

Minority participation in a major residential and intensive outpatient program for obsessive-compulsive disorder



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ARTICLE INFO

Article history:

Received 6 February 2015

Received in revised form

19 February 2015

Accepted 24 February 2015

Available online 5 March 2015

Keywords:

Health disparities

Minority participation

Obsessive-compulsive disorder

Residential

Outpatient

Treatment

African Americans

Hispanic Americans

Asian Americans

Native Americans

ABSTRACT

Obsessive-Compulsive Disorder (OCD) is prevalent among children and adults across racial and ethnic groups, causing significant and pervasive impairment in home life, work, and relationships. This article includes a review of the literature surrounding utilization of mental health care and barriers to treatment for OCD in four specific ethnoracial minority groups, followed by an examination of minority participation in a large intensive/residential OCD treatment facility. Participants included 924 children or adults diagnosed with OCD at Rogers Memorial Hospital between 1999 and 2012. The overwhelming majority of participants were non-Hispanic White (93.3%), indicating a significant mental health disparity. Patients were: 2.4% Hispanic/Latino American, 1.2% Asian American, 0.9% African American, 0.8% biracial/multiracial, 0.7% Indian American, 0.6% other, 0.1% Native American, and 0.1% Pacific Islander. Minority patients required significantly longer stays, despite no differences in mean OCD severity pre- or post treatment. The percentage of minority patients significantly increased over a 13-year span. Implications of findings and recommendations for increasing minority participation are discussed.

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1. Introduction

1.1. Background

Obsessive-compulsive disorder (OCD) is a highly disabling and distressing disorder, which has made it a major cause of disability worldwide (Ayuso-Mateos, 2006; Zohar, Fostick, Black, & Lopez-Ibor, 2007), afflicting an estimated 2.3% of the American population (Ruscio, Stein, Chiu, & Kessler, 2010). Obsessions are intrusive, unwanted thoughts, images, or urges that increase anxiety, whereas compulsions are repetitive behaviors or mental acts used to decrease anxiety. The disorder causes significant and pervasive impairment in multiple domains, including home life, work, and relationships (Karno, Golding, Sorenson, & Burnam, 1988; Kessler et al. 2005; Ruscio et al., 2010; Zhang, Snowden, & Sue, 1998). OCD-related costs have previously been estimated at \$8 billion annually in the US (DuPont, Rice, Shiraki, & Rowland, 1995) and this figure would likely be higher today.

An estimated 7.3 million people in the United States will suffer from OCD during their lives. Although OCD prevalence rates are generally consistent cross-culturally (Himle et al. 2008; Karno et al., 1988; Kessler et al., 2005; Zhang et al., 1998; Williams, Chapman, Simms, & Tellawi, in press), previous literature reveals a lack of ethnic minority participation in mental health care for OCD. Williams Powers, Yun, and Foa (2010) assessed 21 clinical research trials that provided data on race and ethnicity ($N=2221$) among subjects with OCD from 1989 to 2009. Fully 91.5% of participants reported their race/ethnicity as European American, and the remainder included small numbers of African Americans (1.3%), Hispanic Americans (1.0%), Asian Americans (1.6%), and others (1.5%). These numbers fall far below expectations based on US Census data, with 12.3% of the US population being African American, 12.5% Hispanic or Latino American, and 3.6% Asian American (US Census, 2000). A potential cause for this disparity is that ethnic minority individuals may be less likely to receive specialized OCD treatment, which may limit research participation as subjects are often recruited from OCD specialty clinics (Williams et al., 2010).

Although the development and maintenance of OCD has been well described in the literature, little is known about OCD in ethnic minority populations because OCD studies generally include low percentages of ethnic minorities (i.e., Williams et al., 2010); thereby making it difficult to understand OCD within these groups. In addition, research has

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shown that ethnic minorities may underutilize mental health services (Kearney, Draper, & Barón, 2005; Snowden & Cheung, 1990), suggesting that there may be culture-specific barriers to receiving evidenced-based treatments.

1.2. OCD in African Americans

Although 40% of African Americans with OCD report their obsessional concerns to a doctor, very few receive treatment (Simmons et al., 2012; Williams, Domanico, Marques, Leblanc, & Turkheimer, 2012). African Americans appear to be underrepresented in OCD treatment clinics and research studies (Foa et al., 1995). Among all Americans, for those with severe OCD, 93% receive some type of treatment (Ruscio et al., 2010); however, this is true for only 60% for African Americans with severe OCD (Himle et al., 2008), indicating a substantial mental health disparity. Even among those who are able to access mental health care, few African Americans with OCD receive empirically-supported treatments for the disorder, and only 20% use a serotonin reuptake inhibitor medication (Himle et al., 2008).

In a study by Williams et al. (2012) the authors investigated barriers to obtaining OCD treatment in both African Americans and non-Hispanic Whites. Results indicated that both groups reported concerns about the cost of treatment, shame, stigma, and wanting to handle the problem on their own. However, certain barriers disproportionately affected African Americans, including stigma and judgment, denying a need for treatment, lack of disorder/treatment awareness, fears of discrimination, and concerns about the treatment process. Participants in this study endorsed negative attitudes about individuals who seek mental health care and difficulty in identifying as someone with mental illness (Williams, Beckmann-Mendez, & Turkheimer, 2013). Additionally, subjects reported significant concerns about the therapist or treatment process (i.e., treatment failure, satisfaction, too difficult, etc.) as a serious barrier to treatment.

1.3. OCD in Latinos/Hispanic Americans

Latinos are insufficiently represented in clinical studies for OCD, making it unclear whether evidence-based treatments demonstrate the same efficacy and effectiveness for Latinos as has been demonstrated for non-Hispanic Whites (Wetterneck et al., 2012). This calls into question the cross-cultural applications of evidence-based treatments for OCD based on diagnostic constructs developed for Westernized presentations of OCD symptoms, leading to potential barriers in treatment efficacy for these populations.

There have not been many studies investigating attitudes about OCD in Latino and Hispanic individuals, however it is likely that cultural attitudes significantly impact treatment seeking. Additionally, lack of clinician knowledge of these socioeconomic, cultural and linguistic barriers, and how they can influence OCD symptomology, can create treatment barriers in therapy (Wetterneck et al., 2012).

1.4. OCD in Asian and Indian Americans

Unfortunately, little research has been conducted to examine barriers to mental health treatment, or specifically OCD, in Asian Americans. Asian American, including East Indian American (AA/IA), individuals' utilization of mental health services is heavily influenced by their cultural beliefs as well as accessibility, and understanding how these factors influence mental health treatment seeking for OCD is essential. While AA/IA's are composed of very heterogeneous subgroups, including Chinese, Japanese, Cambodian, Vietnamese, Indian, and others, many researchers have studied these populations together because of similar cultural views in comparison to their Western counterparts. However, there remain distinct cultural and

socioeconomic influences of the various subgroups that have a differential impact on mental health care attitudes and treatment seeking that need to be considered as well.

Studies have shown that compared to other ethnic groups, AA/IA's are the least likely to seek professional services for mental illness and endorse low rates of psychopathology; however, newer research suggests these low rates are due to a number of reasons, including low treatment seeking and high therapy drop-out (Leong, Kim, & Gupta, 2011). AA/IAs are more likely to use informal sources of support, such as family and friends, or try to work out problems on their own until the problem becomes too severe to manage (Durvasula & Sue, 1996; Kearney et al., 2005; Narikiyo & Kameoka, 1992; Zhang et al., 1998). Furthermore, AA/IA culture tends to value self-control and intellectualization over emotional expression, and as a result, AA/IAs tend to be more likely to internalize mental distress and tolerate their suffering as opposed to engaging in emotional self-disclosure (Mysorekar, 2006; Ramisetty-Mikler, 1993).

1.5. OCD in Native Americans

Although there is an absence of research on OCD in Native Americans (American Indian and Alaska Natives), treatment barriers in these populations have been established with other mental health issues that could extend to OCD treatment. Cultural differences in communication and reporting systems continue to be an issue regarding under diagnosis, misdiagnosis and delays in seeking treatment. Thompson, Walker and Silk-Walker (1993) found that different tribes have different meanings when it comes to mental illness, including beliefs that mental and physical illness are the same, that mental health symptoms are representative of disharmony within their soul, or supernatural possession. Considering these meanings, many tribes prefer to seek treatment through their traditional, spiritual practices rather than Westernized practices that may not apply to how they are expressing symptoms, creating underutilization of these mental health services or high therapy dropout.

1.6. Purpose of the current study

Evidenced by previous epidemiological studies or lack thereof, little is known about OCD treatment program utilization by ethnic minorities. There have been no published studies examining minority participation for OCD treatment in any setting, and as such, the current study fills an important gap in the literature. Having knowledge as to which ethnic and racial groups are underrepresented would be important to inform outreach efforts to promote equity in access and treatment for OCD. Additionally, it is not known if treatments for OCD are equally effective for ethnic minority patients as few studies have contained enough minorities to make such comparisons. This information would help to inform clinicians and researchers as to the importance of cultural differences when implementing treatment. Thus, we investigate minority participation in a large OCD treatment program over a thirteen-year span. Given that the US is becoming increasingly diverse, with ethnoracial minorities at 37.4% in the US population and 50.4% of all births (US Census, 2012b, 2014), such investigations are important for our understanding of treatment use and accessibility.

Based on low rates of inclusion found in research studies, we hypothesize that minorities are underrepresented as OCD patients, although we would also predict a shift over the course of the years in favor of greater inclusion. We hypothesize that treatment would be less effective for minorities (shorter stays and subsequently smaller reduction in symptoms) for many of the same reasons that impede the initiation of treatment in minorities (i.e., cultural mistrust, mental health stigma).

2. Methods

2.1. Participants

Participants presented for treatment to an intensive outpatient or residential treatment facility at Rogers Memorial Hospital between 1999 and 2012 for OCD. Rogers Memorial Hospital, located in Wisconsin, is one of a handful of facilities in the US offering comprehensive intensive/residential treatment for OCD, thus the OCD programs draw patients from all over the country and internationally. Of these, 924 had complete pre and post-treatment data and information regarding ethnic or racial background, and were included in the study.

The majority ($n=892$) were from the United States, with 32 from other countries. The mean age was 26.08 (SD 12.87), and the sample was 50.8% female. Patients included 1772 total children, adolescents, or adults diagnosed with OCD by a licensed psychologist and/or psychiatrist. Subjects were composed of individuals with OCD as a primary diagnosis (87.9%), secondary diagnosis (8%), tertiary diagnosis (2%), quaternary diagnosis (0.6%), and quinary diagnosis (0.4%). For those who did not have OCD as the primary diagnosis, common primary diagnoses included mood disorders ($n=35$), generalized anxiety disorder ($n=15$), social anxiety disorder ($n=10$), anorexia nervosa ($n=10$), and body dysmorphic disorder ($n=7$).

Exclusion criteria for the treatment programs, and therefore this sample, included the presence of a psychotic disorder, current substance dependence, acute suicidality or homicidality, or significant cognitive impairment. A formal assessment of cognitive functioning was not conducted; however, potential patients complete a thorough phone screening and information from previous assessments may be utilized to inform questions regarding cognitive ability. If during that screening it is apparent that the individual has substantial cognitive impairment, they are not recommended for admission to the OCD programs due to concerns about the ability to fully participate in treatment activities.

Treatment included a combination of pharmacotherapy and daily cognitive-behavioral therapy. Information regarding ethnographic background was gathered with other demographic variables as part of the admissions process. All participants provided consent to their data being used for research purposes. The Rogers Memorial Hospital Human Subjects Committee and the Board of Directors of the Rogers Center for Research and Training approved procedures for gathering the data used in this retrospective study.

2.2. Measures

The Yale-Brown Obsessive Compulsive Scale-Self Report (Y-BOCS-SR; Baer, 1992; Goodman et al., 1989) is a self-report measure that contains 10 summed items designed to assess the severity of obsessive-compulsive symptoms, with scores on a 0–4 ranking scale, where higher scores indicate greater disturbance. There are five obsessive-compulsive aspects (duration, distress, interference, resistance, and control) reported by the patient. In addition to being extensively validated in non-Hispanic White samples, the psychometric properties of the Y-BOCS clinician-rated version have been examined in ethnographically diverse non-clinical samples (Washington, Norton, & Temple, 2008) and African Americans with OCD (Williams, Wetterneck, Thibodeau, & Duque, 2013) and is highly correlated with the Y-BOCS-SR ($r(44)=0.75, p<0.001$; Steketee, Frost, & Bogart, 1996).

The Children's Y-BOCS-Self Report (CY-BOCS-SR; Piacentini, Langley, & Roblek, 2007; Scahill et al., 1997) is a semi-structured clinician-rated measure that consists of a 10-item severity scale. Separate scores are computed for obsessions and compulsions, and a total severity score is the sum of all items. There has not been much research on the psychometric properties of the CY-BOCS-SR in ethnographic minority groups, but a Spanish version, evaluated in Mexico City, was found to have good psychometric properties in Mexican children (Ulloa et al. 2003). Further, the CY-BOCS-SR is positively correlated with the clinician rated CY-BOCS (Conelea, Schmidt, Leonard, Riemann, & Cahill, 2012).

2.3. Statistical approach

Descriptive statistics were provided by computing percentages by ethnographic group, region and year. For statistical analyses, all minorities were combined into one group since there were not enough to examine these separately. A two-tailed z -test was used to compare the percentages of non-Hispanic White participation compared to expectations based on census data. Pearson's correlations were used to determine the relationship between minority enrollment by year over time. T -tests were used to examine the relationship between non-Hispanic White and minority patients. Y-BOCS-SR and CY-BOCS-SR scores were combined into one variable for comparisons across age groups and programs.

3. Results

3.1. Overall

Of the 892 US participants with an OCD diagnosis, 60 (6.7%) reported an ethnic or racial background other than non-Hispanic White. Thus, the majority of US participants, 832 (93.3%), identified as non-Hispanic White. These numbers are significantly below expectations, based on census data for Wisconsin (82.5% non-Hispanic White; $z=8.47, p<0.0001$) and the US as a whole (62.6% non-Hispanic White; $z=18.93, p<0.0001$). Table 1 lists patients from all US states and territories by race/ethnicity and program type.

International participants ($n=32$) included 28 Canadians (26 non-Hispanic White, 1 Hispanic, and 1 Indian), 1 person from Egypt who identified as White, 2 Hispanic individuals from Mexico, and 1 biracial/multiracial person from Mauritius. These were not included in analyses due to differences in how these other cultures may understand ethnicity and minority status.

3.2. Changes over time

We determined the percentage of minority patients admitted for each year to examine trends in admissions. We omitted 1999 because data were only for a partial year, and analyzed admissions from 2000–2012. There was a significant positive correlation between year and percentage of minorities, indicating a robust upward change in minority admissions ($r=0.89, p<0.005$). These findings are shown in Fig. 1.

3.3. Treatment variables

Non-Hispanic White patients ($n=832$) had a significantly shorter duration of treatment ($M=64.19$ days, $SD=35.28$ days) than US patients from other ethnic or racial backgrounds ($n=60, M=73.63$ days, $SD=37.89$ days), $t(890)=-1.992, p=0.047$. There were no significant differences between non-Hispanic White and minority patients on the Y-BOCS-SR/CY-BOCS-SR at admission [$M_{White}=25.29$ (7.17), $M_{Minority}=26.67$ (6.73)], discharge [$M_{White}=14.28$ (7.58),

Table 1
Patients with OCD (All locations).

Race/Ethnicity N	Child Center (Residential, ages 8–12) 59	Adolescent Center (Residential) 203	Adult Residential 480	Intensive Outpatient Program 150	Total 892
Non-Hispanic White	53 (89.8%)	183 (90.1%)	456 (95.0%)	140 (93.3%)	832 (93.3%)
Hispanic/Latino(a) American	2 (3.4%)	8 (3.9%)	8 (1.7%)	3 (2.0%)	21 (2.4%)
African American	2 (3.4%)	0	4 (0.8%)	2 (1.3%)	8 (0.9%)
Indian American	1 (1.7%)	0	4 (0.8%)	1 (0.7%)	6 (0.7%)
Asian American	1 (1.7%)	4 (2.0%)	5 (1.0%)	1 (0.7%)	11 (1.2%)
Biracial or Multi-racial	X	6 (3.0%)	X	1 (0.7%)	7 (0.8%)
Native American	X	1 (0.5%)	X	X	1 (0.1%)
Pacific Islander	X	1 (0.5%)	X	X	1 (0.1%)
Other	X	0	3 (0.6%)	2 (1.3%)	5 (0.6%)

Note: X=Not reported. Does not include international patients.

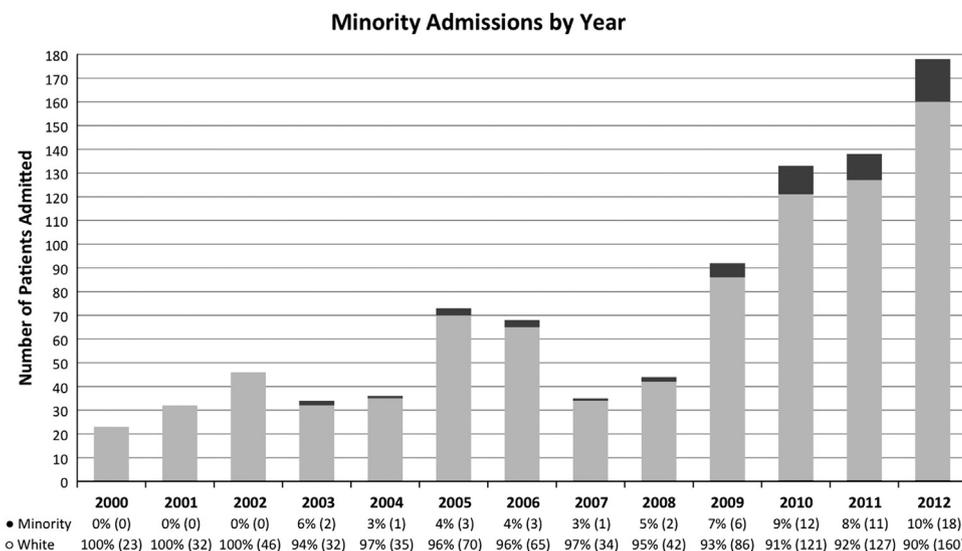


Fig. 1. Minority admissions by year. Admission of US ethnic minority OCD patient from 2000 to 2012 displayed using percentages and raw numbers.

$M_{\text{Minority}} = 15.30$ (8.37)], or for change scores [$M_{\text{White}} = 11.01$ (8.23), $M_{\text{Minority}} = 11.37$ (9.43)].

4. Discussion

4.1. Inclusion

As hypothesized, among patients obtaining intensive/residential OCD treatment, the overwhelming majority identified as non-Hispanic White, and these were in numbers far greater than expected based on census data (US Census, 2014). Furthermore, African Americans were 0.9%, compared to 6.5% in Wisconsin and 13.2% in the US. Hispanic/Latino Americans were 2.4%, compared to 6.3% in Wisconsin and 17.1% in the US. Asian Americans/Indian Americans were 1.9%, compared to 2.5% in Wisconsin and 5.3% in the US. Native Americans were 0.1%, compared to 1.1% in Wisconsin and 1.2% in the US. Pacific Islanders were 0.1% compared to 0.0% in Wisconsin and 0.2% nationally. Thus minority admissions fell far below state and national percentages for nearly all groups.

4.2. Treatment seeking attitudes and behaviors

Fernández de la Cruz et al. (in press) investigated ethnic minority participation in an OCD program from 1999–2013 in South London and found that they were significantly underrepresented compared to Whites. Further, the authors compared OCD treatment participation to depression treatment participation, and found that ethnic minorities were significantly more underrepresented in the OCD group. Potential reasons for low minority participation may include cultural attitudes about mental health care, greater cost of intensive/residential treatment given that minorities are more likely to be economically disadvantaged, and less acceptability of being separated from family during the treatment process due to greater collectivistic values and emphasis on family (Williams, Sawyer, Ellsworth, Singh, & Tellawi, in press). However, some minority groups are overrepresented among inpatient admissions for psychotic and other severe mental disorders (Chapman, DeLapp, & Williams, 2014), so more studies will be needed to better understand this disparity. Findings of the current study may reflect negative attitudes toward mental illness overall, differential treatment seeking behaviors, and barriers to treatment for each group. Although some groups may be similar, each cultural group examined has different views of mental health and treatment. Inasmuch, it is

important to understand these attitudes and barriers to treatment when interpreting our results.

4.2.1. African Americans

Research has shown that African Americans are less likely to seek mental health treatment, fearing that it may reflect badly on their families (Alvidrez, Snowden, & Kaiser, 2008). Furthermore, Williams et al. (2012) investigation of barriers to obtaining OCD treatment suggests that many African Americans tend to view church as the only appropriate support system outside the family. This is consistent with other research finding that African Americans report greater positive religious coping strategies for anxiety compared to non-Hispanic Whites (Chapman & Steger, 2010; Himle, Taylor, & Chatters, 2012). African Americans may also perceive less of a need for treatment than their non-Hispanic White counterparts, and there may be taboo surrounding mental illness within this ethnic group. Specifically, African Americans may not openly discuss such difficulties and fear being labeled as “crazy”, contributing to a lack of knowledge about disorders such as OCD in the African American community (Williams et al., 2012).

This is not surprising, as previous research suggests that consumers believe mental health treatment is designed for non-Hispanic Whites (Alvidrez et al., 2008), and that African Americans view the typical psychologist as an older White male, who may not understand social or economic problems in their lives (Thompson, Bazile, & Akbar, 2004). Although some research indicates more favorable opinions about mental health care compared to non-Hispanic White consumers, these same studies find less satisfaction after services have begun and higher dropout rates (Diala et al. 2000).

4.2.2. Latinos/Hispanic Americans

Latinos are among those least likely to utilize mental health treatment, as less than one in twenty with psychopathology obtain services from a specialist (Kearney, Draper, & Barón, 2005; Sue, Fujino, Hu, Takeuchi, & Zane, 1991); given the rapid growth of the Latino population in the US, this is especially concerning. Considering symptom expression, Latinos are more likely to somatize symptoms of mental illness, making it more likely for them to seek treatment for psychopathology at medical care settings over mental health settings (Alegria et al., 2007; Vega et al., 1998). This reduces the likelihood that those with OCD will be identified and receive proper treatment from knowledgeable mental health professionals (Chavira, Garland, Daley, & Hough, 2008; Fontenelle, Mendlowicz, Marques, & Versiani, 2004).

Immigrant status and levels of acculturation can also impact treatment access. When examining cultural identity, Latinos with a stronger ethnic identity tend to have lower levels of satisfaction with services obtained, and those with a weaker ethnic identity had higher satisfaction (Redmond, Galea, & Delva, 2009). Additionally, foreign-born immigrants are less likely to receive medical and mental health services (Chen & Vargas-Bustamante, 2011; Shattell, Hamilton, Starr, Jenkins, & Hinderliter, 2008), and when compared to US born individuals, foreign-born Latinos are not as likely to use mental health services (Alegria et al., 2007; Vega, Kolody, & Aguilar-Gaxiola, 2001).

Additional barriers to treatment in the Latino population include low income levels, language barriers, and cultural stigma against mental illnesses (Wetterneck et al., 2012). Latinos are disproportionately financially disadvantaged compared to non-Hispanic Whites, and because of this, less financially equipped to obtain specialty treatment (Alegria et al., 2002). Only 6% of licensed psychologists in the US are of Latino descent (US Department of Labor, 2011) and may or may not speak Spanish, so language can pose as a significant barrier to treatment, and demonstrates a crucial need for more Spanish-speaking mental health professionals (Vega et al., 2007).

4.2.3. Asian and Indian Americans

Much like the aforementioned groups, previous research may also explain the low numbers observed in the current results for Asian and Indian Americans. Specifically, our findings may reflect that AA/IAs tend to experience distressing symptoms in more somatic ways, such as weakness or fatigue (Leong et al., 2011; Ramakrishna & Weiss, 1992), which suggests they may be more likely to seek help from physicians. The concepts of stigma and shame surrounding mental illness also play an important role in AA/IA low utilization of mental health services in general, and medical symptoms are deemed as more culturally appropriate than psychological symptoms (Chu & Sue, 2011). AA/IAs view psychological illness as an indicator of personal weakness or dishonoring the family or community, which evokes feelings of shame, guilt and isolation (Gilbert, Gilbert, & Sanghera, 2004; Karasz, Dempsey, & Fallek, 2007; Leong et al., 2011).

Religion also plays a major role in mental health perceptions in AA/IAs. For example, many AA/IAs in the US follow Buddhism, Confucianism or Hinduism, which views the cause of mental illness very differently from the traditional westernized conceptualization. For example, IAs in particular tend to view illness as a result of bad karma, a Hindu belief that illness manifests as a result of wrongdoings in the past (Chandiramani, Srivastava, & Patel, 2003). This cultural perception of mental illness as punishment could therefore delay or prevent mental health treatment seeking (Gupta, 2009).

Delays in obtaining proper mental health services can also be related to culturally-specific treatment preferences as well. AA/IAs are more likely to believe in the integration of mind, body, and spirit when treating illness, in contrast to Westernized mental health services. As a result, they are more likely to seek out spiritual or mind-body treatments such as Chinese or Ayurvedic medicine before professional mental health modalities (Bhugra, 1996; Chu & Sue, 2011; Durvasula & Mylvaganam, 1994).

Socioeconomic and system-related issues within the mental health realm can also contribute to treatment barriers in AA/IA populations. Higher rates of poverty and lower insurance coverage, particularly among Southeast Asian Americans (i.e., Cambodian, Laotians), can prevent access to needed mental health services and may help explain the lower rates of psychological functioning in these populations compared to other Asian subgroups (Reeves & Bennett, 2004). Compounding this problem of financial resources is a lack of linguistically and culturally appropriate service providers for many AA/IA individuals or unfamiliarity with counseling and psychotherapy as treatment options (Chandras, 1997).

4.2.4. Native Americans

Adequate and accessible treatment is a significant barrier among Native Americans, which is a potential explanation of the low number of Native Americans in our results. Mental health services in these populations depend largely on governmental, public agencies and funding. The Indian Health Service (IHS) provides health care services to over half of Native Americans in this country, yet these services still remain inadequately funded and of poor quality, creating issues regarding adequate diagnosis and treatment among these populations (Gone & Trimble, 2012).

A study by Beals et al. (2005) assessed help-seeking behaviors in Native Americans and found that individuals from southwest tribes were most likely to seek help from a traditional healer (48.9%), followed by mental health professionals (34.6%), then medical professionals (29.1%). Conversely, northern plain tribes were most likely to seek help from a mental health professional (40.1%), followed by medical professionals (37.3%), then traditional healers (33.7%). There were gender differences found in both samples, indicating that women were more likely to seek help from mental health professionals compared to men. Individuals who had comorbid disorders were more likely to seek services from all types of providers more often than those with one disorder alone. However, aside from the current study, no research has examined treatment seeking for OCD within Native Americans populations.

4.3. Changes over time

We examined the number of US minorities by year to determine trends in admission rates for the OCD programs and found a clear upward trajectory, beyond simply increasing numbers of patients overall. This is an encouraging finding, which may reflect greater awareness, acceptability, and access to treatment for OCD among ethnoracial minorities. Further, recent research has been conducted assessing barriers to treatment in ethnoracial minorities (i.e., Williams et al., 2012; Wetterneck et al., 2012), which could potentially increase researchers' awareness of such disparities, prompting them to make a concerted effort at recruiting ethnoracial minorities. In 2002 the American Psychological Association (APA) Council of Representatives approved Guidelines on Multicultural Education, Training, Research, Practice, and Organizational Change for Psychologists (APA, 2003). The APA drafted a 103-page document endorsing the importance of cultural awareness, and the increase in minority subjects over time may be reflective of this initiative.

4.4. Treatment variables

Contrary to our hypothesis, minorities experienced significantly longer stays than non-Hispanic White patients, which was not explained by OCD symptom severity. This is consistent with some studies that indicate minorities require longer stays for inpatient mental health services (Bolden & Wicks, 2005). Such findings may be due to greater severity among minority patients, who may not obtain mental health care until problems are severe (Alvidrez et al., 2008), but this was not the case in our OCD sample, as mean severity at admission and discharge did not differ between groups.

Cultural differences between patients and clinicians may be a contributing factor to slower progress, as almost all clinicians were non-Hispanic White. In such cases, patients may require more time to develop rapport with clinicians due to cultural mistrust, prior negative experiences with the mental health treatment process, greater reservations about mainstream treatment approaches, or lack of clinician cultural competency (Chapman et al., 2014; Diala et al., 2000). Ethnic matching may be an effective approach to help reduce problems caused by cultural differences (Ziguras, Klimidis, Lewis, & Stuart, 2003). However, ethnic matching is not always possible or

desirable, thus training in multicultural counseling competence and sensitivity is especially important for all clinicians (Terwilliger, Bach, Bryan, & Williams, 2013).

4.5. Implications

The current study and previous related findings highlight a large disparity in receipt of OCD treatment among ethnic minority groups. Potential barriers to OCD treatment for each group as outlined previously (e.g., language, economic, cultural mistrust, knowledge of OCD) may have contributed to the findings. Additionally, differential symptom manifestation can produce misdiagnoses and poorer treatment outcomes. Recent research has found that African Americans with OCD report more contamination symptoms than non-Hispanic Whites (Wheaton, Berman, Fabricant, & Abramowitz, 2013; Williams, Davis, Thibodeau, & Bach, 2013; Williams, Turkheimer, Magee, & Guterbock, 2008). However, contamination symptoms are readily identified by clinicians (Glazier, Calixte, Rothschild, & Pinto, 2013), and thus it would seem that this is unlikely to account for misdiagnosis and subsequent lower treatment participation among African Americans. Wheaton et al. (2013) found that Asian Americans reported more contamination symptoms, obsessive beliefs, perfectionism/certainty, and importance/control of thoughts compared to non-Hispanic Whites. It is possible that similar differences may be present in other ethnic minority populations, warranting the systematic investigation of cross-cultural OCD symptom manifestation (Williams et al., in press). A better understanding of symptom expression in other cultures may improve diagnosis and accelerate the treatment process among ethnic minorities.

In addition, socioeconomic factors may have impacted participation rates among ethnorracial minorities. Previous research has demonstrated that financial concerns may deter African Americans and Latinos from seeking treatment for OCD (Williams et al., 2012; Wetterneck et al., 2012). Although financial concerns are not unique to minorities, the median household income for non-Hispanic Whites is \$50k, while African Americans and Hispanics make \$33k and \$38k, respectively (U.S. Census, 2012a). Thus, financial barriers may make obtaining treatment more difficult, and examining these factors in future studies will be important.

Given that previous research has demonstrated a negative stigma surrounding mental health among several ethnorracial minority populations (Alvidrez et al., 2008; Wetterneck et al., 2012; Chu & Sue, 2011), disseminating information about OCD in these communities may help increase treatment seeking and research participation; studies should be conducted to determine if such efforts actually increase minority participation. Further, as the field of psychology seeks to enhance its overall cultural sensitivity (APA, 2003), minority research participation may increase. Considering cultural mistrust as a barrier to treatment, training clinicians to be more culturally aware may make clinical

interactions more comfortable for minority clients. Inasmuch, future research should not only examine ethnic minority attitudes toward mental health, but also the cultural competency of clinicians. Assuring that clinicians are culturally competent is just as important as combating negative attitudes surrounding mental health care in ethnorracial minority groups (Williams, Tellawi, Wetterneck, & Chapman, 2013).

Increasing minority participation is an important public health care challenge. Factors to consider include: the cost of treatment (e.g., providing more low cost options), increasing awareness (e.g., targeted campaigns in minority communities to raise awareness of OCD), work to decrease stigma associated with mental illness within minority communities, diversity of staff/clinicians, ongoing training of staff/clinicians in cultural awareness and sensitivity, and foreign language options (e.g., Spanish speaking staff and measures) (Ibaraki & Hall, 2014; Williams et al. 2013; Williams et al., 2012). Research is needed to examine these obstacles within each respective ethnorracial group to enable us to optimally understand and address these barriers.

4.6. Limitations

There were several limitations to the current study. Although the Y-BOCS clinician-rated version has been validated in African American adults, neither the YBOCS-SR nor the CY-BOCS-SR have been thoroughly validated in ethnorracial minority groups. Furthermore, data on comorbid disorders was not examined, which might differentially impact treatment-seeking and an individual's effort in a treatment program. As this was an intensive/residential program, and not typical outpatient treatment, findings may not generalize to other treatment venues.

4.7. Conclusion

In sum, the current investigation showed that ethnic minorities are much less likely to participate in specialized, intensive OCD treatment compared to non-Hispanic Whites, and when they do receive care, they require longer stays but experience the same degree of gains. There are numerous factors that may account for lower inclusion among these groups for treatment of OCD (i.e., language, economic, cultural mistrust, mental health stigma), but it is not known which if any of these is causing the disparity identified in this investigation. Thus, new research is needed to examine these problems to enable us to better understand and address barriers to care.

Appendix

By geographic region, participants with an OCD diagnosis that reported an ethnic or racial background other than non-Hispanic

Table 2
Patients admitted from the Northeast Region by race/ethnicity.

Race/ethnicity N	Child Center (Residential, ages 8–12)	Adolescent Center (Residential)	Adult Residential	Intensive Outpatient Program	Total
Non-Hispanic White	13 (100%)	41 (91.1%)	42 (100%)	3 (100%)	99 (96.1%)
Hispanic/Latino (a) American	0	1 (2.2%)	0	0	1 (1.0%)
African American	0	0	0	0	0
Indian American	0	0	0	0	0
Asian American	0	2 (4.4%)	0	0	2 (1.9%)
Biracial or Multi-racial	X	1 (2.2%)	X	X	1 (1.0%)
Native American	X	0	X	X	0
Pacific Islander	X	0	X	X	0
Other	X	0	0	0	0

Note: The Northeast Region includes the following states: ME, NH, VT, MA, RI, CT, NY, PA, NJ.

Table 3
Patients admitted from the Midwest Region by race/ethnicity.

Race/ethnicity N	Child Center (Residential, ages 8–12) 23	Adolescent Center (Residential) 91	Adult Residential 299	Intensive Outpatient Program 140	Total 553
Non-Hispanic White	21 (91.3%)	90 (98.9%)	288 (96.3%)	132 (94.3%)	531 (96.0%)
Hispanic/Latino (a) American	0	1 (1.1%)	4 (1.3%)	3 (2.1%)	8 (1.4%)
African American	2 (8.7%)	0	3 (1.0%)	2 (1.4%)	7 (1.3%)
Indian American	0	0	1 (0.3%)	1 (0.7%)	2 (0.4%)
Asian American	0	0	3 (1.0%)	0	3 (0.5%)
Biracial or Multi-racial	0	0	X	X	0
Native American	X	0	X	X	0
Other	X	0	0	2 (1.4%)	2 (0.4%)

Note: The Midwest Region includes the following states: WI, MI, IL, IN, OH, MO, ND, SD, NE, KS, MN, IA.

Table 4
Patients admitted from the Southern Region by race/ethnicity.

Race/ethnicity N	Child Center (Residential, ages 8–12) 12	Adolescent Center (Residential) 36	Adult Residential 63	Intensive Outpatient Program 3	Total 114
Non-Hispanic White	11 (91.7%)	29 (80.6%)	58 (92.1%)	3 (100%)	101 (88.6%)
Hispanic/Latino (a) American	0	4 (11.1%)	1 (1.6%)	0	5 (4.4%)
African American	0	0	1 (1.6%)	0	1 (0.9%)
Indian American	1 (8.3%)	0	1 (1.6%)	0	2 (1.8%)
Asian American	0	1 (2.8%)	0	0	1 (0.9%)
Biracial or Multi-racial	0	2 (5.6%)	X	X	2 (1.8%)
Native American	X	X	X	X	0
Other	X	0	2 (3.2%)	0	2 (1.8%)

Note: The Southern Region includes the following states: DE, MD, VA, WV, NC, SC, GA, FL, KY, TN, MS, AL, OK, TX, AR, LA.

Table 5
Patients admitted from the Western Region by race/ethnicity.

Race/Ethnicity N	Child Center (Residential, ages 8–12) 11	Adolescent Center (Residential) 30	Adult Residential 74	Intensive Outpatient Program 4	Total 119
Non-Hispanic White	8 (72.7%)	23 (76.7%)	67 (90.5%)	2 (50%)	100 (84.0%)
Hispanic/Latino(a) American	2 (18.2%)	1 (3.3%)	2 (2.7%)	0	5 (4.2%)
African American	0	0	0	0	0
Indian American	0	0	2 (2.7%)	0	2 (1.7%)
Asian American	1 (9.1%)	1 (3.3%)	2 (2.7%)	1 (25%)	5 (4.2%)
Biracial or Multi-racial	X	3 (10.0%)	X	1 (50%)	4 (3.4%)
Native American	X	1 (3.3%)	X	X	1 (0.8%)
Pacific Islander	X	1 (3.3%)	X	X	1 (0.8%)
Other	X	0	1 (1.4%)	0	1 (0.8%)

Note: The Western Region includes the following states: ID, MT, WY, NV, UT, CO, AZ, NM, AK, WA, OR, CA, HI.

White were as follows: Northeast region 4 (3.9%), Midwest region 22 (4.0%), South region 13 (11.4%), and West region 19 (16.0%). The largest numbers of participants with an OCD diagnosis were found in the Midwest and West, but the largest proportions were found in the South and West (not including US territories). Information regarding inclusion by type of program and US region can be found in Tables 2–5.

References

- Alegria, M., Canino, G., Rios, R., Vera, M., Calderon, J., Rusch, D., et al. (2002). Mental health care for Latinos: inequalities in use of specialty mental health services among Latinos, African Americans, and non-Latino Whites. *Psychiatric Services*, 53(12), 1547–1555.
- Alegria, M., Mulvaney-Day, N., Woo, M., Torres, M., Gao, S., & Oddo, V. (2007). Correlates of past-year mental health service use among Latinos: results from the National Latino and Asian American Study. *American Journal of Public Health*, 97(1), 76–83.
- Alvidrez, J., Snowden, L. R., & Kaiser, D. M. (2008). The experience of stigma among Black mental health consumers. *Journal of Health Care for the Poor and Underserved*, 19(3), 874–893.
- APA. (2003). Guidelines on multicultural education, training, research, practice, and organizational change for psychologists. *American Psychologist*, 58(5), 377–402.
- Ayuso-Mateos, J. L. (2006). *Global burden of obsessive-compulsive disorder in the year 2000*. Geneva, Switzerland: World Health Organization.
- Baer, L. (1992). *Getting control: overcoming your obsessions and compulsions*. New York, NY: Plume/Penguin Books.
- Beals, J., Novins, D. K., Whitesell, N. R., Spicer, P., Mitchell, C. M., & Manson, S. M. (2005). Prevalence of mental disorders and utilization of mental health services in two American Indian reservation populations: mental health disparities in a national context. *American Journal of Psychiatry*, 162(9), 1723–1732.
- Bhugra, D. (1996). Hinduism and Ayurveda: implications for managing mental health. In: D. Bhugra (Ed.), *Psychiatry and religion* (pp. 97–111). London: Routledge.
- Bolden, L., & Wicks, M. N. (2005). Length of stay, admission types, psychiatric diagnoses, and the implications of stigma in African Americans in the nationwide inpatient sample. *Issues in Mental Health Nursing*, 26(10), 1043–1059.
- Chandiramani, M., Srivastava, S., & Patel, V. (2003). Caring for the Hindu patient: cultural and clinical aspects. *Pulse*, 63(39), 56–57.
- Chandras, K. V. (1997). Training multiculturally competent counselors to work with Asian Indian Americans. *Counselor Education and Supervision*, 37(1), 50–59.
- Chapman, L. K., DeLapp, R., & Williams, M. T. (2014). Impact of race, ethnicity, and culture on the expression and assessment of psychopathology. In: D. C. Beidel, & B. C. Frueh (Eds.), *Adult psychopathology and diagnosis*, 7e). Hoboken, NJ: John Wiley & Sons, Inc.

- Chapman, L. K., & Steger, M. F. (2010). Race and religion: differential prediction of anxiety symptoms by religious coping in African American and European American young adults. *Depression and Anxiety, 27*(3), 316–322.
- Chavira, D. A., Garland, A. F., Daley, S., & Hough, R. (2008). The impact of medical comorbidity on mental health and functional health outcomes among children with anxiety disorders. *Journal of Developmental and Behavioral Pediatrics, 29*(5), 394–402.
- Chen, J., & Vargas-Bustamante, A. (2011). Estimating the effects of immigration status on mental health care utilizations in the United States. *Journal of Immigrant and Minority Health, 13*(4), 671–680.
- Chu, J. P., & Sue, S. (2011). Asian American mental health: what we know and what we don't know. *Online Readings in Psychology and Culture, 3*(1), 4–18.
- Conelea, C. A., Schmidt, E. R., Leonard, R. C., Riemann, B. C., & Cahill, S. (2012). The Children's Yale-Brown Obsessive Compulsive Scale: clinician versus self-report format in adolescents in a residential treatment facility. *Journal of Obsessive-Compulsive and Related Disorders, 1*, 69–72.
- Diala, C., Muntaner, C., Walrath, C., Nickerson, K. J., LaVeist, T. A., & Leaf, P. J. (2000). Racial differences in attitudes toward professional mental health care and in the use of services. *American Journal of Orthopsychiatry, 70*(4), 455–464.
- DuPont, R. L., Rice, D. P., Shiraki, S., & Rowland, C. R. (1995). Economic costs of obsessive-compulsive disorder. *Medical Interface, 8*(4), 102–109.
- Durvasula, R. S., & Mylvaganam, G. A. (1994). Mental health of Asian Indians: relevant issues and community implications. *Journal of Community Psychology, 22*(2), 97–108.
- Durvasula, R., & Sue, S. (1996). Severity of disturbance among Asian American outpatients. *Cultural Diversity and Mental Health, 2*(1), 43–51.
- Fernández de la Cruz, L., Llorens, M., Jassi, A., Krebs, G., Vidal-Ribas, P., Radau, J., et al. (2015). Ethnic inequalities in the use of secondary and tertiary mental health services amongst patients with Obsessive-Compulsive Disorder. *British Journal of Psychiatry, http://dx.doi.org/10.1192/bjp.bp.114.154062* (in press).
- Foa, E. B., Kozak, M. J., Goodman, W. K., Hollander, E., Jenike, M. A., & Rasmussen, S. A. (1995). DSM-IV field trial: obsessive-compulsive disorder. *The American Journal of Psychiatry, 152*(1), 90–96.
- Fontenelle, L. F., Mendlowicz, M. V., Marques, C., & Versiani, M. (2004). Trans-cultural aspects of obsessive-compulsive disorder: a description of a Brazilian sample and a systematic review of international clinical studies. *Journal of Psychiatric Research, 38*(4), 403–411.
- Gilbert, P., Gilbert, J., & Sanghera, J. (2004). A focus group exploration of the impact of izizat, shame, subordination and entrapment on mental health and service use in South Asian women living in Derby. *Mental Health, Religion & Culture, 7*(2), 109–130.
- Glazier, K., Calixte, R. M., Rothschild, R., & Pinto, A. (2013). High rates of OCD symptom misidentification by mental health professionals. *Annals of Clinical Psychiatry, 25*(3), 201–209.
- Gone, J. P., & Trimble, J. E. (2012). American Indian and Alaska Native mental health: diverse perspectives on enduring disparities. *Annual Review of Clinical Psychology, 8*, 131–160.
- Goodman, W. K., Price, L. H., Rasmussen, S. A., Mazure, C., Fleischmann, R. L., Hill, C. L., et al. (1989). The Yale-Brown obsessive compulsive scale: I. Development, use, and reliability. *Archives of General Psychiatry, 46*(11), 1006–1011.
- Gupta, V. B. (2009). Impact of culture on healthcare seeking behavior of Asian Indians. *Journal of Cultural Diversity, 17*(1), 13–19.
- Himle, J. A., Muroff, J. R., Taylor, R. J., Baser, R. E., Abelson, J. M., Hanna, G. L., et al. (2008). Obsessive-compulsive disorder among African Americans and blacks of Caribbean descent: results from the national survey of American life. *Depression and Anxiety, 25*(12), 993–1005.
- Himle, J. A., Taylor, R. J., & Chatters, L. M. (2012). Religious involvement and obsessive compulsive disorder among African Americans and Black Caribbeans. *Journal of Anxiety Disorders, 26*(4), 502–510.
- Ibaraki, A., & Hall, G. (2014). The components of cultural match in psychotherapy. *Journal of Social and Clinical Psychology, 33*(10), 936–953.
- Karasz, A., Dempsey, K., & Fallek, R. (2007). Cultural differences in the experience of everyday symptoms: a comparative study of South Asian and European American women. *Culture, Medicine and Psychiatry, 31*(4), 473–497.
- Karno, M., Golding, J. M., Sorenson, S. B., & Burnam, M. A. (1988). The epidemiology of obsessive-compulsive disorder in five US communities. *Archives of General Psychiatry, 45*(12), 1094–1099.
- Kearney, L. K., Draper, M., & Barón, A. (2005). Counseling utilization by ethnic minority college students. *Cultural Diversity and Ethnic Minority Psychology, 11*(3), 272–285.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry, 62*(6), 593–602.
- Leong, F. T., Kim, H. H., & Gupta, A. (2011). Attitudes toward professional counseling among Asian-American college students: acculturation, conceptions of mental illness, and loss of face. *Asian American Journal of Psychology, 2*(2), 140–153.
- Mysorekar, U. (2006). Eye on religion: clinicians and hinduism. *Southern Medical Journal, 99*(4), 441.
- Narikiyo, T. A., & Kameoka, V. A. (1992). Attributions of mental illness and judgments about help seeking among Japanese-American and White American students. *Journal of Counseling Psychology, 39*(3), 363–369.
- Piacentini, J., Langley, A., & Roblek, T. (2007). *Cognitive-behavioral treatment of childhood OCD: it's only a false alarm, therapist guide*. New York, NY: Oxford University Press.
- Ramakrishna, J., & Weiss, M. G. (1992). Health, illness, and immigration: East Indians in the United States. *Western Journal of Medicine, 157*(3), 265–270.
- Ramisetty-Mikler, S. (1993). Asian Indian immigrants in America and sociocultural issues in counseling. *Journal of Multicultural Counseling and Development, 21*(1), 36–49.
- Redmond, M. L., Galea, S., & Delva, J. (2009). Examining racial/ethnic minority treatment experiences with specialty behavioral health service providers. *Community Mental Health Journal, 45*(2), 85–96.
- Reeves, T., & Bennett, C.E. (2004). *We the people: Asians in the United States*, vol. 17: US Department of Commerce, Economic and Statistics Administration, US Census Bureau.
- Ruscio, A. M., Stein, D. J., Chiu, W. T., & Kessler, R. C. (2010). The epidemiology of obsessive-compulsive disorder in the National Comorbidity Survey Replication. *Molecular Psychiatry, 15*(1), 53–63.
- Scahill, L., Riddle, M. A., McSwiggin-Hardin, M., Ort, S. I., King, R. A., Goodman, W. K., et al. (1997). Children's Yale-Brown obsessive compulsive scale: reliability and validity. *Journal of the American Academy of Child & Adolescent Psychiatry, 36*(6), 844–852.
- Shattell, M. M., Hamilton, D., Starr, S. S., Jenkins, C. J., & Hinderliter, N. A. (2008). Mental health service needs of a Latino population: a community-based participatory research project. *Issues in Mental Health Nursing, 29*(4), 351–370.
- Simmons, A., Williams, M., Matusko, N., Abelson, J.L., Bach, N., & Himle, J.A. (2012). *Help-seeking behaviors of African Americans with anxiety disorders*. Paper presented at the Association of Behavioral and Cognitive Therapies, National Harbor, MD.
- Snowden, L. R., & Cheung, F. K. (1990). Use of inpatient mental health services by members of ethnic minority groups. *American Psychologist, 45*(3), 347–355.
- Steketee, G., Frost, R., & Bogart, K. (1996). The Yale-Brown obsessive compulsive scale: interview versus self-report. *Behaviour Research and Therapy, 34*(8), 675–684.
- Sue, S., Fujino, D. C., Hu, L. T., Takeuchi, D. T., & Zane, N. W. (1991). Community mental health services for ethnic minority groups: a test of the cultural responsiveness hypothesis. *Journal of Consulting and Clinical Psychology, 59*(4), 533–540.
- Terwilliger, J., Bach, N., Bryan, C., & Williams, M. (2013). Multicultural versus colorblind ideology: implications for mental health and counseling. In: A. Di Fabio (Ed.), *Psychology of counseling* (pp. 111–122). Hauppauge, NY: Nova Publishers.
- Thompson, J. W., Walker, R. D., & Silk-Walker, P. (1993). Psychiatric care of American Indians and Alaska natives. In: A. C. Gaw (Ed.), *Culture, ethnicity and mental illness* (pp. 189–243). Washington, DC: American Psychiatric Press.
- Thompson, V. L. S., Bazile, A., & Akbar, M. (2004). African Americans' perceptions of psychotherapy and psychotherapists. *Professional Psychology: Research and Practice, 35*(1), 19–26.
- Ulloa, R., de la Peña, F., Higuera, F., Palacios, L., Nicolini, H., & Avila, J. (2003). Validity and reliability of the Spanish version of Yale-Brown obsessive-compulsive rating scale for children and adolescents. *Actas Espanolas de Psiquiatria, 32*(4), 216–221.
- US Census. (2000). *Overview of race and Hispanic origin*. Retrieved from: (<http://www.census.gov/prod/2001pubs/c2kbr01-1.pdf>).
- US Census. (2012a). *Statistical abstract of the United States*. Retrieved from: (<http://www.census.gov/compendia/statab/2012/tables/12s0691.pdf>).
- US Census. (2012b). *Most children younger than age 1 are minorities*. Census bureau reports. Retrieved from: (<http://www.census.gov/newsroom/releases/archives/population/cb12-90.html>).
- US Census. (2014). *State and county quickFacts: Wisconsin*. Retrieved from: (<http://quickfacts.census.gov/qfd/states/55000.html>).
- US Department of Labor. (2011). *Labor force characteristics by race and ethnicity, 2011*. Retrieved from: (<http://www.bls.gov/cps/cpsrace2011.pdf>).
- Vega, W. A., Karno, M., Alegria, M., Alvidrez, J., Bernal, G., Escamilla, M., et al. (2007). Research issues for improving treatment of US Hispanics with persistent mental disorders. *Psychiatric Services, 58*(3), 385–394.
- Vega, W. A., Kolody, B., & Aguilar-Gaxiola, S. (2001). Help seeking for mental health problems among Mexican Americans. *Journal of Immigrant Health, 3*(3), 133–140.
- Vega, W. A., Kolody, B., Aguilar-Gaxiola, S., Alderete, E., Catalano, R., & Caraveo-Anduaga, J. (1998). Lifetime prevalence of DSM-III-R psychiatric disorders among urban and rural Mexican Americans in California. *Archives of General Psychiatry, 55*(9), 771–778.
- Washington, C. S., Norton, P. J., & Temple, S. (2008). Obsessive-compulsive symptoms and obsessive-compulsive disorder: a multiracial/ethnic analysis of a student population. *The Journal of Nervous and Mental Disease, 196*(6), 456–461.
- Wetterneck, C. T., Little, T. E., Rinehart, K. L., Cervantes, M. E., Hyde, E., & Williams, M. (2012). Latinos with obsessive-compulsive disorder: mental healthcare utilization and inclusion in clinical trials. *Journal of Obsessive-Compulsive and Related Disorders, 1*(2), 85–97.
- Wheaton, M. G., Berman, N. C., Fabricant, L. E., & Abramowitz, J. S. (2013). Differences in obsessive-compulsive symptoms and obsessive beliefs: a comparison between African Americans, Asian Americans, Latino Americans, and European Americans. *Cognitive Behaviour Therapy, 42*(1), 9–20.
- Williams, M. T., Beckmann-Mendez, D., & Turkheimer, E. (2013). Cultural barriers to African American participation in anxiety disorders research. *Journal of the National Medical Association, 105*(1), 33–41.
- Williams, M. T., Chapman, L. K., Simms, J. V., & Tellawi, G. (2015). Cross-cultural phenomenology of obsessive-compulsive disorder. In: J. Abramowitz,

- D. McKay, & E. Storch (Eds.), *Handbook of obsessive-compulsive related disorders*, vol. 2. Wiley (in press).
- Williams, M., Davis, D. M., Thibodeau, M. A., & Bach, N. (2013). Psychometric properties of the obsessive-compulsive inventory revised in African Americans with and without obsessive-compulsive disorder. *Journal of Obsessive-Compulsive and Related Disorders*, 2(4), 399–405.
- Williams, M., Powers, M., Yun, Y. G., & Foa, E. B. (2010). Minority participation in randomized controlled trials for obsessive-compulsive disorder. *Journal of Anxiety Disorders*, 24(2), 171–177.
- Williams, M., Sawyer, B., Ellsworth, M., Singh, R., & Tellawi, G. (2015). Obsessive-compulsive disorder in ethnoracial minorities: attitudes, stigma, & barriers to treatment. In: J. Abromowitz, D. McKay, & E. Storch (Eds.), *Handbook of obsessive-compulsive related disorders*, vol. 1. Wiley (in press).
- Williams, M., Tellawi, G., Wetterneck, C. T., & Chapman, L. K. (2013). Recruitment of ethnoracial minorities for mental health research. *The Behavior Therapist*, 36(6), 151–156.
- Williams, M. T., Domanico, J., Marques, L., Leblanc, N. J., & Turkheimer, E. (2012). Barriers to treatment among African Americans with obsessive-compulsive disorder. *Journal of Anxiety Disorders – Special Issue*, 26(4), 555–563.
- Williams, M. T., Turkheimer, E., Magee, E., & Guterbock, T. (2008). The effects of race and racial priming on self-report of contamination anxiety. *Personality and Individual Differences*, 44(3), 744–755.
- Williams, M. T., Wetterneck, C. T., Thibodeau, M. A., & Duque, G. (2013). Validation of the Yale-Brown Obsessive-Compulsive Severity Scale in African Americans with obsessive-compulsive disorder. *Psychiatry Research*, 209(2), 214–221.
- Zhang, A. Y., Snowden, L. R., & Sue, S. (1998). Differences between Asian and White Americans' help seeking and utilization patterns in the Los Angeles area. *Journal of Community Psychology*, 26(4), 317–326.
- Ziguras, S., Klimidis, S., Lewis, J., & Stuart, G. (2003). Ethnic matching of clients and clinicians and use of mental health services by ethnic minority clients. *Psychiatric Services*, 54(4), 535–541.
- Zohar, J., Fostick, L., Black, D., & Lopez-Ibor, J. (2007). Special populations. *CNS Spectrums*, 12(Suppl 3), S36–S42.