps determine whether a treatment may be classified as well-established, probably efficacious, or experimental without sufficient evidence for efficacy. Well-established treatments must have a minimum of two between-group design experiments demonstrating efficacy (statistical superiority over control or pill or psychological placebo or another treatment, equivalence to an established treatment with adequate sample size, or a large number of single case studies demonstrating efficacy). Other related criteria are that studies must be conducted with treatment manuals, the characteristics of the sample must be clearly described, and the effects must be demonstrated by different investigator teams. A probably efficacious treatment is determined by the results of two studies demonstrating statistical superiority to a wait-list control or one or more studies that meet the well-established treatment criteria or a small set of single case studies that meet the well-established treatment criteria.

patients (Hinton et al., 2004). Olivares and García-López (2002) also used and adapted a CBT manual designed by Bados (1991) for the reduction of anxiety about speaking in public. Another study that worked on reducing anxiety was by Rodríguez Biglieri et al. (2007), who based their protocol for CBT on Wells's (2007) approach to metacognitive therapy for anxiety and social phobia. Stanley et al. (2009) developed a CBT manual for use with adults with GAD.

Boden et al. (2012) examined the role of core cognitions or maladaptive beliefs in the context of an RCT for SAD. The manual used was developed by Heimberg et al. (2010). Bosic (1981) examined the effects of relaxation training on anxiety in pregnant women. Specifically, participants in the trial were taught the techniques of progressive relaxation training (Jacobson, 1938) in combination with imagery rehearsal and transcendental meditation following many of the procedures originally suggested by Wolpe (1973). Finally, two studies used group therapy with different manuals. Goldin et al. (2016) used the Heimberg and Becker (2002) protocol for their group CBT for SAD, and J. G. Beck and Coffey (2005) based their group CBT intervention for PTSD on Blanchard et al.'s (2003) individual CBT, adapting it to a group format.

In summary, we found a great deal of cross-fertilization in the use of cognitive and behavioral strategies based on the original behavioral and cognitive approaches (A. T. Beck, 1979; Ellis, 1962; Meichenbaum, 1977; Wolpe, 1973), with a high level of specification of the procedures used.

Measurement of Anxiety

There are at least a dozen different instruments to measure anxiety that have been used with Latinos; this is important progress that advances the science of clinical psychology with diverse populations. Also, for most of the instruments, there are Spanish-language translations with adequate psychometric data that justifies their use with Latinos. However, in eight of the 12 studies, no Spanish-language translations were available and no information was provided on the translation equivalence of the instruments. Also, the measurement models specified in English-language versions of outcome measures are too often not tested on the non–English-speaking population. If the measurement models are not the same, or a fit between models is not achieved, we may have a serious concern about the validity of an instrument because universality was incorrectly assumed. The same issue applies to working with diverse cultural groups that use the same language but have different cultural values and norms. Thus, further work is needed on the equivalence of measurement models for outcome measures of anxiety with diverse populations.

Concluding Comments

Progress has been made in the CBT treatment of anxiety for Latinos. Our review of the literature suggests that EBTs such as CBT are effective for Latinos in a variety of settings. There are now four studies with a 100% Latino sample and eight other studies with varying percentages of Latino participants. Furthermore, there are models of CBT available in individual and group formats, using a variety of cognitive and behavioral procedures, that include a range of procedures and strategies or modalities, such as metacognitive therapy, prolonged exposure, MBSR, meditation, relaxation, use of imagery, and so forth, for a wide range of anxiety disorders including personality disorders, GAD, PTSD, SAD, phobias, OCD, and so forth. Although the field has progressed, more work is required to adequately respond to the needs of Latinos given the population estimates for the near future. First, more studies are needed with immigrant Latinos who are primarily Spanish speaking. Such an endeavor would entail substantial work in the selection of instruments that have adequate psychometric properties, with tests of the validity of the measurement models of anxiety for Latino. Second, investigators who plan to include other diverse ethnic and racial populations such as Latinos have to take the necessary steps to carefully examine adequacy of the psychometric properties including tests of metric equivalence. With immigrant Latinos who prefer Spanish, certified Spanish-language translations and bilingual staff would be needed. Third, special efforts have to be made to engage Latinos in treatment. As noted earlier, Latinos are unlikely to obtain EBTs and remain in treatment. Research on engaging and retaining Latinos should be at the top of our agenda.

The degree to which cultural adaptations of CBT are beneficial in improving treatment engagement and outcome with Latinos is an important area of research. We found that four of the 12 studies used some form of cultural adaptation, yet these adaptations were conducted without the use of conceptual frameworks that can inform changes to a protocol while maintaining fidelity to the propositional and procedural models (Bernal & Domenech Rodríguez, 2012). Cultural adaptations of EBTs have growing support from several meta-analyses (Benish, Quintana, & Wampold, 2011; Smith, Rodríguez, & Bernal, 2011; Smith & Trimble, 2016; van Loon, van Schaik, Dekker, & Beekman, 2013).

To conclude, progress has been made in the CBT treatment of anxiety with Latinos. A growing, though modest, number of studies support the use of CBT with first-generation as well as more acculturated Latinos and with Latinos from countries such as Spain and Argentina. In the context of an increasingly multicultural society such as the United States, more work will be needed to further develop, test, and offer state-of-the-art-and-science

treatments to Latinos. Adaptations of CBT to the Latino culture are critical to achieving engagement, retention, and beneficial outcomes. We look forward to research that can systematically personalize CBT to be optimally helpful to Latinos and other diverse populations.

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