ABSTRACT

COGNITIVE BEHAVIORAL THERAPY FOR PANIC DISORDER:

AN EMPIRICALLY SUPPORTED TREATMENT

OPTION FOR LATINOS?

By

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This content analysis of existing literature explored the published research supporting cognitive behavioral therapy for panic disorder and assessed if the research documented a sufficient number of Latinos in the samples of participants to be generalized for success in this population. The instruments used to measure panic disorder were assessed for cultural and linguistic validity for Latinos. The findings indicated that the research supporting CBT for panic disorder included insufficient Latino participants in the samples. Therefore, the success of CBT for Latinos with panic disorder is uncertain. Furthermore, there is paucity of culturally validated instruments that measure panic disorder. Panic disorder has been associated with many cultural expressions and syndromes that need to be adequately assessed when measuring panic disorder symptomatology.

COGNITIVE BEHAVIORAL THERAPY FOR PANIC DISORDER: AN EMPIRICALLY SUPPORTED TREATMENT OPTION FOR LATINOS?

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CHAPTER 1

INTRODUCTION

Cognitive behavioral therapy (CBT) is used for the treatment of various mental health disorders (Horrell, 2008; Tolin, 2010). It is composed of different types of interventions that have shown to be efficacious in treatment of mental health disorders (Horrell, 2008). As an empirically supported treatment (EST), CBT is considered to meet the highest standard guidelines in research (Zinbarg, Mashal, Black, & Fluckiger, 2010). As one of the most prominent and preferred treatments among the many mental health disorders, CBT has shown to be most effective for the anxiety disorders (Wolf & Goldfried, 2014). In particular for panic disorder, a disabling condition that affects individuals' daily functioning, and is one of the most commonly seen anxiety disorders (Wolf & Golfried, 2014).

Despite the strong evidence supporting CBT, the efficacy has been questioned due to the lack of diversity in the research samples (Horrell, 2008). The concern about the lack of diverse representation or minority groups in studies has been explored in the last two decades (La Roche & Christopher, 2009). La Roche and Christopher (2008) documented that empirically supported treatments, such as CBT, have historically failed to meet the criteria set to validate the efficacy of the treatments for racial and ethnic minorities. In fact, this concerning issue was addressed by the United States funding federal agency, the National Institutes of Health (NIH), that addressed the issue of lack

of minority representation in research (Geller, Koch, Pellettieri, & Cranes, 2011). Subsequently, those studies that do include minority participation, often neglect to report the subgroups within a race or ethnicity and do not report the differences in response among the groups (Horrell, 2008). Several reasons have been attributed to the lack of minority participation, for Latinos barriers of retention and recruitment have been documented (George, Duran, & Norris, 2014). Strategies have also been reported that include adaptations specifically to the Latino cultures (Ojeda, Flores, Meza, & Morales, 2011). In spite of the efforts, research indicated that the lack of inclusion of minority groups in clinical research persists (Horrell, 2008; La Roche & Christopher, 2009).

The implications associated with the lack of ethnic minorities in research extends to the applicability of instruments being used to assess progress of the specific disorder. Further, this issues extends to clinical practice (Horrell, 2008), where practitioners may be employing evidence based practice (EBP) relying on the current research to identify the best available intervention for a diverse population (Thyer & Myers, 2010).

Background

Among the growing racial and minority groups in the United States, the Latino population ranked as the fastest growing minority group constituting 17% of the United States population (United States Census Bureau, 2014). As of 2010, the United States ranked as the second highest nation worldwide with a Latino population. By 2060, the projected Latino population is expected to constitute 31% of the United States population (United States Census Bureau, 2014).

In regards to prevalence of mental health disorders and treatment, in 2012, it was estimated that 19% of adults aged 18 or older in the Unites States were diagnosed with any mental illness in a given year (Substance Abuse and Mental Health Services Administration [SAMHSA], 2012). Adult women (22%) had a higher rate than adult men (15%) to have met the diagnostic criteria for any mental illness. In 2012, it was reported that 16% of Latinos aged 18 or older had any mental illness. In the same year, it was reported that only 15% of individuals aged 18 years or older diagnosed with any mental illness received mental health treatment or counseling. Latinos accounted for 7% of the individuals aged 18 years or older diagnosed with any mental illness who received mental health treatment or counseling in 2012 (SAMHSA, 2012).

As for panic disorder prevalence, the American Psychiatric Association (APA; 2013) estimated that among adults and adolescents there were 2%-3% diagnosed with panic disorder in the United States based on a 1 year prevalence. Higher rates of panic disorder are found in American Indians and Non-Latino White populations (APA, 2013). A study conducted by Asnaani, Richey, Dimaite, Hinton, and Hofmann (2010) comparing the ethnic differences in the prevalence rates of anxiety disorders of minority groups and Whites found that the White cohort had higher rates of anxiety disorders than did the minority groups. However, there remained an inaccurate depiction of the prevalence of anxiety disorders among several minority groups due to cultural and language differences in conceptualizing the anxiety symptoms (Asnaani et al., 2010).

Purpose Statement

The aim of this content analysis is to review the recent published research on cognitive behavioral interventions for panic disorder. The reported effectiveness of the interventions, the representation of Latinos in the samples, and the cross-cultural validity of the instruments used were documented. When available, this research also documented the reports of attrition in the studies. Panic disorder has been associated with the cultural syndrome *ataque de nervios* (attack of the nerves) among Latinos (APA, 2013). When deciding on an approach to use for a particular client using an evidence-based practice, it is important to determine if the research that supports the intervention had an adequate number of participants of the ethnic group to which the intended client belongs. It also follows that the instruments used to measure improvement had cross-cultural validity and if attrition from the intervention was part of the analysis.

Research Questions

The content analysis of literature explored the following research questions:

1. Does the research supporting CBT for panic disorder document a sufficient number of Latinos in the samples of participants to be generalized for success with this population?

2. Have the instruments used to measure panic disorders been culturally and linguistically validated for Latinos?

Definition of Terms

Any Mental Illness

Refers to any diagnosed mental health disorder meeting *Diagnostic and Statistical Manual of Mental Disorders (*4th ed.; *DSM-IV)* criteria in the past 12 months that does not include substance use disorders and developmental disorders (SAMHSA, 2012).

Ataque de Nervios (attack of the nerves)

Abrupt episodes of out of control behaviors caused by emotional events and is correlated to dissociative disorder not otherwise specified (DDNOS), major depression and other *DSM-IV* classifications (Hinton & Lewis-Fernández, 2010).

Cognitive Behavioral Therapy (CBT)

Refers to a psychotherapeutic type of treatment that examines patterns among irrational thinking, beliefs and self- destructive behaviors to then modify the patterns to improve coping (National Alliance on Mental Illness [NAMI], 2012).

Cross-Cultural Validity

Process of translation, field testing, and researched for the reliability and validation of instrument across different cultures (Guillemin, Bombardier, & Beaton, 1993).

Empirically Supported Treatments (EST)

Interventions that meet the highest level of evidence for efficacy (Spring, 2007; Whaley & Davis, 2007).

Evidence-Based Practice (EBP)

Evidence-based practice is most commonly defined as a developing process consisting of clinical expertise in integrating client preferences and characteristics with the most preeminent research existing (Thyer & Myers, 2010).

Latino or Hispanic

"… refers to a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race" (Humes, Jones, & Ramirez, 2011, p. 2).

Metric Equivalence

"….means that scores on a measure are comparable across cultures" (Van de Vijver & Tanzar, 2004, p. 43).

Panic Attack

"… abrupt surge of intense fear or intense discomfort that reaches a peak within minutes and during which time for four more of 13 physical and cognitive symptoms occur" (APA, 2013, p. 214)

Panic Disorder

Refers to more than one panic attack that occurs unexpectedly or without warning, having at least four of 13 acceptable symptoms and followed by one month of persistent concerns about fear and ramifications of the panic attacks (Otte, 2011).

Racial and Ethnic Minority

"…are defined as Asian American, Black or African American, Hispanic or Latino, Native Hawaiian and other Pacific Islander, American Indian and Alaska Native" (Centers for Disease Control and Prevention, [CDC], n.d., "Minority health: Definition").

Validity

Refers to an experiment that depends on randomly assigning participants, limiting the number of variables, controlling for confounding variables and using methods that clarify cause and effect (Westen, Novotny, & Thompson-Brenner, 2004).

Relevance to Social Work and Multicultural Practice

This study is relevant to social work practice because social workers practicing in a mental health setting often engage in the delivery of CBT (Stanhope, Tuchman, & Sinclair, 2011). In such environments, employing the EBP process is essential and the social worker must be able to identify the best available interventions for a diverse population, specifically that of the United States (Stanhope et al., 2011). This study is multiculturally relevant as the delivery of CBT is not restricted to a single race or ethnicity. Latinos are the largest growing ethnic group in the United States and it is of high importance that the clinical research demonstrates an understanding of the population and its many sub groups (Guarnaccia et al., 2009). Hinton and Lewis-Fernandez (2010) reported that in the upcoming decades, there will be a need for culturally sensitive treatments for all anxiety disorders due to the increase in the dimensional cultures that will make up the United States. Cross-cultural validity of the instruments used to assess the evidence supporting the methods used to treat panic

disorder is vital in treating culturally diverse populations. Further, social workers implementing appropriate cultural treatment to an individual is an essential value for the social work profession (Parish & Rubin, 2012). It is hoped that this study will provide valuable information to determine appropriate and culturally validated interventions when working with Latino individuals with panic disorder.

CHAPTER 2

LITERATURE REVIEW

In the last three decades there has been substantial evidence regarding the efficacy of psychotherapeutic interventions, primarily cognitive behavioral therapy (CBT), that has shown to be superior in remediating anxiety related symptoms (Carter, Mitchell, & Sbrocco, 2012). Despite such evidence, the research supporting the efficacy of cognitive behavioral therapy lacked Latino representation in the samples (Carter et al., 2012). Fisher, Burnet, Huang, Chin, and Cagney (2007) emphasized that providing high quality health services to minority groups requires cultural consideration as these populations may have a different understanding of symptoms, beliefs regarding etiology, language, retention rates, and expectations of care. There is great weight placed on research guidelines and these have an impact on the research conducted, the training of researchers, practice implications, and ultimately in the treatment provided for culturally diverse groups (La Roche & Christopher, 2009). Attempts have been made to address these concerns, however the question persists as to whether intervention trials have adequately recruited and retained representative samples of ethnic minority groups and subgroups (Mak, Law, Alvidrez, & Perez-Stable, 2007).

This review of literature begins with a brief description of panic disorder, prevalence, cultural influences of the disorder and instruments used to measure symptomology. Literature regarding the efficacy of CBT for panic disorder, Latino

representation in research, and the generalization of findings will be explored. Furthermore, a comprehensive overview of the components that validate CBT as an empirically supported treatment, implications of the limitations associated with established efficacy guidelines, efforts and barriers will be presented. Lastly, the impact of ethnic underrepresentation in research to other practices and attempts to remediate this issue will be discussed.

Panic Disorder

Anxiety disorders are one of the areas most tested in adult psychopathology (Miranda et al., 2005) and the most prevalent among the psychiatric disorders (Olatunji, Cisler, & Deacon, 2010). All anxiety disorders are characterized by fear, anxiety, and related disruptive behaviors (APA, 2013). One of the most common anxiety disorders in the United States is panic disorder (Roy-Byrne et al., 2010).

According to the *DSM-5*, the diagnostic criteria for panic disorder consist of recurrent unexpected panic attacks with four or more of 13 specified physical and cognitive symptoms (excluding cultural specific symptoms), one of the panic attacks must be followed by one or more panic attacks that must have at least one of two specified symptoms, and must rule out attributes of substance use, medical or other mental health disorders (APA, 2013).

There are three major domains for the risk factors associated with panic disorder, which include temperamental, environmental and genetic or physiological. The temperamental risk factors associated with panic disorder are unknown, however what is known is that negative affectivity and anxiety sensitivity are associated with panic attack

onset which must be present in panic disorder. Environmental risk factors indicate that individuals with panic disorder tend to have more physical and/or sexual abuse experiences during childhood than any other anxiety disorders. Genetic and physiological risk factor are associated to heredity, however specifications to the genes are undetermined (APA, 2013).

Panic Disorder Prevalence and Cultural Expression of Anxiety

Studies have examined the rate of panic disorder among racial and ethnic groups and results have indicated that panic disorder is most common among individuals who are non-Latino White, however Latino individuals ranked second highest of individuals diagnosed with panic disorder noting a lifetime prevalence of 4% (Asnaani, Gunter, Hinton, & Hofmann, 2009; Asnaani et al., 2010; APA, 2013). The Latino panic disorder prevalence has been questioned due to the cultural differences in expressing anxiety related symptoms (Carter et al., 2012). The APA (2013) recognizes that culture plays a significant role in mental health as is the case for panic disorder. In panic disorder, culture may influence the mental and somatic anxiety symptoms that may determine the rate of panic disorder diagnosis.

An example of the expression of anxiety by Latinos is the cultural syndrome *ataque de nervios* (attack of the nerves). This syndrome is a period of anxiety that when described may appear as panic disorder, however it is considered a separate construct and considered an indicator of dissociative predispositions and mental distress (APA, 2013; Guarnaccia et al., 2009). When assessing for panic related symptoms in research it is important to consider the cultural expressions of symptoms, etiologies, and idioms among

the Latino population (Fisher et al., 2007). Limited cultural representation in research samples may lead to unsupportable generalizations that could influence practice. Moreover measuring outcomes using instruments that do not have cross-cultural validity could depict inaccurate treatment effectiveness (Kirmayer, 2012).

Measuring Panic Disorder Cross Culturally

Cultural expressions of symptomology may degrade the validity and reliability of instruments used to assess panic disorder (Carter et al., 2012). According to Guillemin et al. (1993), cross-cultural validation of an instrument is an adaptation to the instrument consisting of a process that translates, tests, and conducts research to demonstrate validity and reliability across different cultures. Bias and equivalence are important factors in interpreting scores across populations. Bias is present when score differences in the indicators of a construct do not agree with differences in the underlying attribute. Three forms of bias were outlined by Van de Vijver and Tanzer (2004): (a) construct bias, when behaviors that characterize the construct are not identical across cultures; (b) method bias, problems caused by the manner in which a study is conducted including the sample, the instrument, as well as how it is administered; and (c) item bias when the (psychological) meaning of items is not identical across cultures. Measurement of equivalence is a research process to make sure research material means the same thing across cultures (conceptual equivalence), that observed indicators have the same understanding as theoretical concept (metric equivalence) and that relationships remain the same across cultures (structural equivalence; Ponterotto & Park-Taylor, 2007). Strategies to minimize bias and increase equivalence applied during the design,

implementation, and analysis of research will result in greater confidence in the research of interventions with diverse cultures (He & Van de Vijver, 2012).

Cognitive Behavioral Therapy for Panic Disorder

There are many interventions available for panic disorder, however in the last decades CBT research has shown it to be the most efficacious treatment available for panic disorder (Olatunji et al., 2010; Otte, 2011; Wolf & Goldfried, 2014). The use of CBT for treating panic disorder has shown reduction and improvements in anxiety related symptoms (Butler, Chapman, Forman, & Beck, 2006; Hofmann et al., 2007; Tolin, 2010). As described by McHugh, Smits, and Otto (2009), Olatunji et al. (2010), and Otte (2011), CBT for panic disorder consists of three main techniques: psychoeducation about the nature of panic, physiology and response, and cognitive reconstruction often times including self-monitoring thoughts through homework, and exposure to avoided situations.

The basis of CBT is logical thinking, when presented with irrational assumptions about a certain situation, treatment will be to provide evidence against the irrational thinking (Hofmann, 2006). Hofmann (2006) explains that culture plays a significant role in cognitive and behavioral responses and is an important aspect of treatment. An example of this, was the differences between Westerners and Easterners. Westerners relied on formal reasoning whereas, Easterners relied on experience-based information which indicated the difference between values and beliefs of these two cultures (Hofmann, 2006). Factors to keep in mind are that Latinos, a minority group that has

typically endured poverty, may lack health literacy, and have different beliefs and understanding of mental health disorders, treatment and symptomology (Carter et al., 2012).

The Efficacy of Cognitive Behavioral Therapy for Panic Disorder

Meta-analyses conducted by Olatunji et al. (2010) and Tolin (2010) found that CBT was most effective in treating panic disorder and that other forms of therapy have not been shown to be superior. More recently, Wolf and Goldfried's (2014) research supported the efficacy of CBT for treating panic disorder. Despite the numerous studies supporting the efficacy of CBT for panic disorder, little attention has been placed on the racial and ethnic make-up of the samples in the clinical trials (Horrell, 2008). Literature has long documented that efficacy studies supporting CBT have been based on White European American groups (Horrell, 2008; Miranda et al., 2005; UyBico, Pavel, & Gross, 2007). Munoz and Mendelson (2005) explain that there is a long-standing misconception that studies done with the White European American population are universally applicable to all cultures.

Representation of Latinos in CBT for Panic Disorder Research

There are limited studies that have examined the efficacy of CBT with Latinos, in part due to the lack of Latino participation in research (Miranda et al., 2005). Treatment outcomes that fail to include Latino participants may have serious negative effects, if considered equally effective across different racial and ethnic groups (Arch et al., 2012). Additionally, studies often lack the accessibility to examine treatment outcomes by race or ethnicity (Arch et al., 2012). In 2001, only one single case study had been conducted

assessing the efficacy of CBT for Latino individuals with panic disorder. The study conducted by Alfonso and Dziegielewski (2001) found that panic in the Latino population was of high importance and required further research. Over a decade later, Chavira et al. (2014) conducted a random control trial (RCT) study examining the effectiveness of CBT for Latinos with panic disorder. Findings, indicated that CBT was effective for English speaking, acculturated Latinos. The Latino group had significantly lower scores than non-Latino Whites in conceptualizing CBT principles. This study suggested that there was a need for trials to be conducted with larger Latino samples and monolingual Spanish speaking individuals (Chavira et al., 2014). There is a need for researchers to examine their data by race and ethnicity (Carter et al., 2012).

Cognitive Behavioral Therapy an Empirically Supported Treatment

The understanding is that CBT efficacy for the treatment of panic disorder has been met by the highest standards of research, thus making it an empirically supported treatment (Horrell, 2008). The CBT efficacy has been demonstrated by a majority of meta-analysis RCT outcomes (Carter et al., 2012). A meta-analysis derives findings from an analysis of a range of literature in which the level of study is prioritized over the sample level data (Haby, Donnelly, Corry, & Vos, 2006). The utilization of RCT's in a meta-analysis yields as the highest form of research efficacy (Haby et al., 2006). To better understand what makes CBT an EST, an overview follows.

Criteria for Validation of Research

The EST initiative began in 1995 by the APA, Division 12 Task Force on Promotion and Dissemination of Psychological Procedures, which established the first

criteria of evidence that would classify interventions as validated by research (Thyer & Myers, 2010). Since, ESTs have become the preferred standard for treatment efficacy of mental health disorders in the United States (La Roche & Christopher, 2008). The EST term was derived from the original term, empirically validated therapies, as set by APA Division 12 Task Force on Promotion and Dissemination of Psychology Procedures (Levant & Hasan, 2008). Later it was changed to ESTs and thereafter, interchangeably termed as empirically supported therapies or interventions (Whaley & Davis, 2007). The goal of EST studies is to determine if an intervention outcome decreased psychiatric symptomology (Miranda., Bilot, Peluso, Berman, & Meek, 2006).

La Roche and Christopher (2009) and Thyer and Myers (2010) articulated the criteria that defines ESTs as established by APA Division 12 Task Force on Promotion and Dissemination of Psychological Procedures (1995). The criteria requires that interventions be standardized in the form of a manual and the research must report human subjects attributes for which the intervention is to be applied. Further, the intervention must meet the criteria in one of two ways either treatments must demonstrate efficacy through two independent researchers documenting outcomes that demonstrated the intervention was superior to either a control or other treatment or demonstrate the intervention was equal to an existing efficacious treatment (i.e., RCT). Subsequently, interventions may also show efficacy through a sequence of single-case designed experiments with exceptional rigor and comparability to other treatments (La Roche & Christopher, 2009; Thyer and Myers, 2010).

Criteria for Inclusion of Race and Ethnicity

The general agreement regarding inclusion of diverse human participation in ESTs, is that racial and ethnic minority groups must be included to be able to claim external validity (Whaley & Davis, 2007). Whaley and Davis (2007) further discussed that the issue with this criteria is that there is different views on the necessity and type of modification needed to include racial and ethnic minorities for the external validity of an intervention. According to La Roche and Christopher (2008), race and ethnicity are generally not focal areas of researcher's interest in empirical research, thus the documentation of how these variables are measured are vaguely incorporated or not identified. The ESTs that document race and ethnicity will often do so in categorizing participants in phenotypical characteristic groups, therefore not providing outcome interpretations in regards to sub cultures (La Roche & Christopher, 2008). Combining ethnic subgroups creates inaccurate generalization (Alegria, Atkins, Farmer, Slaton, & Stelk, 2010; La Roche & Christopher, 2008).

Limitations

Emphasizing external validity, ESTs experiments may have limitations on the generalizability of the outcomes (Whaley & Davis, 2007). The validity of an experiment depends on randomly assigning participants, limiting the number of variables, controlling for confounding variables and using methods that clarify cause and effect (Westen et al., 2004). Addis et al. (2004) reported that the controlled clinical trials have raised concerns in the generalizability of treatment. Long standing, EST's have demonstrated their efficacy through White-European American individuals (Whaley & Davis, 2007).

Therefore, caution has been raised in generalizing treatment to less acculturated groups, monolingual Spanish speaking individuals, and people of lower socio economic status (McHugh et al., 2009). La Roche and Christopher (2009) explain that modifications to the research guidelines will have a positive impact on the inclusion of minority groups in research.

Revitalization Act of 1993

In response to the concerns related to ESTs' lack of external validity of interventions in regards to race and ethnic representation, the National Institutes of Health (NIH) issued the NIH Revitalization Act of 1993 (Geller et al., 2011). This act established NIH funding guidelines, requiring studies to include minority representation or an acceptable justification if they failed to do so (Garber & Arnold, 2006). The aim was for researchers to take in account their participants' cultural backgrounds to be able to accurately generalize treatment to diverse populations (Shavers et al., 2005).

Mak et al. (2007) conducted a study assessing 379 NIH funded clinical trials from five mental health journals with dates ranging from 1995-2004 for their compliance with race and ethnicity representation. Findings indicated that less than half of the trials reported a complete analysis of the participants' race and ethnicity, 26% of the studies included partial race and ethnicity information, and 27% of the trials ignored the Revitalization Act and failed to include any information regarding participants' race and ethnicity. The study also documented the studies' samples were primarily White and African Americans and all other racial and ethnic groups lacked representation (Mak et al., 2007).

A subsequent study was conducted by Geller et al. (2011), analyzing the NIH Revitalization Act of 1993 compliance of 86 studies from 2004 to 2011 studies. Results showed that 21% of the studies did not provide racial and ethnic group by sample size and 64 % did not document an analysis of outcomes of the racial and ethnic groups. Further, only three studies provided a disclosure that informed the reader about the limited diversity in their studies that would hinder generalizability (Geller et al., 2011).

Arguments regarding the lack of racial and ethnic representation in NIH studies, posit that fewer minority researchers and unsuccessful minority recruitment or retention are the cause of racial and ethnic underrepresentation (Shavers et al., 2005). In an attempt to address concerns of participation and retention, NIH published five recommendations to assist researchers in the inclusion of racial and ethnic participation. These were: know the target population, design a clear outreach plan, create and deliver evaluations, and inaugurate and preserve communication (Haack, Gerdes, Cruz, & Schneider, 2012). Aponte-Rivera et al. (2014) asserted there has been improvement in the two decades since the NIH Revitalization Act of 1993, however research continues to have insufficient minority participation.

Latino Recruitment and Retention Barriers in Research

Historically, researchers and participants of efficacy studies have been non-Hispanic White (UyBico et al., 2007). This has fostered a process of recruitment and retention designed for White participants that is incorrectly applied to racial and ethnic minorities (UyBico et al., 2007). According to Levkoff and Sanchez (2003), barriers to

racial and minority recruitment and retention are identified at an institutional, researcher, and participant level.

Institutional Level

At the institutional level, Levkoff and Sanchez (2003) analyzed the recruitment and retention efforts made by organizations and found that barriers associated with community agencies research and recruitment of ethnic minorities was attributed to time constraints due to overwhelming service demands. As for the academic institutions, barriers were attributed to perceptions of a superior status of the university researchers which caused mistrust by the ethnic minority communities. Furthermore, university recruitment at community agencies was competitive because universities typically study the same sample groups, which are often not minority groups (Levkoff & Sanchez, 2003).

Researcher Level

The most argued barrier at the researcher level is the lack of knowledge and understanding of racial and ethnic cultures (George et al., 2014). Racial and ethnic minorities are not homogenous; researchers must have an understanding of the different minority groups and subgroups because they often belong to vulnerable communities that have been oppressed by mainstream society (Ojeda et al., 2011). Another barrier associated is the cost, effort, and amount of time necessary to recruit and retain ethnic minorities (UyBico et al., 2007). Yancey, Ortega, and Kumanyika (2006) reviewed 95 studies and found that the majority of studies reported recruitment of racial and ethnic minorities was presented as being costly and requiring more time than the recruitment of White participants. This was due to cultural adaptations that included hiring, training,

and matching research staff to the racial and ethnic participant backgrounds, adapting recruitment materials, and applying culturally adapted methods. The researcher biases, racism, and lack of interest in ethnic minorities has also been attributed as barriers to ethnic minority recruitment and retention (Cacari-Stone & Avila, 2012).

Participant Level

In regards to participant related barriers specific to Latinos is the lack of experience in participating in clinical studies (Ojeda et al., 2011). A lack of knowledge about the value and purpose of research causes mistrust of research and the mental health field in general (Glickman et al., 2011). Out of the 95 studies Yancey et al. (2006) reviewed, the majority reported that the most common barrier among participants was mistrust. Mistrust in regards to signing the informed consent and fear of exploitation. Distinctively, through a systematic review of barriers of minority participation in research, George et al. (2014) found that mistrust was a significant barrier however, mistrust was associated with the stigma surrounding the clinical condition not participation in research. Furthermore, the studies found that stigma related to a lack of support and acceptance by family members and a desire for confidentiality about their condition (George et al., 2014; Haack, et al., 2012).

Poverty is an important barrier to retention. High levels of poverty among the Latino groups combined with low wage inflexible work schedules reduce their ability to remain involved (Glickman et al., 2011). Participation and retention are unlikely if there is lack of accessibility to transportation and childcare, or if the research caused interference with family and work responsibilities (George et al., 2014). George et al.

(2014) conducted a study with 70 Latino participants of which a majority reported that personal demands were a common barrier that disabled their participation in clinical research.

Latino Recruitment and Retention Strategies in Research

In order to promote ethnic minority participation in clinical studies, researchers must use innovative and culturally relevant strategies (Ojeda et al., 2011). Sue (2006) argued that although it is of high importance that clinical studies have adequate representation of racial and ethnic minorities, it is much more important that the research be conducted in a culturally appropriate way. Ojeda et al. (2011) explained that research that is conducted in a culturally insensitive manor and poorly implemented will result in further underrepresentation of Latinos in research.

Recruitment needs to be advertised in venues where the participants relate to, such as Spanish media or restaurants in the community (Haack et al., 2012). Offering incentives such as free lunch has shown to increase participant's motivation to participate (Haack et al., 2012). The systematic review by George et al. (2014) revealed that offering monetary incentives had a higher rate of recruitment and retention among minority groups.

Researchers must also build trust by forming relationships and partnering with community leaders (Ojeda et al., 2011). In the Latino culture, building relationships with the family system rather than the individual alone will promote likelihood of participation (Haack et al., 2012). When interacting with Latinos it is especially important for the researchers to be familiar with the cultures values such as *personalismo* used in many

Latino subgroups (Haack et al., 2012). Ojeda et al. (2011) explained that *personalsimo* refers to self-disclosure which is an important piece of building trust in the Latino population. Self-disclosure is often about where the individual was born and occupation or job related disclosure and of which researchers are encouraged to participate in to build trust with the participant and community (Ojeda et al., 2011). In recruiting Latinos it is important to be able to provide procedural information verbally and in writing in both English and Spanish (Haack et al., 2012). It is essential that translation of confidentially, participation consent or other information be correctly translated as words can easily be misinterpreted or written in a culturally insensitive ways (Ojeda et al., 2011).

Evidence-Based Practice

The lack of EST applicability to diverse populations has hindered the development of other practices that base their choice of intervention on the credibility of research evidence (Kirmayer, 2012). Research evidence such as RCTs, significantly underrepresents ethno cultural groups as White European Americans are the majority of clients seeking services due to health care disparities (Alegria et al., 2010). One of the most used practices is the evidence-based practice (EBP), a process that is explained through five steps originally attributed to Sackett (1997) and articulated in the social work literature by McCracken and Marsh (2007) and McNeece and Thyer (2004). The process begins with a comprehensive assessment of the client's situation. Leading to the first step, to develop an answerable question on the basis of client's needs. Following, the clinician conducts a search for the most relevant and appropriate research evidence

available to answer the intended research evidence. Fourth step, high collaboration between the client and clinician expertise in incorporating the identified intervention into practice. The last step is the outcome evaluation that takes in account both the clinician and client process (McCracken & Marsh, 2007; McNeece & Thyer, 2004). Evidence-based pyramids have been constructed to order the evidence by the quality of the research and the order is determined in large part by the professional discipline constructing the pyramid (Barth et al., 2012). When identifying the best available evidence in the EBP process, it is critical to question with whom has the intervention been effective (Kirmayer, 2012).

Adaptations

Cultural adaptations for interventions is described as modifying the empirically supported treatment, including changes in the delivery of service, the therapeutic relationship, and or the components of the treatment to accommodate the clients' cultural beliefs, language, attitudes and behavior (Whaley & Davis, 2007). Comas- Diaz (2006) described cultural adaptations as a middle ground to developing culturally appropriate treatments. There is skepticism about adaptations, due to the change in treatment which can hinder the fidelity of the treatment, specifically to manual-based treatments such as ESTs (Barrera, Castro, Stycker, & Toobert, 2013). Despite such arguments, cultural adaptations of treatments are aimed to increase the applicability of the evidence based interventions, derived from research that has yet to include adequate representation of culture and diversity in samples recruited for their studies (Bernal, Jimenez-Chafey, & Rodriguez, 2009).

Conclusion

This review of literature provided a brief description of panic disorder, the prevalence, and the cultural influences of the disorder have been discussed. An overview of the research supporting the efficacy of CBT for panic disorder and Latino underrepresentation in the research was described. CBT as an empirically supported treatment and the limitations associated with established efficacy guidelines, as well as the remediation efforts and identified barriers to Latino participation in research were presented. The current study employs a content analysis to explore the research supporting CBT for panic disorder and to describe the Latino representation in the studies' samples and the cross cultural validity and reliability of instruments to inform social work practice and research.

CHAPTER 3

METHODS

Design

The research design used in the current study was a content analysis that reviewed current literature. Utilization of this design allowed for peer reviewed, empirical studies to be analyzed regarding the published research on cognitive behavioral interventions for panic disorder. The effectiveness of the interventions, the representation of Latinos in the samples, and the cross-cultural validity of the instruments used to measure outcomes related to panic disorder.

Study Selection and Sample

The sample for this content analysis included 23 empirical studies, majority reported findings on the effectiveness of CBT for panic disorder and the remaining studies reported the reliability and validity of instruments used to measure outcomes related to panic disorder. The studies were published from 1983 to 2014 in professional journals in the field of social work, psychology, and psychiatry. Literature selection was based on two criteria, studies of CBT and panic disorder and the validity and reliability of the instruments used to measure outcomes of panic disorder in the CBT studies. The included studies were not restricted to the form in which CBT was delivered or to the comparison groups used. Panic disorder was a requirement for the empirical studies reporting outcomes for the effectiveness of CBT to be reviewed. Further, the studies reporting the outcomes for the instruments used to measure panic disorder had to measure

improvement of panic disorder or anxiety related symptomology and have been used in the effectiveness studies.

Data Collection

The sample for this analysis of 23 empirical articles reporting outcomes of CBT for panic disorder and the reliability and validity of instruments for panic disorder, were accessed electronically at California State University, Long Beach. The studies were located using various library databases including, Academic Search Complete, EBSCO Host, PsychINFO, PubMed, and Academic Search Complete. The researcher used the following key terms to find journal articles: *CBT, cognitive behavior therapy, cognitive behavioral therapy, CBT and PD, cognitive behavioral therapy for panic disorder, panic disorder, anxiety disorders, BVS, PDSS, ASI, BAI, OASIS, BSI, PASQ, and PAI*.

Content Analysis

Upon the retrieval of the 23 empirical studies, each study was analyzed and pertinent information was documented. Findings are presented in a narrative and two tables. Table 1 include 15 studies reporting the effectiveness of CBT for panic disorder. The data collection for table one includes sample characteristics (size, gender, age, race/ethnicity), instruments used to measure improvement, and findings on whom the treatment was successful for. The findings reported were only in regards to the study outcomes and the Latino representation in the samples. Table 2 includes empirical findings of eight instruments used to measure panic disorder. The data collection for this

table consisted of the studies sample characteristics (size, race/ethnicity) and findings. The findings reported if the study's findings and if the instrument was culturally validated.

CHAPTER 4

CONTENT ANALYSIS RESULTS

This chapter presents findings of a content analysis of 22 empirical studies. The aim of this content analysis was to review the published research on cognitive behavioral interventions for panic disorder. The effectiveness of the interventions, the representation of Latinos in the samples, and the cross-cultural validity of the instruments used to measure outcomes related to panic disorder have been documented. The studies were published between 1983 and 2014. The majority of the studies were conducted in the United States with the exception of six studies that were conducted in Germany, Australia, and Spain. This chapter reports the empirical findings pertaining to two subject areas. The first subject area reports the effectiveness of CBT for panic disorder and the representation of Latinos in the samples (Table 1). The data includes sample characteristics (size, gender, age, race/ethnicity), instruments used to measure improvement, and findings of whom the treatment was successful for. The second subject area produces empirical findings on the cross-cultural validity of the instruments used to validate improvement of panic disorder (Table 2). The instruments were selected from the studies in subject area one sample characteristics (size, race/ethnicity) and findings.

Studies on Cognitive Behavioral Therapy (CBT) for Panic Disorder

Table 1 summarizes the findings of fifteen studies that examined the effectiveness of CBT for panic disorder. The studies differed in that they tested the effectiveness of CBT for panic disorder in an array of different independent and dependent variables. Of the 15 studies, three were meta-analysis, four were RCT, seven were quasi-experimental, and one was a pilot pre-post study. The studies summarized on this table were conducted in the United States, Australia, Germany, and Spain and were published from 2005 to 2014. Following, the study findings are categorized by study design.

Meta-Analytic Studies

The three meta-analysis were conducted in Spain, Australia, and Germany in 2005 and 2010 (Haby et al., 2006; Mitte, 2005; Sanchez-Meca, Rosa-Alcazar, Marin-Martinez, & Gomez-Conesa, 2010). The three meta-analysis consisted of 19 to 47 empirical studies, including RCTs, quasi-experimental, and random mixed-effect designs. The included studies' dates ranged from 1985 to 2006 and the majority of interventions were conducted in the United States. One of the three analyzed 19 interventions; three were conducted in a language other than English (Swedish and French). The other two meta-analytic studies included only articles written in English, however there was no indication of the languages used in the interventions. Two meta-analytic studies reported the ages and genders of participants. Only one reported the instruments used in the interventions that measured panic disorder related symptoms. One meta-analytic study identified Panic Attack Symptoms Questionnaire (PASQ; Clum, Broyles, Borden, &

Watkins, 1990) and the Panic Appraisal Inventory (PAI; Feske & De Beurs, 1997) were used most frequently.

The meta-analysis findings were based on mainly RCT studies that measured the efficacy of CBT for panic disorder. The three meta- analysis found that CBT and or its contributing techniques demonstrated some form of efficacy in treating panic disorder. In regards to Latino representation, the three meta-analysis did not report the race or ethnicity of the samples in the studies that were included.

Two of the three studies noted heterogeneity and indicated caution for the interpretation of the effectiveness of CBT. Haby et al. (2006) found that there was heterogeneity in regards to the interpretation of the overall effect size. Predictors of the heterogeneity were the control groups and inclusion of individuals with severe symptomology. In this same study, language was a factor evaluated (three studies were conducted in Swedish and French), however this showed a non- significant predictor in the heterogeneity of the effect size when it was controlled for. Haby et al. (2006) further noted that there is a scarcity of studies that have tested the efficacy of CBT for non-English speaking individuals. The studies that were conducted with non-English speaking participants indicated significant heterogeneity in the effect size when not controlled.

Similarly, Sanchez-Meca et al. (2010) found heterogeneity in the effect size and several factor were evaluated. Subject characteristics were evaluated and results indicated that the panic disorder with agoraphobia had a significant relationship to the effect size. The only subject characteristics evaluated were age and gender and resulted

in non-significant association to the effect size. Sanchez-Meca et al. (2010) emphasized that variables associated to the effect size require further research.

In regards to attrition, only one of the three studies reported on the attrition of participants. Mitte (2005) reported a 13% dropout for the group receiving CBT. It is noted that the dropout reasons were not consistently reported among the studies. The race or ethnicity of the participants who dropped out was not provided.

Randomized Control Trials

The four RCT studies in table 1 were conducted in the United States and published from 2010 to 2014 (Arch, Eifert, Davies, & Vilardaga, 2012; Chavira et al., 2014; Roy-Byrne et al., 2010; White et al., 2013). The sample size ranged from 79 to 503 participants. All four studies reported that more than half of the participants were female and the mean age ranged from 38 to 43 years.

Numerous instruments were used in the studies however, only the instruments used to measure panic disorder were documented in this current study. The most common instrument used to assess anxiety related symptoms specific to panic was the Anxiety Sensitivity Index (ASI; Reiss, Peterson, Gursky, & McNally, 1986) that was used in three of the four studies. Other instruments included Overall Anxiety Severity and Impairment Scale (OASIS; Norman, Hami Cissell, Means-Christensen, & Stein, 2006), Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983), and Panic Disorder Severity Scale (PDSS; Shear et al., 1997).

The RCT findings support the effectiveness of CBT for panic disorder. White et al. (2013) study demonstrated that CBT maintenance prevented panic disorder relapse

and further supported the efficacy of CBT with acute manifestations of panic. This study had 84% White participants and it did not document or discuss the relevance or applicability of the study's findings to different racial and ethnic backgrounds. Roy-Byrne et al. (2010) found that the group who received CBT for panic disorder had significantly better outcomes in regards to response and remission of anxiety related symptoms. The study did not report outcomes specific to Latino participants, however the study did report overall 21% Latino participation.

Arch et al. (2012) findings supported the effectiveness of CBT for panic disorder in comparison to another treatment. This study addressed the generalizability of the findings by arguing that the study sample was representative of the diverse residents in the United States at the time the study was conducted. Further, that the study outcomes may not be equally generalized to race and ethnic sub groups as the study did not evaluate the outcomes by race or ethnicity. The sample in Arch et al. (2012) study included 13% Latino representation.

Of the 15 studies in Table 1, there is only one ethnically specific study that was conducted by Chavira et al. (2014). This RCT study focused on the effectiveness of CBT for anxiety disorders which included panic disorder, among Latinos. The sample only included Latinos and non-Latino White participants. The findings indicated that CBT could be effective for English speaking, acculturated Latinos. Comparison to the non-Latino White participants indicated no significant differences in CBT effectiveness. Differences between both groups, that did not meet statistical significance were higher rates of attendance (9 versus 7) and treatment completion (75% versus 64%) between the

non-Latino White group and the Latino group. A statistically significant difference was found regarding the understanding of CBT session principles with Latinos receiving lower scores than non-Latino Whites. Furthermore, results suggested that cultural tailoring of the treatment was not required. In regards to language, the study did not investigate the treatment effectiveness among monolingual Spanish speaking participants as the sample size was too small (n =8). Lastly, findings indicated that the further research with Spanish speaking samples are needed to establish CBT effectiveness for Latinos.

The Latino representation in the meta-analysis was reported in three studies that consisted of as little as 3% to the 49% of the total studies samples. One study did not report any Latino participants. All studies reported race or ethnicity, more than 50% of the participants in each study were white.

The four RTCs reported attrition, two of the studies documented participant dropout, withdrawal, and non-response reasons and two studies either did not provide reasons for attrition or provided possible reason for attrition. The sample characteristics of the participants who dropped out were not provided by any of the studies. Reasons for attrition varied, White et al. (2013) reported violations such as unacceptable amount of missed sessions, disorder symptoms worsened, no longer wanted to participate due to improvement or loss of interest, and failed to keep contact with.

Roy-Byrne et al. (2010) found that attrition in the study prevailed among younger participants, lower education completion, more frequent panic, and among the Hispanic participants. Similarly, Chavira et al. (2014) found that treatment completion was higher

among the non- Latino Whites (75%) than it was for the Latino group (64%). Reasons for lower rate of Latino treatment completion were not measured, instead they were theorized to be related to culture, ethnicity match, language barriers, material translation, satisfaction, and poor conceptualization and understanding of CBT and the disorder (Chavira et al., 2014).

Quasi- Experimental

The majority of the studies on Table 1 were conducted using quasi-experimental research designs. The seven studies were conducted from 2004 to 2009, of which five took place in the United States and two in Australia. The sample size ranged from 55 to 256 participants. Female participants accounted for 60% or more of all samples and the mean age of participants ranged from 37 to 41 years. Instruments used to measure panic disorder improvement included PDSS, ASI, BSI, and Body Vigilance Scale (BVS; Shmidt, Lerew, & Trakowaski, 1997).

The seven quasi-experimental design studies, studied the effectiveness of CBT for panic disorder in a variety of settings and comparison groups. In sum, all studies supported the effectiveness of CBT for panic disorder. Furthermore, the studies documented that CBT for panic disorder was effective with or without comorbid anxiety disorders, face to face or internet delivered CBT, longer duration of CBT, compared to other treatments, and in reduction of anxiety symptomology. The studies did not measure outcomes specific to race or ethnicity.

In terms of Latino representation, only two of the seven studies reported Latino participants accounting for 2% and 11% of the samples. Two studies reported no Latino

participants. The remaining three studies did not provide information about the sample's race or ethnicity. Among the four studies that reported the sample's race and ethnicity, 67% to 84% of the studies sample were non-Latino White. The study that included 11% Latinos in the sample noted that the participants were English speaking.

All studies reported attrition rates, however none of the studies reported demographics for the participants that discontinued, dropped out, withdrew, or did not respond. The two studies that included Latino participants had attrition rate higher that the percentage of Latinos in the sample. The three studies that did not document the sample's race or ethnicity, noted reasons for attrition that included relapse in a secondary disorder, lack of motivation or interest, not contactable, or did not state. On the contrary, the two studies that did include Latino participants did not note reasons for attrition.

In generalizing the study findings to Latinos, only three studies addressed this area. Allen et al. (2009) reported no Latino participants in the study, but did have some race and ethnic diversity in the sample advised that the study be replicated to include a more ethnically diverse sample for applicability of the findings.

Pilot Pre Post Study

Only one intervention in the current study was based on a pilot pre post design. Like the other studies in Table 1, the findings of this study supported the effectiveness of CBT (brief) for panic disorder. The sample size was 10 participants, majority were female with a mean age of 38 years. The sample included only Caucasian participants, therefore there was no Latino representation. The study was conducted over a two day

period, nor was attrition reported. The instruments used to assess panic disorder were PDSS, ASI, BVS, BDI, and BAI.

Studies on Instruments Used to Measure Panic Disorder

Table 2 summarizes the studies on instruments used to measure panic disorder and reports the findings in regards to the cultural validity of the instruments. The instruments were selected from Table 1, selection was based on the most used instruments among the studies. The instruments were both self-reported and administered questionnaires that measured panic disorder or related anxiety symptoms. Furthermore, eight different instruments were reported; panic disorder severity scale (PDSS), anxiety sensitivity index (ASI), beck anxiety inventory (BAI), body vigilance scale (BVS), overall anxiety severity and impairment scale (OASIS), brief symptom inventory (BSI), panic attack symptoms questionnaire (PASQ), and panic appraisal inventory (PAI). The reliability and validity studies publication dates ranged from 1983 to 2009 and all were conducted in the United States with the exception of one study conducted in Spain. The sample sizes ranged from 47 to 1036 and included participants with other anxiety diagnosis not only panic disorder.

In regards to Latino representation in the samples, five of the eight studies either did not report the race or ethnicity or did not include Latino participants. One of the three studies reported 17% of the sample was of Hispanic ethnicity. The other two studies that reported 1% and 5% Latino participants.

In regards to cross culturally validity of the instruments, only one study documented the cross cultural process. Bernstein, Zvolensky, Sandin, Chorot, and

Stickle, (2008) conducted a bi-national examination of the BVS construct. The study consisted of two groups, one group was recruited in the United States and the other in Spain. The United States group were given the English version of BVS, whereas, the Spain group was administered a translated version of the English BVS to Spanish. The responses were then back translated and was then evaluated for accuracy. The four item self-report instrument showed that one of the questions lacked internal validity for the Spanish version and therefore needed to be removed in order for the scale to be applicable to the Spanish speaking sample (Bernstein et al., 2008). The study had an ethnically diverse sample, however only 1 % to 5% of the groups compared were reported to be Hispanic. Thirty six percent of the United States sample reported no ethnicity.

Of the remaining seven studies, some reported the instruments reliability, internal construct validity, or external construct validity in regards to the disorder. For example, Shear et al. (2001) reported good reliability and validity of the PDSS as did Feske and De Beurs (1997) for the PAI. Other demonstrated moderate to adequate reliability such as Clum et al. (1995) for PASQ and Derogatis and Melisaratos (1983) for BSI. However, the seven studies did not address the reliability or validity of the instruments with cultures other than White or European-American.

CHAPTER 5

DISCUSSION

Summary of Findings

This research found that the positive outcomes of 14 of the 15 studies regarding the effectiveness of CBT for panic disorder were based on samples comprised of a majority of non-Latino White individuals. The one study that included a representative proportion of Latinos, suggested that CBT for panic disorder was effective with English-speaking, acculturated Latinos and notably indicated that there was a difference in conceptualizing CBT principles between English-speaking and non-Latino White individuals.

Overall, this research demonstrated that there is lack of Latino representation in the intervention research of CBT for panic disorder. Latino participants were represented in less than one quarter of the studies that included Latinos in their samples. Furthermore, the studies that did not include Latino participants, failed to report reasons for exclusion. In this research 33% of the studies included Latino participants, 27% of the studies did not include Latino participants, and 40% did not document race or ethnicity of the samples they recruited.

This research found the culturally and linguistic validity of the instruments used to measure panic disorder was not demonstrated. With the exception of the Body

Vigilance Scale (BVS), which indicated unidimensional equivalence for the Spanish speaking individuals in comparison to the English speaking individuals. Interestingly, 40% of the reliability and validity studies were conducted nearly two decades ago before minority inclusion in research was established. The study that had cross-cultural validity was conducted in 2009.

In sum, findings demonstrated that the studies were not designed to measure effectiveness of treatment by race and ethnicity (Miranda et al., 2005). Consistent with prior literature, potential variation in outcomes for individuals regarding their race and ethnicity are not focal points of research studies (La Roche & Christopher, 2008). In response to the proposed questions of this study, the research supporting CBT for panic disorder has not documented a sufficient number of Latinos in the samples of the research to be able to generalize the efficacy with this population (Carter et al., 2012; Chavira et al., 2014; McHugh et al., 2009). Secondly, the instruments used to measure panic disorder in the studies analyzed in this research found that the only one instrument (Bernstein et al., 2008) assessed the cultural and linguistic validity of the instrument. The remaining instruments did not document cross cultural validity and were primarily normed with White European Americans.

Limitations

Several limitations were encountered in this content analysis review of literature. One limitation was that not all the studies reported the samples race and ethnicity (La Roche & Christopher, 2008). This limited the ability to analyze whether the studies had

sufficient number of Latinos in the samples of participants to be generalized for success with the Latino population.

Another limitation found was that several studies analyzed several anxiety disorders and reported a percentage of Latinos in accordance to the overall anxiety disorders rather than specifically to panic disorder. For example, Roy-Byrne et al. (2010) conducted a study assessing CBT for multiple anxiety disorders. The study reported race and ethnicity for the intervention group (CBT for the anxiety disorders), in this case 21% Hispanic participation. Additionally, the study reported that panic disorder accounted for 47% of the intervention group. However, there was not a report on how many Hispanic participants accounted for panic disorder. Therefore, the actual Latino representation for the group receiving CBT for panic disorder was unknown.

A limitation regarding attrition in the studies was the lack of information provided by the researchers. The race and ethnicity of the participants who dropped or withdrew was not documented. Some studies reported attrition rates larger than the percentage of Latinos in the sample (Addis et al., 2004; Roy-Byrne et al., 2010), which consequently left open the question of the Latino representation in the results (McHugh et al., 2009).

Additionally, the studies outcomes were based on reduction of symptomology overall not on which subgroups improved. The studies primarily took into account the type of disorder, duration, comorbidity and treatment history (Sanchez- Meca et al., 2010) even when measuring discrepancies about the heterogeneity of effect size. Which underscores the assumption that cultural differences are not primary focus of research (La

Roche & Cristopher, 2008). This limited the information that could be extracted about language, subcultures, and other related cultural expressions and syndromes.

Implications for Social Work Practice

This content analysis has implications for the field of social work practice on all client levels. Social workers working in clinical practice are challenged daily to identify interventions that are empirically supported (Wolf & Goldfried, 2014). When identifying interventions, it is important to acknowledge the client's culture and preferences within the most preeminent research (Gambril, 2007; McNeece & Thyer, 2004; Thyer & Myer, 2010). This study provides awareness to social workers, particularly in clinical practice, about potential cultural limitations for effectiveness, however these implications are valid for macro social work interventions in racial and ethnic communities.

The research analyzed supporting the efficacy of CBT for panic disorder does not document a sufficient number of Latinos in the samples and therefore, may imply an inaccurate generalization regarding efficacy. The efficacy of CBT, one of the preferred interventions for panic disorder, is based on non-Latino White individuals. Taking in account the projected Latino growth (United States Census Bureau, 2014) it is essential that social workers be aware of these limitations and critically review the empirical support of the interventions they use in practice. Not having awareness of the limitations on the applicability of any intervention to culturally and linguistically diverse populations may impede quality service provided to Latino individuals. This awareness is essential to the social work practice as the profession strives for culturally appropriate interventions (Parish & Rubin, 2012). With a better understanding that the research of CBT for panic

disorder does not include ethnically representative samples and has limits to generalization, social workers can identify and utilize interventions or adaptations that are culturally appropriate.

Implications for Social Work Research

Studies often lack easy accessibility to a diverse sampling frame in order to examine treatment outcomes by race or ethnicity (Arch et al., 2012). However, this is an important part of future research, to be able to accurately generalize treatment outcomes to diverse populations. As Carter et al. (2012) articulated, the makeup of the United States in increasingly changing toward greater diversity. Efforts to recruit and retain representative samples must be increased in order to evaluate the effectiveness of interventions and the validity and reliability of instruments across racial and ethnic groups. The reality that non-White European Americans suffer greater poverty with less access to health care is important to consider in social work research. The differences between non White European American and Latinos is that often there are different beliefs about mental health disorders and different expressions of symptomology. This must be taken into account when diagnosing and measuring treatment outcomes as cultural differences may hinder the effectiveness of the treatment. With this in mind it is also important that future social work research in the area of CBT for panic disorder strive for inclusion of measures that will evaluate the outcomes based on race and ethnicity taking in account cultural aspects, for the studies to produce outcomes applicable to all possible consumers (Carter et al., 2012).

Conclusion

This study's findings indicate that the research supporting CBT for panic disorder included insufficient Latino participants in the samples. Therefore, the success of CBT for Latinos with Panic disorder is uncertain. Furthermore, there is paucity of culturally validated instruments that measure panic disorder. Panic disorder has been associated to many cultural expressions and syndromes that need to be adequately assessed when measuring panic disorder symptomology.

APPENDICES

APPENDIX A

STUDIES ON COGNITIVE BEHAVIORAL THERAPY FOR PANIC DISORDER

TABLE 1. Studies on Cognitive Behavioral Therapy (CBT) for Panic Disorder

Study (Author (s), Year)	Research Design	Sample (Size, Gender, Age, Race/Ethnicity)	Instrument (s) Used	Findings
Sanchez-Meca et al., 2010	Meta-Analysis	• 65 studies • Male 61% • Mean age 59 years • Race/ethnicity not reported	• Not reported	• Results showed that exposure a form of CBT, has consistent evidence for the effectiveness in treating panic disorder. The effectiveness of the treatments were reported to be on individuals that have no comorbid disorders and to those who have been suffering from the illness a shorted period of time. • The study did not document sample demographics nor did it address race or ethnicity as predictor for the efficacy of CBT. • Latino participation unknown.
Haby et al., 2006	Meta-Analysis	• 19 studies • Gender not reported • 18+ years • Race/ethnicity not reported	• Not reported	• The overall results indicated that CBT is an effective treatment for panic disorder. • The study found heterogeneity in the representation of the effect size, language did not show significant predictor to heterogeneity and race or ethnicity was not evaluated as a predator. • Latino participation unknown.
Mitte, 2005	Meta-Analysis	• 47 studies • Female 74% • Mean age 37 years • Race/ethnicity not reported	• Panic Attack Symptoms Questionnaire (PASQ) • Panic Appraisal Inventory (PAI)	• Results indicated that CBT is an effective form of psychotherapy treatment for panic disorder as it showed to decrease anxiety related symptoms and increased the quality of life. • The study did not document sample demographics nor did it address race or ethnicity as predictor for the efficacy of CBT. • Latino participation unknown.

TABLE 1. Continued

Study (Author (s), Year)	Research Design	Sample (Size, Gender, Age, Race/Ethnicity)	Instrument (s) Used	Findings
Chavira et al., 2014	RCT	• 336 • Female 232 (69%) • 18-75 years • Mean age 43 years • Latinos-85; Non-Latino White-251	• Overall Anxiety Severity and Impairment Scale (OASIS) • Anxiety Sensitivity Index (ASI) • Brief Symptom Inventory 12-Item (BSI-12)	• This study suggests that CBT can be beneficial to English speaking, acculturated Latinos. • Latino and non-Latino White had no significant difference in the response and remission rates of panic disorder. • The rate of attendance differed between Latino and non-Latino White; 7 vs. 9 sessions. • Treatment completion differed by Latinos having a 75% completion rate vs. non-Latino White 64%. • Statistical significant difference was in understanding CBT session principles with Latinos receiving lower scores that non-Latino Whites. • The Latino sample were English speaking and had higher levels of acculturation. • Latino subgroup information was not collected.
White et al., 2013	RCT	• 79 • Male 28% • Mean age 38 years • White 85%	• Panic Disorder Severity Scale (PDSS) • Anxiety Sensitivity Index (ASI)	• Individuals who received CBT for panic disorder for 9 additional sessions had significant decrease in work and social impairments and indicated lower rates of relapse (5%) compared to the individuals who did not receive the additional maintenance CBT (18%) at the 21 month follow up. • The study reports that attrition demographics did not differentiate from participating sample. • Latino representation unknown.

TABLE 1. Continued

Study (Author (s), Year)	Research Design	Sample (Size, Gender, Age, Race/Ethnicity)	Instrument (s) Used	Findings
Arch et al., 2012	RCT	• 71 • Female 55%; • 19-60 years; Mean age 38 years • White 64%; Hispanic/Latino 13%; African American 10%; Asian American/ Pacific Islander 7%	• Anxiety Sensitivity Index (ASI)	• The study compared CBT and acceptance and commitment therapy (ACT) for various anxiety disorder including panic disorder and results indicated that both treatments were effective, however CBT credibility was higher than ACT. • The Hispanic/Latino representation is small compared to the White participant representation. • Study reports that it lacked statistical efficacy across racial subgroups. • Attrition reasons and participant demographics where not reported.
Roy-Byrne et al., 2010	RCT	• 503 • Female 359 (71%) • 18-75 years; • Mean age 43 years • White 279 (56%); Hispanic 104 (21%); Other 69 (14%); Black 51 (10%);	• Brief Symptom Inventory 12-Item (BSI-12) • Overall Anxiety Severity and Impairment Scale (OASIS)	• Results indicate that the group who received CBT intervention (participants with panic disorder) had significant improvements of anxiety related symptoms. • At 12 and 18 month evaluation, the nonresponse (attrition) was highest among Hispanics and panic disorder. • Sample demographics were not documented for those who completed the treatment, therefore unable to determine Latino representation in the results.

TABLE 1. Continued

Study (Author (s), Year)	Research Design	Sample (Size, Gender, Age, Race/Ethnicity)	Instrument (s) Used	Findings
Allen et al., 2009	Quasi Experim-ental	• 256 • Females 165 (64.5%) • 18+ years; Mean age 38 years • Caucasian 224 (87.5%); African American 14 (5.5%); Asia/Pacific Islander 14 (5.5%); American Indian/Alaskan Native 3 (1.2%); Other 1 (.4%)	• Anxiety Sensitivity Index (ASI) • Panic Disorder Severity Scale-Independent Evaluator Version (PDSS-IE)	• Results indicated structured CBT for panic disorder is equally effective in treating individuals with no comorbidity or with anxiety and unipolar mood disorders comorbidity. • Findings reported that the study lacked diversity in the sample. • No Latino participants.
Kiropoulos et al., 2008	Quasi Experim-ental	• 86 • Female 62 (72%); Male 24 (27%) • 20-64 years; Mean age 39 • Race/ethnicity not reported	• Panic Disorder Severity Scale (PDSS) • Body Vigilance Scale (BVS)	• Findings indicated that internet based CBT and face to face CBT had significant decreases in panic disorder by clinician severity measures and self-reported symptom and occurrence of panic attack, anxiety, and panic related perception and better quality of life. • Latino representation unknown.

TABLE 1. Continued

Study (Author (s), Year)	Research Design	Sample (Size, Gender, Age, Race/Ethnicity)	Instrument (s) Used	Findings
Craske et al., 2007	Quasi Experim-ental	• 65 • Female 60%; • Mean age 37 years • Caucasian 84%	• Anxiety Sensitivity Index (ASI) • Brief Symptom Inventory (BSI)	• Results indicated that CBT was effective in the reduction of panic disorder symptoms and decline in comorbid disorder across the compared treatments conditions-CBT only for panic disorder and CBT for panic disorder and comorbid disorder. • Latino representation unknown.
Craske et al., 2006	Quasi Experim-ental	• 119 • Female 68% • 18-70 years; Mean age 41 years • Race/ethnicity not reported	• Anxiety Sensitivity Index (ASI)	• Results indicated that the participants with panic disorder had a decrease in symptom severity of which was attributed to the number of CBT sessions attended regardless of in person or by phone delivery. • Latino representation not reported.
Klein, Richards, & Austin, 2006	Quasi Experim-ental	• 55 • Female 44; Male 11 • 18-70 years • Race/ethnicity not reported	• Panic Disorder Severity Scale (PDSS) • Body Vigilance Scale (BVS)	• Findings indicated that both internet based CBT and therapist assisted CBT by manual reduced panic disorder symptoms, perception or thoughts related to panic. • Latino representation not reported.

TABLE 1. Continued

Study (Author (s), Year)	Research Design	Sample (Size, Gender, Age, Race/Ethnicity)	Instrument (s) Used	Findings
Roy-Byrne et al., 2005	Quasi Experime-ntal	• 119 • Female 68 % • 18-70 years; Mean age 40 years • White 67%; Hispanic 11%; African American 13%; Other 8%	• Anxiety Sensitivity Index (ASI)	• Individuals who received CBT and pharmacotherapy indicated significant better outcomes as indicated by higher rate of remission (no panic attacks, little anticipatory anxiety and fear) and response rate in comparison to the group that did not receive CBT. • Attrition rate higher than Hispanic participation.
Addis et al., 2004	Quasi Experime-ntal	• 80 • Female 70%; Male 30% • 18-70 years; Mean age 40 years • Caucasian 80%; African American 4%; Hispanic 2%; Other 14%	• Panic Disorder Severity Scale (PDSS)	• Individuals with a primary diagnosis of panic disorder who received panic control treatment a type CBT, showed higher levels of change than the compared group (treatment as usual). • Latino participation was not representative of the findings.

TABLE 1. Continued

Study (Author (s), Year)	Research Design	Sample (Size, Gender, Age, Race/Ethnicity)	Instrument (s) Used	Findings
Deacon & Abramowitz, 2006	Pilot pre post study	• 10 • Female 8; Male 2 • Mean age 38 years • Caucasian 10	• Panic Disorder Severity Scale (PDSS) • Anxiety Sensitivity Index (ASI) • Body Vigilance Scale (BVS) • Beck Anxiety Inventory (BAI)	• The delivery of brief CBT over a 2 day period treatment and one month follow-up indicated significant reduction of each of the panic disorder symptoms assessed, 6 participants had zero panic attacks following the month after treatment and 4 experienced one panic attack. • Results were based on a non-Latino sample.

APPENDIX B

STUDIES ON INSTRUMENTS USED TO MEASURE PANIC DISORDER

TABLE 2. Studies on Instruments Used to Measure Panic Disorder

Study (Author (s), Year)	Sample (Size Race/Ethnicity)	Instrument	Findings
Shear et al., 2001	• 104 • European-American 90%	• Panic Disorder Severity Scale (PDSS)	• Results reported PDSS had good reliability and validity and moderate internal consistency for rating of panic disorder severity. • The reliability and validity of the PDSS presented in this study is based on a non-Latino population, cultural validity not reported.
Bernstein, et al., 2008	• 248 • Caucasian 2%; African American 2%; Hispanic 1%; Asian American 1%; Other 1%; No ethnicity data available 36% • 404 • Caucasian 95%; Black and Hispanic 5%	• Body Vigilance Scale (BVS)	• The BVS was conducted among two separated clinical groups, the results indicated the four item scale was observed to be unidimensional measure, but a three item scales was observed to be a good form of measurement for both groups. • This study was cross- culturally validated in that the BVS was translated to and validated across different cultures.

TABLE 2. Continued

Study (Author (s), Year)	Sample (Size Race/Ethnicity)	Instrument	Findings
Leyfer, Ruberg, & Woodruff-Bordern, 2006	• 193 (36 with panic disorder) • Caucasian 114 (88.48%); African American 11 (9%); Hispanic 3 (2%)	• Beck Anxiety Inventory (BAI)	• The results demonstrated that BAI is a strong tool in assessing panic disorder than any other anxiety disorder. • Cross cultural validity and reliability was not assessed
Campbell-Sills et al., 2009	• 1036 (46% with panic disorder) • Caucasian/White 62%; Mixed 12%; Black/ African American 10%; Other 6%; Asian 1%; American Indian/Alaskan Native 1%; No racial category 7%; Hispanic 17%	• Overall Anxiety Severity and Impairment Scale (OASIS)	• Results supported the unidimensional structure of the scale and show weak association with measures of different construct. • The study suggest that OASIS is reliable and valid scale for measuring the severity of anxiety. • Cross cultural validity and reliability was not assessed

TABLE 2. Continued

Study (Author (s), Year)	Sample (Size Race/Ethnicity)	Instrument	Findings
Derogatis & Melisaratos, 1983	• 310 (in patient) • White 56%; Black 43%; Other 1%; • 1002 (out patient) • White 67%; • Black 33%	• Brief Symptom Inventory (BSI)	• Findings indicate BSI had adequate reliability and validity. • Cross cultural validity and reliability was not assessed
Clum et al., 1995	• 52 • Not reported	• Panic Attack Symptoms Questionnaire (PASQ)	• Findings supported the validation of PASQ to assess the occurrence and severity of panic attacks. The reliability was estimated as moderate. • Cross cultural validity and reliability was not assessed.
Feske & De Beurs, 1997	• 47 • Caucasian 85%; African American 15%	• Panic Appraisal Inventory (PAI)	• Result demonstrated excellent treatment internal consistency and sensitivity, good convergent validity and adequate divergent validity, overall the findings supported PAI validity and reliability of assessing different dimensions of panic appraisal. • Study consisted of some diversity in sample, no cross cultural validity or reliability reports.
Maller & Reiss, 1992	• 151 • Race/Ethnicity not reported	• Anxiety Sensitivity Index (ASI)	• The study findings reported evidence for strong internal consistency between ASI and panic disorder. • The study did not report cultural validity or reliability.

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