The Integration of Behavioral Health and Primary Care for Hispanic/Latino Patients with Depression and Comorbid PTSD

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Abstract

Comorbid PTSD and depression are notably high within primary care settings serving low-income and/or immigrant Hispanic/Latino populations. There is limited research examining how comorbid PTSD impacts the response to depression treatment for patients within these settings. The purpose of this study was to examine PTSD-depression comorbidity and its association with treatment outcomes among Hispanic/Latino patients enrolled in an integrated behavioral health intervention for depression. Participants were Hispanic/Latino adult primary care patients who met the criteria for depression and were not currently in treatment. Depression and anxiety severity were assessed at baseline and the 6 and 12 month follow-ups. Outcomes were compared between participants who met the criteria for a PTSD diagnosis and those that did not. Depression and anxiety scores significantly decreased through the 1-year intervention period regardless of PTSD diagnosis. More research is needed to understand what elements of culturally adapted, linguistically concordant treatment benefit diverse patients the most.

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Introduction

The integration of behavioral health into primary care, or integrated behavioral health (IBH), provides treatment for behavioral health disorders within primary care settings by creating a team of providers that address both physical and behavioral health needs of patients within the same location.[1] While various levels of integration have been described,[2–4] the collaborative care model is considered to be the fully integrated model of care and is characterized by the collaboration of primary care providers and specialty behavioral health providers to develop and adjust treatment plans based on the measurement of symptom-related outcomes and the use of care managers to systematically track and follow up with patients.[5,6] The collaborative care model has a substantial body of evidence and 30 years of clinical trials to support its effectiveness over usual care for the treatment of depression, including its use among racial/ethnic minority and limited English proficiency populations.[7,8] However, the effectiveness of collaborative care for disorders other than depression, such as posttraumatic stress disorder (PTSD), is less established and is especially scarce for when PTSD is comorbid with other mental health conditions.[9]

Previously categorized as an anxiety disorder but now considered a trauma- and stressor-related disorder by the American Psychiatric Association, PTSD consists of numerous symptoms in four groups (intrusion, avoidance, negative alterations in cognition and mood, and alterations in arousal and reactivity) after exposure to a traumatic event. Exposure includes actual or threatened death, serious injury, or sexual violence through direct experience, witnessing the event, learning about traumatic events, or repeated exposure to details of the events.[10] PTSD can be a debilitating condition that increases the risk of functional impairment, substance use, and other negative long-term health consequences.[11–14] The prevalence of PTSD among civilian primary care patients can range widely (2 to 15% in a systematic review by Greene et al.[11]), with settings serving high-risk populations such as veterans and refugees reporting even higher prevalence rates.[11,15] Primary care patients with PTSD often go undetected,[11] which may be due to a number of factors such as variability in symptom presentation, a lack of patient and provider awareness and/or willingness to accept and treat a diagnosis, the high comorbidity of PTSD with other mental health disorders, lack of screening for trauma histories, and limited integration of behavioral health into primary care.[16–20] These patients also tend to utilize health services at a higher rate for a variety of physical and mental health concerns, placing a considerable burden on the health care system.[11]

Although PTSD has distinct symptomatology and treatment indications compared to depression and anxiety disorders, high comorbidity is often reported between PTSD and these disorders within primary care settings.[11] The presence of comorbid PTSD and depression, specifically, can lead to greater functional impairment, severity of depression, and suicidality compared to having depression alone.[21–23] Given the significant impact that this comorbidity has on prognosis for patients, it is important to consider how the course of treatment and treatment outcomes may be impacted. This is especially true when examining treatment that may be targeting just one of the diagnoses, such as depression, which is often the case in IBH settings. Unfortunately, there is limited research that has examined the effectiveness of IBH interventions on depression when PTSD comorbidity is present.[24] In an analysis of data from the Improving Mood Promoting Access to Collaborative Treatment (IMPACT)[25] study, Hegel et al.[26] found that older adult patients with PTSD showed higher levels of depression severity at baseline and a more delayed response to depression treatment but comparable outcomes to patients without PTSD at the 12 month follow-up. More recently, in a retrospective cohort study of patients receiving collaborative care for depression in primary care settings, Angstman et al.[24] found that patients with PTSD had higher depression scores at baseline and worse depression outcomes at the 6 month follow-up.

Along with the inconsistent conclusions of the impact of comorbid PTSD on depression outcomes in IBH, the Hegel et al.[26] and Angstman et al.[24] studies are also limited by their lack of generalizability to racial and ethnic minority populations and those receiving care in low resource settings

such as Federally Qualified Health Centers (FQHCs). This is especially critical given that comorbid PTSD and depression prevalence is notably high within primary care settings serving low-income and/or immigrant Hispanic/Latino populations due to higher levels of trauma exposure and less access to protective resources.[27–29] While initial studies of IBH interventions for Hispanic/Latino patients with PTSD have shown promising results,[30,31] these studies represented interventions that were designed to target PTSD, specifically, rather than examining the effectiveness of interventions that are targeted toward mental health disorders typically addressed in primary care such as depression and anxiety. Therefore, the purpose of the current study was to help fill this gap in the literature by examining comorbid PTSD and depression and treatment outcomes among Hispanic/Latino patients enrolled in an IBH intervention in a FQHC that specifically targeted depression and anxiety symptoms.

Based on the findings of previous research studies in which PTSD delayed and negatively impacted response to depression treatment for patients in IBH settings,[24,26,30] it was hypothesized that compared to patients without PTSD, patients with PTSD in the current study would experience less improvement in their depression and anxiety scores at the 6 month follow-up. Furthermore, it was hypothesized that both groups would see similar improvements in depression and anxiety scores at the 12 month follow-up when the intervention period was over similar to patients in the Hegel et al.[26] study. Finally, given limited research examining the impact of comorbid PTSD on the course of depression treatment in IBH settings and research findings that indicate that the existence of a PTSD-depression comorbidity may lead to higher utilization of mental health services,[11,21] the current study sought to characterize the differences in treatment participation (i.e., number of sessions and treatment type) between participants who had PTSD and those that did not.

Methods

Study setting and participants

The current study utilized data collected through Project METRIC: Measurement, Education and Tracking in Integrated Care: Strategies to Increase Patient Engagement and Reduce Mental Health Disparities among Hispanics (ClinicalTrials.gov: NCT02702596).[32] The METRIC study was approved by the Institutional Review Board at the University of Texas at Arlington and took place in a FQHC that serves a primarily low-income, Hispanic/Latino population in a large metropolitan area in Texas. Adult primary care patients were universally screened for depression using the Patient Health Questionnaire-9 (PHQ-9),[33] with positive screens (PHQ-9 $\geq$ 5) being referred to the Licensed Clinical Social Worker (LCSW) for further evaluation. Patients were invited to participate in the study if they met the inclusion criteria of having a confirmed diagnosis of depression through a diagnostic interview, self-identified as Hispanic/Latino, and were not currently receiving treatment for depression. One hundred and fifty participants were enrolled in the METRIC study between February 2016 and February 2018; however, the current study includes a subset of participants ($n = 102$) who completed baseline screenings between October 2016 and February 2018 when the protocol was changed to include a PTSD screening measure.

IBH intervention

Upon enrollment in the METRIC study, all participants received depression treatment through a culturally adapted IBH model which has been described elsewhere.[32] In short, treatment included regular meetings with the bilingual LCSW who worked closely with patients and their primary care providers to develop treatment plans that included brief psychological interventions demonstrated to be effective in primary care settings (such as behavioral activation,[34] problem solving treatment,[35]

and cognitive behavioral therapy,[36]) measurement-based care (using mental health measures offered in both English and Spanish), and medication management (as needed). Depending on their symptom improvement (or lack thereof), participants might be moved along the measurement-based treatment algorithm to a level of care which included antidepressant medication. The intervention period lasted for up to 1 year, and participants were not limited in how many times they could meet with the LCSW during the 1-year period. All meetings with the LCSW took place in the FQHC where participants received primary care. Bilingual research assistants conducted research follow-up visits with participants at 6 and 12 months post-enrollment during which measures were delivered in English or Spanish, depending on participant preference.

Measures

Demographic information

Demographic variables collected from participants via medical record extraction included their age, gender, primary language, marital status, and education level at time of enrollment.

PTSD assessment

During baseline, participants were administered the PTSD Checklist-Civilian Version (PCL-C)[37] to assess for symptoms of PTSD. The PCL-C is a 17-item self-report measure of the DSM-IV symptoms of PTSD that are related to general stressful experiences. Response options for the items range from 1 for "not at all" to 5 for "extremely," with total possible scores ranging from 17 to 85. Prior research has demonstrated the English and Spanish versions of the PCL-C to be generally equivalent.[38,39] Participants completed the PCL-C at baseline only and were categorized as having a presumptive PTSD diagnosis if they met the following DSM-IV symptom criteria: a response of 3, 4, or 5 to at least one item in questions 1 through 5 (B items), three items in questions 6 through 12 (C items), and two items in questions 13 through 17 (D items). The internal consistency reliability for the PCL-C in the current sample was $\alpha = 0.92$.

Number of sessions

Assessed by the total number of sessions with the LCSW during the 12-month intervention period.

Treatment type

Participants were categorized into two treatment groups based off the parent study: those who engaged in counseling only (attended three or more sessions with the LCSW) and those who engaged in counseling and antidepressant medication (attended three or more sessions with the LCSW and took antidepressants for at least 2 months) during the 12-month intervention period.[40] Eleven participants in the current study did not engage in any type of treatment (i.e., attended two or less sessions with the LCSW and did not take antidepressant medications for at least 2 months).

Depression severity

Depression symptom severity was assessed via the PHQ-9, a self-report measure of the frequency of the nine Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)[41] depression symptoms over the last 2 weeks. The PHQ-9 is a reliable and valid tool for screening for depression among

diverse populations in primary care settings[33,42], and prior research in the current study sample has demonstrated modest support for the measure.[43] Participant response options for each of the nine items on the measure range from 0 for "not at all" to 3 for "nearly every day," with total possible scores ranging from 0 to 27. Interpretation of total PHQ-9 scores is as follows: 0–4, minimal depression; 5–9, mild depression; 10–14, moderate depression; 15–19, moderately severe depression; and 20–27, severe depression. Along with the baseline assessment, the PHQ-9 was administered at each session with the LCSW and at the 6- and 12-month research follow-up visits. The internal consistency reliability for the PHQ9 in the current sample was $\alpha = 0.69$.[43]

Anxiety severity

Anxiety symptom severity was assessed using the generalized anxiety disorder 7-item scale (GAD-7),[44] which assesses the frequency of symptoms for GAD based on DSM-IV diagnostic criteria over the last 2 weeks. Response options for the items range from 0 for "not at all" to 3 for "nearly every day," with total possible scores ranging from 0 to 21. Scores of 5, 10, and 15 can be interpreted as the cut points representing mild, moderate, and severe levels of anxiety. Research using a large sample of Hispanic/Latino Americans has demonstrated strong internal consistency reliability and similar factor structures for both the English and Spanish versions of the GAD-7.[45] In the current study, the GAD-7 measure was administered at baseline, at each session with the LCSW, and at the 6- and 12-month research follow-up visits. The internal consistency reliability for the GAD-7 in the current sample was $\alpha = 0.81$.

Analysis

Bivariate statistical analyses were used to examine differences between participants with a presumptive PTSD diagnosis and those without, including *t*-tests and χ2 analyses, depending on the measure with effect size metrics of Cohen's *d* or Cramer's *V*, respectively. An intention-to-treat approach using a last-observation-carried-forward method was utilized to protect against the effects of attrition on the outcome data. Repeated-measures ANOVA models were used to examine both within-subjects (i.e., over time) and between-subjects (i.e., between PTSD diagnosis groups) differences in depression and anxiety scores over three time points (baseline, 6 months, and 12 months). Partial eta-squared (η^2) scores were used as metrics of effect size. Assumptions concerning the normality of the data and potential outliers were assessed. Violations of homogeneity of variance and sphericity were corrected through use of Greenhouse–Geisser and Games-Howell corrections during model testing and post hoc comparisons. All analyses were conducted in SPSS version 27 using a significance level of $\alpha = 0.05$.

Results

Participants ($n = 102$) were primarily female (87.3%) and Spanish speaking (89.2%). Though specific details on the cultural makeup of the sample including country of origin or Hispanic subgroup were not collected from participants, 88% of Hispanics in Texas are of Mexican descent.[46] A majority reported being married or co-habiting with a partner ($n = 64$, 64.6%). Nearly half of the sample had less than a high school education ($n = 49$, 49.5%). See Table 1 for additional participant characteristics. Compared to the full sample ($n = 150$), those participants completing the PCL-C did not significantly differ by age ($t[148] = 1.03$, $p = 0.306$, $d = 0.18$), baseline PHQ9 ($t[148] = 0.24$, $p = 0.813$, $d = 0.41$), baseline GAD7 ($t[148] = 0.88$, $p = 0.380$, $d = 0.15$), or by number of sessions attended ($t[148] = 0.75$, $p = 0.456$, $d = 0.13$). Completing the PCL-C was not associated with gender ($\chi^2(1) = 0.63$, $p = 0.427$, $V = 0.07$), having a high

Table 1
Sample characteristics and differences between PTSD and non-PTSD participants

Demographic and patient characteristic	Total sample ($n=150$)	PTSD assessed sample ($n=102$)	No PTSD diagnosis ($n=38$)	PTSD diagnosis ($n=64$)	Test (no PTSD vs. PTSD)	Effect size
Age, $M \pm SD$	39.36 ± 9.08	39.88 ± 9.12	42.79 ± 8.90	38.16 ± 8.87	$t=2.55^*$	$d=0.52$
Gender, female, n (%)	133 (88.7%)	89 (87.3%)	30 (78.9%)	59 (92.2%)	$\chi^2=3.76$	$V=0.19$
Spanish speaking, yes, n (%)	136 (90.7%)	91 (89.2%)	36 (94.7%%)	55 (85.9%)	$\chi^2=1.92$	$V=0.14$
Marital status, n (%)					$\chi^2=1.47$	$V=0.12$
Married/cohabitating	106 (72.1%)	64 (64.6%)	25 (67.6%)	39 (62.9%)		
Never married	12 (8.2%)	10 (10.1%)	2 (5.4%)	8 (12.9%)		
Widowed	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)		
Divorced	21 (14.3%)	17 (17.2%)	7 (18.9%)	10 (16.1%)		
Other	8 (5.3%)	8 (8.1%)	3 (8.1%)	5 (8.1%)		
Marital status, *married*, n (%)	106 (72.1%)	64 (64.6%)	25 (67.6%)	39 (62.9%)	$\chi^2=0.22$	$V=0.05$
Education level, n (%)					$\chi^2=7.35$	$V=0.27$
5th grade or less	21 (14.3%)	15 (15.2%)	8 (22.2%)	7 (11.1%)		
6th to 8th grade	35 (23.8%)	24 (24.2%)	7 (24.2%)	17 (27.0%)		
Some high school	23 (15.6%)	10 (10.1%)	3 (8.3%)	7 (11.1%)		
High school or GED	52 (35.4%)	37 (37.4%)	14 (38.9%)	23 (36.5%)		
Vocational or trade school	1 (0.7%)	1 (1.0%)	0 (0.0%)	1 (1.6%)		
Some college	10 (6.8%)	7 (7.1%)	4 (11.1%)	3 (4.8%)		
College degree	5 (3.4%)	5 (5.1%)	0 (0.0%)	5 (7.9%)		
Education Level, *HS or more*, n (%)	68 (45.3%)	50 (50.5%)	18 (50.0%)	32 (50.8%)	$\chi^2=0.06$	$V=0.01$
Attrition, yes, n (%)	25 (16.7%)	18 (17.6%)	6 (15.8%)	12 (18.8%)	$\chi^2=0.14$	$V=0.04$
PCL-C scores, $M \pm SD$	15.32 ± 4.15	48.48 ± 14.20	34.06 ± 8.00	56.63 ± 9.55	$t=11.83^{***}$	$d=2.50$
PHQ-9, baseline, $M \pm SD$		15.26 ± 4.05	14.29 ± 3.65	15.84 ± 4.19	$t=1.90$	$d=0.21$
PHQ-9 severity category, n (%)					$\chi^2=5.49$	$V=0.23$
Mild depression (5–9), n (%)	3 (2.0%)	1 (1.0%)	1 (2.6%)	0 (0.0%)		
Moderate depression (10–14), n (%)	70 (46.7%)	50 (46.7%)	20 (52.6%)	30 (46.9%)		
Mod. severe depression (15–19), n (%)	48 (32.0%)	33 (32.4%)	14 (36.8%)	19 (29.7%)		
Severe depression (20–27), n (%)	29 (19.3%)	18 (17.6%)	3 (7.9%)	15 (23.4%)		
GAD-7 scores, $M \pm SD$	12.52 ± 4.56	12.75 ± 4.57	10.71 ± 4.62	13.95 ± 4.11	$t=3.68^{***}$	$d=0.75$
Sessions attended, $M \pm SD$	11.90 ± 6.97	11.61 ± 6.38	11.63 ± 6.70	11.59 ± 6.23	$t=0.29$	$d=0.01$

Table 1
(continued)

Demographic and patient characteristic	Total sample ($n = 150$)	PTSD assessed sample ($n = 102$)	No PTSD diagnosis ($n = 38$)	PTSD diagnosis ($n = 64$)	Test (no PTSD vs. PTSD)	Effect size
Treatment type, n (%)					$\chi^2 = 5.21^*$	$V = 0.24$
Counseling only, no medications	62 (46.6%)	37 (40.7%)	19 (55.9%)	18 (31.6%)		
Counseling and medications	71 (53.4%)	54 (59.3%)	15 (44.1%)	39 (68.4%)		

PHQ-9, Patient Health Questionnaire-9; *GAD7*, Generalized Anxiety Disorder 7-item scale; *HS*, high school*$p < .05$, **$p < .01$, ***$p < .001$

school education or higher ($\chi^2(1) = 2.20$, $p = 0.138$, $V = 0.12$), or speaking Spanish ($\chi^2(1) = 0.79$, $p = 0.373$, $V = 0.07$), or withdrawing from the intervention study prior to completion (i.e., *attrition*, $\chi^2(1) = 0.09$, $p = 0.771$, $V = 0.02$). Completion of the PCL-C was only associated with being married ($\chi^2(1) = 8.40$, $p = 0.004$, $V = 0.24$) and being more likely to attend counseling and be prescribed medication following the intervention ($\chi^2(1) = 4.11$, $p = 0.043$, $V = 0.18$), though these effects are of small sizes.

Differences between participants who had a presumptive PTSD diagnosis and participants that did not are displayed in Table 1. Nearly two thirds of participants (62.7%) met the criteria for a presumptive PTSD diagnosis wherein their mean PCL scores were 56.63 (SD = 9.55). Compared to those without PTSD, participants with PTSD were younger ($t(100) = 2.55$, $p = 0.012$, $d = 0.52$), had a nearly significant higher proportion of female participants (92.2% vs. 78.9%, $\chi^2(1) = 3.76$, $p = 0.053$, $V = 0.19$), and had significantly higher baseline anxiety scores ($t(100) = 3.68$, $p < 0.001$, $d = 0.75$).

PTSD and treatment differences

There were no differences between groups in number of sessions attended with the LCSW; however, a higher percentage of participants with PTSD engaged in antidepressant medication treatment compared to those that did not have PTSD (68% vs. 44%, $\chi^2(1) = 5.21$, $p = 0.022$, $V = 0.24$).

PTSD and clinical correlates

PTSD diagnostic status was not associated with changes in depression and anxiety scores during the integrated behavioral health intervention (see Table 2). Depression ($F[2, 158] = 194.59$, $p < 0.001$, $\eta2 = 0.711$) and anxiety scores ($F[2, 160] = 180.75$, $p < 0.001$, $\eta2 = 0.691$) each significantly decreased from baseline through 6- and 12-month follow-ups. Only differences in anxiety scores between the PTSD diagnosis groups approached significance ($F[1, 81] = 3.42$, $p = 0.068$, $\eta^2 = 0.04$). Additional analyses were conducted using participant age as a covariate to control for age as a potential confounding variable. Despite age of the participant significantly varying across PTSD diagnosis groups, age was not significantly associated with changes in PHQ9 depression scores ($F[2, 158] = 0.12$, $p = 0.730$, $\eta2 = 0.001$) or GAD-7 anxiety scores over time ($F[2, 160] = 0.08$, $p = 0.775$, $\eta2 = 0.001$) when included as PTSD-group by age interaction within these repeated measures ANOVA models.

Table 2

Outcomes over time using all carry forward intention-to-treat analysis

Variable	No PTSD diagnosis ($n = 38$)			PTSD diagnosis ($n = 64$)		
	Baseline	6 m	12 m	Baseline	6 m	12 m
PHQ9	14.47 ± 3.95	4.07 ± 3.11	3.63 ± 5.15	15.65 ± 4.15	4.15 ± 4.85	4.18 ± 4.29
Model	Within-subjects $F(2, 158) = 194.59***$; between subjects $F(1, 79) = 0.83$; $\eta^2 = 0.01$					
GAD7	10.90 ± 4.41	3.77 ± 3.14	3.19 ± 5.04	13.38 ± 4.04	4.37 ± 5.04	3.85 ± 3.86
Model	Within-subjects $F(2, 160) = 180.75***$; between subjects $F(1, 81) = 3.42$; $\eta^2 = 0.04$					

PHQ-9, Patient Health Questionnaire-9; *GAD7*, Generalized Anxiety Disorder 7-item scale, *$p < .05$, **$p < .01$, ***$p < .001$

Discussion

Contrary to the study hypotheses, in this community-based sample of Hispanic/Latino primary care patients with depression, there were no significant differences in depression and anxiety symptom improvement among patients with PTSD compared to those without PTSD. These findings differ from previous research which has found greater depression severity at baseline and worse overall 6-month outcomes for patients with comorbid PTSD compared to those without.[24,47] The unique IBH intervention in the current study, in which participants were not limited in their visits with the LCSW, may have contributed to the overall significant improvement in depression and anxiety symptoms since there was a high level of treatment engagement across the entire sample. On average, participants attended nearly 12 sessions with the LCSW with the vast majority attending at least three sessions.

Regarding differences in treatment participation, patients with PTSD attended a similar number of sessions with the LCSW compared to the patients without PTSD. However, patients with PTSD were more likely to engage in treatment that escalated care to include antidepressant medications compared to patients without PTSD. While these differences may reflect greater severity of clinical symptoms, though that was not apparent in baseline data, it corroborates previous studies suggesting greater length of time and treatment intensification necessary for achieving depression remission among the patients with PTSD.[24,26] The importance of frequent symptom measurement associated with robust care management in an IBH model may be particularly beneficial for patients with PTSD who may need to be escalated to a higher level of care.[26] Additionally, improvements associated with IBH and associated care management have been found to persist for another year for both patients with and without PTSD.[48]

Previous research has demonstrated, perhaps not unsurprisingly, that foreign-born Hispanic/Latinos are at higher risk for both the trauma that leads to PTSD, and PTSD itself,[49–53] and Hispanic/Latino patients frequently identify their depressed mood feelings as sadness, anxiety, nervousness, and fear.[54] And while the LCSW in the current study did not seek to identify or treat trauma directly, she was a native Spanish-speaker who did engage patients in their primary language, using evidence-based psychosocial interventions for the treatment of symptoms, and delivered a culturally adapted IBH intervention. As such, the current study's findings suggest frequent measurement, robust care management, and treatment intensification hold promise for improving depression and anxiety symptoms for Hispanic/Latino patients regardless of an underlying PTSD diagnosis.

Implications for Behavioral Health

The results of the current study have implications for identifying PTSD especially in the context of routine screening and treatment of depression and anxiety in primary care. PTSD prevalence among Hispanic/Latinos in primary care settings can be high, especially among patients diagnosed with depression.[30,54] In the current study, 63% of the sample met criteria for a presumptive PTSD diagnosis, which is similar to the results of the Kaltman et al.[30] study in which comorbid PTSD was also present in over 60% of their sample consisting of low-income Latino immigrants with depression. Since patients often report ambiguous feelings of sadness, nervousness, and fear or have somatic presentation of PTSD, there is a need for screening and provider education to increase early detection in order to achieve accurate recognition in this population.[54] While universal screening for PTSD in primary care is not yet recommended, except in high-risk populations, based on the prevalence in this study, and what is known about the traumatic experience of immigration itself among foreign born Hispanic/Latinos, practitioners should consider screening patients who have a depression diagnosis.

Along with screening for PTSD in primary care, an important consideration for providers is how to appropriately adapt existing IBH interventions for depression when PTSD comorbidity is present.[24] Services for racial and ethnic minority populations should not only include the use of appropriate screening tools and services, employment of a diverse workforce, and utilization of patient-centered communication approaches,[55] but also a consideration for the structural determinants which increase the likelihood of disparities.[56] Specifically, Kaltman et al.[57] argue that addressing needs associated with poverty as well as the impact of trauma exposure, such as an emphasis on social service provision and multiple diagnosis targets, is essential in settings serving low-income, immigrant populations.

There are some limitations worth noting in the current study. First, the homogeneous sample of primarily Spanish-speaking women limits the ability to generalize findings to other Hispanic/Latino populations such as men and non-Spanish speakers. Though the measure of depression in the current sample demonstrated lower internal consistency reliability, psychometric analysis of this measure in this sample demonstrated its adequacy as a measure of depression.[43] Additionally, given the lack of assessment of trauma histories and additional demographic characteristics (such as immigration status), it is difficult to draw conclusions about the types and/or complexity of trauma(s) associated with the high rates of comorbid PTSD in the sample. Future research should assess for trauma histories as well as PTSD severity to improve understanding of which Hispanic/Latino populations might be most at-risk for the long-term consequences of PTSD, including depression and anxiety.

Since the intervention implemented in the current study was not specifically designed to address trauma or PTSD, more research is needed to understand what elements of the culturally adapted, linguistically concordant treatment model benefitted patients the most. Experiences of violence, both interpersonal and political, are common for immigrant populations in the USA, especially women.[27] Additionally, these populations continue to experience disparities in access and utilization of behavioral health care.[58] With the added disproportionate traumatic impact of COVID-19 for this population,[59] including the likely lasting mental health outcomes that are beginning to emerge,[60,61] it is critical that IBH interventions are adapted and available to meet the needs of diverse patients receiving services in low-resource settings.

Declarations

Conflict of Interest   The authors declare no competing interests.

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