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Development of a Cognitive Behavioral Therapy with Integrated Mindfulness for Latinx Immigrants with Co-occurring Disorders: Analysis of Intermediary Outcomes

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Abstract

Objectives: Transdiagnostic interventions have been increasingly utilized in the management of a variety of mental health and substance use conditions, and in the context of chronic stress. We discuss the development and evaluation of the Integrated Intervention for Dual Problems and Early Action (IIDEA), a ten-session manualized intervention that includes cognitive therapy and mindfulness practice designed to improve symptoms of anxiety, depression, posttraumatic stress, and co-occurring substance use problems.

Methods: In this secondary analysis of a randomized-controlled trial of IIDEA conducted with an international sample of immigrant Latinx in the US and Spain, we evaluate intermediate outcomes – mindful awareness, working alliance with clinician and illness self-management – and integrate statistical findings with results from qualitative interviews with participants.

Results: The IIDEA intervention group showed higher levels of mindful awareness, illness self-management, and working alliance over an enhanced treatment as usual control group (usual treatment plus scheduled assessments) and qualitative data offer insights into the importance of therapeutic alliance and integration of mindfulness practice with cognitive therapy management skills.

Conclusions: Findings suggest that skills related to the studied intermediary outcomes can be helpful for Latinx immigrants experiencing circumstances of ongoing exposure to adversity and traumatic stress.

Keywords

Latinx; Immigrant; Mindfulness; Cognitive Behavioral Therapy; Transdiagnostic

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Introduction & Rationale Overview

Latinx immigrants are 13% of the United States population and are fundamental to the nation's economic development and progress, yet they are disproportionately burdened by health disparities including the treatment of mental health and substance use disorders (Colby & Ortman, 2015). The US immigrant population is projected to continue to increase (Colby & Ortman, 2015), and similar growth is seen in Spain, the country with the second largest Latinx immigrant population (10% of the total immigrant population) (Instituto Nacional Estadistica, 2017). Depression, anxiety, post-traumatic stress and substance misuse problems (Alegría et al., 2007), combined with psychosocial stressors (i.e., experiences of discrimination, family separations, economic problems, immigration stress) contribute to the overall rates of mental health problems of Latinx (Furman et al., 2009). Untreated mental health symptoms combined with significant psychosocial stressors can result in persistent and disabling emotional and physical health problems including suicidal ideation (Fortuna et al., 2016; Fortuna et al., 2008).

The National Latinx and Asian American Study (NLAAS), a representative community household survey, estimated the prevalence of mental disorders and rates of mental health service utilization by Latinx and Asian Americans in the United States, showing prevalence rates of depression, anxiety disorders, and PTSD of 15.4%, 15.7%, and 4.4% respectively for Latinx (Alegría, Canino, et al., 2008). The NLAAS also found significant patterns of co-occurring disorders, but relatively low rates of mental health services use and treatment engagement among immigrant Latinx in the US (Alegría, Chatterji, et al., 2008; Alegría et al., 2007; Vega et al., 2009). Despite the identified mental health needs of adult Latinx immigrants, there is a dearth of psychotherapy models designed to address the multiple and diverse needs of this population.

The *Integrated Intervention for Dual Problems and Early Action Program (IIDEA)*, is a transdiagnostic therapy model designed as part of International Latinx Research Project (ILRP), a collaborative research program inclusive of investigators in the United States and Spain and supported by the National Institute for Drug Abuse (NIDA; (Alegría, 2014). The goal of the IIDEA intervention was to offer an accessible and brief transdiagnostic intervention which includes mindfulness practice and cognitive therapy as core components to address symptoms associated with a variety of mental health disorders (depression, anxiety, posttraumatic stress), and co-occurring early symptoms of drug, alcohol, and benzodiazepines abuse problems.

The ILRP multi-site international project focused on developing models of integrated care for the large and diverse Latinx migrant population in both Spain and the US (Alegria et al., 2019). To improve access to care, IIDEA was delivered in primary care and community settings and allowed for some sessions to be conducted by phone. In this paper, we discuss the rationale for and development of the intervention, and report on a secondary analysis aimed at identifying intermediary processes underlying the effectiveness of the intervention and its core components for symptom improvement.

Development of IIDEA

IIDEA was designed to integrate mindfulness practice, in combination with Cognitive Behavioral Therapy (CBT), in order to offer a metacognitive approach aimed at improving awareness of thoughts and reactions to stress, support emotional regulation and self-care and provide culturally responsive care in order to promote therapeutic alliance (Boyd et al., 2017; Fortuna et al., 2017; Hofmann et al., 2012; Shonin & Van Gordon, 2016; Teasdale et al., 2000).

Cultural factors, motivation and therapeutic alliance

The IIDEA intervention is a combination of specific therapy models, which have shown to be effective for Latinx immigrant populations (Alegría, 2014; Fortuna et al., 2017). Table 1 shows the principle therapy models that were the building blocks for IIDEA and the rationale for the mindfulness and CBT components. These interventions included recovery and self-management skills to address relapse prevention in Latinx samples (Alegria et al., 2014; Fortuna et al., 2017) and skills for improving self-management of mental health problems (e.g., cognitive restructuring, behavioral activation, breathing and mindful practice for promoting awareness and stress management). The original cognitive behavioral intervention began as the Engagement and Counseling for Latinos (ECLA) intervention that was adapted for the “Comparing Strategies to Reduce Stress and Depression” study (Alegria et al., 2014) using interviews with the target population to condense and modify materials. Major adaptations included the addition of visual aids and culturally relevant metaphors to reinforce main concepts. Values and proverbs were included to bolster the main messages of the training. We also lowered health literacy requirements to make sure the information was accessible to those with a 6^{th} grade reading level or higher. This study testing ECLA was conducted with 257 Latinx participants recruited from primary care who migrated from Central America, South America, Dominican Republic and Puerto Rico. The mindfulness components were adapted from a mindfulness-based CBT intervention which has shown evidence of effectiveness for Latinx youth with PTSD, depression, anxiety, and co-occurring substance use disorders (Fortuna et al., 2017).

Development of the IIDEA manual added to these cultural adaptations offered by the original ECLA and mindfulness-based CBT models and in particular aimed to address therapeutic alliance by meeting participants’ expectations regarding treatment. This was critical given the high rates of early termination and drop-out from care among Latinx and other communities of color (Alegría, Chatterji, et al., 2008; Atdjian & Vega, 2005; Fortuna et al., 2010). The first session emphasized establishing a working alliance between the participant and the clinician, using motivational interviewing techniques to explore and address ambivalence about engagement in the intervention. Questions about psychological and culturally-based barriers to treatment engagement (e.g., stigma, explanatory models of illness), and structural barriers (e.g., transportation, work schedule) were adapted from the cultural formulation model of the Diagnostic and Statistical Manual of Mental Disorders (Aggarwal, 2017). The study clinicians were encouraged to engage with the participant in an open guided conversation about the participant’s main symptoms and the possibilities of reducing them through the intervention.

In addition, each session included an assessment of the participant's mental health symptoms, substance misuse, and functioning in the last week using what we called "the thermometer", and screening for suicidal ideation (Paykel et al., 1974). Participants rated on a scale of 1–10 – with 10 being the worst on this "thermometer" – how difficult their mental health and substance use symptoms had been in the past week. They then identified precipitants of difficulty and what helped them facilitate any improvements in mood or substance misuse. This was followed by clinician and participant collaboratively planning how they would align the skills to be covered during that session with the participant's prioritized needs.

Core Components of the IIDEA Manual, Mindful Awareness, and Self-Management

Psycho-education.—Participants were taught about symptoms of depression, anxiety, and reactions to traumatic stress and the connections between mental health, stress and substance use.

Mindfulness.—Mindfulness practices were included starting from the first session in order to introduce it early on as a way to practice emotional regulation. Participants were taught that mindfulness facilitates choice by helping us to respond to, instead of automatically reacting to, stressors or other emotional triggers. Participants practiced mindfulness exercises guided by the clinician for approximately ten minutes in every session and were encouraged to incorporate these exercises into daily life and to practice with the help of mindfulness audiotapes provided in the first session. Through mindfulness practice, participants were guided to build their awareness to what they were thinking and feeling in the moment, reduce arousal and anxiety, and manage cravings that emerge within the context of daily experiences. The IIDEA manual and training also reinforced the importance for the clinician to maintain their own mindfulness practice in order to enhance their own mindful listening and to prepare them for guiding meditations with the participant. This was also seen as potentially improving therapeutic alliance. In response to a common request by participants for help in better self-managing cravings for alcohol or drugs, and the shame related to it (i.e., thinking of self as weak or bad), we adapted and included mindfulness practices that have been shown to build the capacity for identifying and "riding" through the thoughts and sensations related to cravings with self-compassion (Fortuna & Vallejo, 2015; Röthlin et al., 2016; Shonin & Van Gordon, 2016).

Cognitive restructuring.—Cognitive restructuring (CR) involved learning to identify and then reframe thoughts and beliefs that contribute to distress. Participants learned to use mindful self-monitoring to increase their awareness of thoughts and to identify patterns in their thinking that contribute to negative feelings, anxiety, depression and risk behaviors including drug use in their daily lives. We used a five-step approach to cognitive restructuring as follows: (1) identify an emotionally triggering event, (2) identify feelings elicited by the triggering event, (3) identify negative thoughts associated with the elicited feelings, (4) challenge the negative thoughts (i.e., what is the evidence that the thought is true? Are there more helpful alternative thoughts?), and (5) develop an action plan (e.g., what can you do to feel safer next time). In response to participants who could not implement the five-step approach, or otherwise needed an easy reminder

for the steps, we provided an alternative three-step approach to cognitive restructuring: (1) catching your negative thought, (2) checking your thought, and (3) changing your thought (Mueser et al., 2015; Mueser et al., 2008). This, along with a supportive clinician-participant relationship, was a central part of the therapy for improving core PTSD symptoms, depression, and anxiety. Because family and work conflicts were commonly experienced by study participants, the intervention included the practice of managing guilt and shame feelings triggered by interpersonal conflicts.

Substance use recovery skills.—The IIDEA intervention used a harm-reduction and cognitive model of recovery including awareness of and responding to interpersonal and environmental triggers of substance use (Canadian Paediatric Society, 2008; Logan & Marlatt, 2010). The mindfulness strategies assisted with the practice of observing cravings as ultimately transient and approachable when practicing self-compassion (Shonin & Van Gordon, 2016).

Why include mindfulness in an intervention for Latinx Immigrants?

Although not formally labeled as a Mindfulness Based Intervention (MBI) in the primary study, mindfulness practice was one of the core components, along with CBT, in the development and delivery of IIDEA for several reasons. Increasing integration of MBIs in therapeutic settings, such as Kabat-Zinn's (2013) mindfulness-based stress reduction, and Segal and Teasdale's mindfulness-based cognitive therapy (Segal & Teasdale, 2018; Teasdale et al., 2000) highlight a growing body of research. Thus, the ability for MBIs to promote stress reduction is particularly important for immigrant populations given the relatively high exposure to adversity and traumatic stress (Fortuna et al., 2017; Garland et al., 2016; Paulus et al., 2017; Schuling et al., 2016; Williams et al., 2014). There is limited study of transdiagnostic interventions which integrate mindfulness and are designed specifically for Latinx immigrant populations or for PTSD in particular; however, the available research has shown good adherence to mindfulness-based treatment among Latinx (Ortiz, 2016), and significant associations between less depressive symptoms and improvement in mindfulness awareness among Latinx in primary care settings (Zvolensky et al., 2015).

An emerging literature on transdiagnostic interventions, including MBIs, provides evidence that these can offer clinical benefit by addressing psychological processes that underlie a variety of clinical syndromes (Alcántara et al., 2016). For example, Alcántara and colleagues (2016) found that the ECLA CBT intervention for depressed Latinx also improved symptoms of anxiety. There is evidence suggesting that transdiagnostic treatments are associated with the acquisition of helpful skills leading to symptom improvement and illness self-management (Alcántara et al., 2016; Alegria et al., 2014; Rector et al., 2014), generally perform better than wait-list controls, compare well to diagnosis-specific treatments (Arnfred et al., 2017; McEvoy et al., 2009; Newby et al., 2015), are associated with excellent patient satisfaction and positive therapeutic and treatment expectations (Arnfred et al., 2017; McEvoy et al., 2009; Zilcha-Mano et al., 2016; Zilcha-Mano et al., 2015).

Testing Intermediary Measures of Effectiveness

The IIDEA intervention was tested in a randomized controlled trial in 17 clinics or emergency departments and 24 community sites across Boston, Massachusetts, and Madrid and Barcelona, Spain. Eligible participants (18–70 years of age, self-identified as Latinx, positive for mild to severe mental health and substance use symptoms, and not receiving specialty behavioral health services) were randomized to the 10-session IIDEA treatment or an enhanced treatment as usual control group (ETU) that received four scheduled assessments of symptoms with a care manager. Statistically significant effects were observed for mental health outcomes but not for substance use outcomes for participants with mild symptoms at baseline. In contrast, analyses of those with moderate or severe symptoms at baseline demonstrated significant 6-month treatment effects, with IIDEA participants substantially reducing substance use per the urine test results, as well as depression, anxiety, and PTSD symptoms when compared to ETU. Findings of the trial are reported in Alegria et al., 2019; details of the outcome measures are described below.

In the current investigation, we conduct a secondary analysis of the randomized controlled study of IIDEA, to evaluate whether three hypothesized intermediary outcomes, related to MBIs and CBT, were significantly more improved in IIDEA participants as compared to ETU. These include improvement in: (1) working alliance, (2) illness management and recovery, and (3) mindfulness awareness, all three basic components of the IIDEA intervention. Identifying intermediary outcomes is especially important for new interventions in order to understand the potential relations between intervention processes and outcomes and how one may optimize the delivery of that intervention for the target population of interest. We hypothesized that all three secondary outcome variables would be significantly improved in the IIDEA group as compared to enhanced treatment as usual group (ETU), being able to consider these measures on their own as critical processes of treatment. We use a mixed-methods approach to study these intermediary outcomes, including validated measures of these constructs and by analyzing qualitative interviews with study participants.

Methods

Recruitment and Sampling

The study sample includes adult Latinx immigrants from Mexico, Central America, and South America, and Puerto Rican migrants to the continental US; 91% were born outside of the mainland US or Spain. Participants were recruited from primary care clinics, community sites, emergency departments, and by word-of-mouth referrals in Boston, Madrid, and Barcelona. A total of 341 eligible migrant participants (24% US and 76% Spain) were randomized to the IIDEA treatment condition or to ETU. All enrolled participants completed baseline study measures and follow-up measures at two months, four months, six-months, and 12-months post randomization. The IIDEA intervention and all assessments were conducted in the participant’s preferred language (English or Spanish) with 98% of the sessions conducted in Spanish. All alphas presented below were computed at the completion of the study using sample data. At the six months data point participants were also asked to respond to a brief qualitative interview about their experience of the intervention and what

they found to be more helpful (primary outcomes and full methods description can be found in Alegría et al., 2019).

Training and Piloting the Intervention

Piloting of the intervention manual and participant workbook commenced after study clinicians in Spain and the US participated in two intensive days of workshops on core intervention elements and delivery including role play. The training included a brief introduction to the program, instruction on cognitive-behavioral strategies, and basic components of mindfulness theory and practice. It also involved discussion of important considerations for delivering the intervention by phone including privacy, verbal communication of empathy, and use of the participant workbook. Training combined theory and practice of the different skills, organized by session. Clinicians then each conducted the manualized 10-session IIDEA intervention with two supervised pilot cases. Pilot cases had milder symptoms or were already receiving psychotherapy services, which excluded them from participating in the formal IIDEA trial. These pilot sessions were audiotaped and closely supervised using a fidelity measure which was developed to accompany the manual. For all subsequent study cases, clinicians recorded all therapy sessions, participated in weekly in-person or phone supervision, and a random 15% of the sessions were selected for review by the research team to monitor maintenance of fidelity.

Intermediary Measures of Intervention Components

The Working Alliance Inventory-Short Revised (WAI-SR) (Tracey & Kokotovic, 1989) is a widely-used 12-items measure based on Bordin's (1979) theory that defines therapeutic alliance using three key constructs: agreement between clinician and participant on the goals of therapy, collaboration on therapeutic tasks, and development of a positive emotional bond between clinician and participant. The WAI-SR has demonstrated good psychometric properties in different settings and has been validated in various languages, including Spanish (Corbella et al., 2011; Falkenström et al., 2015). Respondents are asked to think about their current therapy and decide which category best describes their own experience, categorizing answers on a 7-item Likert-type scale (α=0.879). Participants included in the ETU control group were asked to respond per their experience with their clinician, typically their primary care provider.

The *Mindfulness Awareness Attention Scale (MAAS15*) (Brown & Ryan, 2003) is a 15-item scale that assesses core characteristics of dispositional mindfulness, namely, open or receptive awareness of and attention to what is taking place in the present. The scale has been validated with college, community, and cancer patient samples (Carlson & Brown, 2005) and shows strong psychometric properties across studies including ours (α= 0.874). A validated Spanish version is also available (Soler et al., 2012).

The Illness Management and Recovery (IMR) client scale was adapted from a measure of recovery from the Illness Management and Recovery treatment program and uses a 5-point behaviorally anchored response format (Hasson-Ohayon et al., 2008). The scale has been used in mental health care programs or interventions designed to impact recovery-oriented outcomes and has been identified as a potentially valuable measure (Sklar et al., 2012).

The scale includes knowledge about three constructs: the illness, use of social support, and medication adherence. It has shown moderate to good internal reliability, test-retest reliability and reasonable support for convergent validity (Sklar et al., 2012). Although reliability was low for our study (α = 0.494), previous studies have shown moderate alpha coefficients suggesting that the scale is multidimensional with three interrelated factors structure (Hasson-Ohayon et al., 2008).

Intervention Outcome Measures

For a more detailed description of each instrument, please see Alegria et al., 2019, eTable 1 in Supplement 2, and (Chavez et al., 2017).

Outcome Measures of IIDEA Trial—*The Addiction Severity Index (ASI) Lite* (McLellan et al., 1997) measured changes in use of alcohol (α = .845; score range, 0–1; cutoff score, > 0.1) and drugs (α = .697) during the participant's lifetime and past 30-days.

Urine test results (DrugCheck Nx; TransMed) (Howard Taylor & Pizzo, 2004) were also used to measure changes in drug use, of drug metabolites for any of the following six drugs: amphetamine, benzodiazepine, cocaine, methamphetamine, heroin, and marijuana. *The Patient Health Questionnaire (PHQ-9)* (α = .85) was used to measure depressive symptoms (Kroenke & Spitzer, 2002). The Spanish version of the PHQ-9 is a reliable and valid diagnostic measure in primary care and hospital settings (Diez-Quevedo et al., 2001).

The Generalized Anxiety Disorder Scale (GAD-7) (α = .86) (Spitzer et al., 2006) includes a validated Spanish version (Garcia-Campayo et al., 2010).

The Posttraumatic Stress Disorder (PTSD) Checklist (PCL-5) (α = .94) (Blevins et al., 2015) and validated Spanish version (Miles et al., 2008) was used to measure for PTSD symptoms.

The Hopkins Symptom Checklist (HSCL-20) (Williams et al., 2004) and validated Spanish version (Cepeda-Benito & Gleaves, 2000) (α = .94) was used to measure overall mental health symptoms.

Procedure and Analyses.—The *MAAS15 and IMR* were administered to all randomized study participants at baseline and at follow-up assessments. The *WAI-SR* was added to the assessments after the study began, to better understand potential mechanisms for clinical improvement. However, the timing resulted in only 61% of the participants being assessed with this measure, which precluded our ability to conduct mediation analyses. Intermediary measures were evaluated using intent-to-treat analysis (ITT) to test whether the IIDEA intervention was significantly more likely to improve these measures compared to treatment as usual. The tests between intervention group and ETU control group were conducted at 6-month follow-up, controlling for site differences, time trend, and baseline scores.

Qualitative Protocols for Mixed Methods Analysis

A simultaneous mixed methods explanatory design (Creswell & Plano Clark, 2017) was used to increase understanding of quantitative results, specifically to shed light on processes

of intervention use that would inform clinical practice. Open-ended qualitative questions included in post treatments assessments allowed intervention participants to identify salient therapeutic components of treatment, without a priori expectations of the data.

Participants assessment.—All 172 participants randomized to the IIDEA intervention arm of the study were asked to provide feedback about the intervention at the 6-month follow-up assessment (171 responded). Research assistants, who were not involved in the clinical component of the study, administered the following questions: (a) What did you find most helpful about the work you did with the clinician? What did you find least helpful? (b) What is your opinion on the covered topics? Were there other topics you would have liked to discuss? (c) Do you have any comments or suggestions about the intervention? Do you feel that the intervention helped you? How? Responses were audiotaped and transcribed.

Qualitative Analysis. All transcribed data was entered into Dedoose (2018) software for analysis. Two independent coders (the first two authors) used content analysis (Patton, 2002) to code the interview data for overarching themes related to participant assessment at end of treatment. Coding disagreements were resolved through consensus after the third author reviewed coded transcripts.

Results

The IIDEA program is a 10-session CBT intervention, designed to be delivered as a weekly 60-minute sessions, over three to four months (see Table 2 for summary of therapy sessions). By the end of the IIDEA clinical trial, 26.0% of all sessions with participants were conducted by phone and 73.9% were conducted in person.

Evaluation of Intermediary Measures of Intervention Components

From the full sample (n=341), we analyzed IMR and MAAS data for the 172 participants that were randomized to the IIDEA intervention arm compared to the 169 randomized to enhanced usual care controls (ETU). For the Working Alliance measure we used the available data from 102 participants enrolled in the intervention arm and 107 controls who were assessed with the intermediary measures. Descriptive statistics of the intermediary measures at baseline and at 6-month follow-up are presented in Table 3. Positive differences were found between baseline and 6-months follow up for both groups but these differences were larger for the IIDEA intervention group. We then tested whether these differences were statistically significant.

In Table 4 we present the results of an intent to treat (ITT) analysis that adjusts for site differences and time trends. The ITT analysis suggests that the IIDEA intervention significantly improved all three intermediary measures over ETU, *WAI-SR, MAAS15 and IMR*, ranging from a medium to small effect size (d=0.43, 0.18, 0.28, respectively). As observed in Table 4, results of the intent to treat analyses demonstrated the three hypothesized mechanisms were supported by the data. Compared to participants in the enhanced usual care group, those participating in IIDEA showed stronger therapeutic alliance with their providers; improved illness management and recovery skills; and greater mindfulness attention awareness.

Qualitative Theme results from participant interviews

Of the 172 participants randomized to receive the IIDEA intervention, 171 responded to the qualitative protocol at 6-month follow-up. Three identified themes shed additional light on change in symptoms for the intervention group, while a fourth offered suggestions for continued refinement of the intervention.

Therapeutic alliance.—Participants were generally positive about the treatment experience, and all spoke positively of their relationship with the clinician, mentioning her/his listening skills, responsiveness, professionalism, and ability to build trust. Examples of how they described a positive therapeutic alliance ranged from noting a “good connection” to receiving “love, understanding.” Participants explicitly identified the experience of being listened to by the clinician as he/she “didn’t judge” and “inspired trust.” As one participant described her therapist, “She was kind, very on point and very helpful, she did her work well and it helped me a lot, helped me get through so many of my ups and downs.” Responses reflected not only how critical the therapeutic relationship is as a foundation of effective therapy, but also the cultural dimension of this relationship for Latinx, as expressed by the warmth of the connection and cultural understanding (Gallardo, 2013).

Mindfulness.—When asked what they found to be most useful about the treatment, 54 participants mentioned learning relaxation and emotional regulation techniques, including learning how to manage their thoughts and emotions, anxiety, and stress. These benefits were named specifically across respondents, with typical comments such as, “The most useful [skill] was learning new techniques to manage the problems of anxiety and stress.” Receptiveness to the mindfulness component is an innovation in this culturally responsive treatment, building on nascent study of its effectiveness with Latinx (Ortiz, 2016). Almost a fourth of respondents also spoke about gaining skills that helped them to focus their thoughts and concentrate better, remarking that it “helped me to concentrate, clarify my ideas” and that improvement in concentration was tied to increased “attention, trust, and knowledge.” Participants also reported that mindfulness techniques “strengthened my self-esteem, my character, and I dominate my emotions now.” They also described improved self-expression through enhanced concentration and ability to “clarify my ideas” as the therapy provided “an outlet to express myself and to work out my internal problems.” Participants reported a newfound sense of control in being able to “control” emotions because of new skills.

In addition to cognitive improvements related to mindfulness, 47 participants mentioned gaining tools that helped them to confront psychological challenges related to depression, anxiety and impulse control. The mindfulness exercises, including breathing and relaxation helped participants “handle and identify my anxiety and depression symptoms.” Typical comments reported benefits of learning “how to control and better my impulses, state of mind and breathing” and further, how these skills facilitated participants’ ability to “focus on getting rid of emotional baggage.”

Self-management.—Overall, 43 participants described how the therapy helped with self-management of their illness. Engagement in CBT, recovery skills, and psychoeducation provided the "tools to recognize problems and find solutions." Learning how to confront and solve problems – "I think more before doing things and think about the consequences of my actions" – helped them to see their circumstances in a different way. Clinicians were credited with helping the participant "see the reality of life and leave many bad things" and to "have more control over myself in stressful situations." They reported they were seeing and thinking in ways "closer to reality."

For 25 participants, the intervention was cited as effective for their dual diagnosis, improving depression and anxiety symptoms, as well as reducing substance use. Specifically, it was reported to "stop alcohol and reduce benzodiazepines" and while providing "the tools that taught me to face my depressive thoughts." A participant reported, "The most useful were the tools to confront stress and anxiety."

Suggestions for improvement.—When asked about what should be improved in the program, suggestions were for the program be more personalized to individuals' needs. It was also suggested that the intervention expand to address other problems. For instance, this might include other issues such as "problems related to childhood." Some reported that they "didn't identify with some of the problems" covered in the program and judged some topics as "too general." Whereas clinically, the manualized structure of the treatment is important for fidelity of implementation, a participant noted that "The least useful were the questions that were always the same (checking for increased in symptoms), they tire and bore me." Other suggestions included a desire for longer sessions, or more, sessions "12 or 16," access in more locations, and opportunities to involve family members in sessions including a focus on "couple relations." Suggestions to improve the manual included attention to language: "Phrase the dialogue in the booklet in layman's, simpler terms" or less "generalized" and more "personalized." The option of adapting the manual as "something interactive, an app" speaks to the growing popularity of delivery of both mindfulness practices and the delivery of CBT through technology (Sijbrandij et al., 2016).

Integration of results.—The results of the WAI-SR showed that strongest effect size for change and was reflected in both the personal and cultural connections that participants described with therapists. The smaller effect size of the MAAS15 nonetheless underscored the importance of mindfulness training that almost a third identified as the most important skill gained though the intervention, providing details of how mindfulness helped them in their daily life. Self-management was similarly highlighted as critical for change, both in assessments and in open-ended inquiry in describing concrete steps for recovery.

Limitations

We have described the development, and potential mechanisms for symptom improvement, of the IIDEA intervention. However, we are aware of several limitations that need to be addressed. First, we were only able to collect data on Working Alliance from a smaller number of participants as the assessment was included after the start of the project, thus could not conduct mediation analyses. Despite the smaller sample size for the Working

Alliance measure, we had sufficient statistical power to detect differences between the control and intervention group, showing that IIDEA improved therapeutic working alliance, which is widely supported in the literature as integral to therapeutic improvement (Bordin, 1979). Second, the control condition did not control for time and attention as an alternative explanation of positive results. Lastly, the effect sizes for illness management and recovery skills and greater mindfulness attention awareness on the reduction of symptoms were shown to be small, suggesting that other mechanisms could be accountable for the decrease in symptoms.

Conclusion

IIDEA was designed as a transdiagnostic model of therapy for Latinx immigrants with co-occurring disorders. We took into consideration cultural and psychosocial factors which could impede engagement, retention, and working alliance with study clinicians, and addressed study participants' treatment priorities by supporting their motivation for change. The primary motivations shared in the participant interviews included a desire to improve a range of anxiety and depressive symptoms, stress reduction, reduction in the use of substances, and improved social and role functioning. The ability to apply therapy skills for illness management and recovery, and the use of mindful awareness to self-regulate emotions and manage symptoms were among the primary aspects that participants reported as helpful. In the IIDEA intervention, clinicians facilitated recovery by promoting individual resilience through a skill-based approach. Addressing cultural and psychosocial adaptations that assisted with treatment engagement and logistical strategies, such as having the option for telephone delivery of the intervention, explicitly supported treatment access and likely engagement. Findings from the development of IIDEA will contribute to the knowledge-base on mindfulness and CBT transdiagnostic interventions that are effective for Latinx immigrants. Since this model was developed for implementation in mental health systems in the U.S. and Spain (Europe), widespread dissemination is promising.

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Table 1

Origins of IIDEA Modules, Materials And Core Therapy Components

Core Components	Originating Therapy Model	Components →	Rationale for Inclusion
Cognitive and Mindfulness Recovery Skills	Mindfulness Based Cognitive Therapy for Adolescents (MBCT-DUAL) Fortuna, Porche, & Padilla, 2017	Mindfulness practices guided by therapist at the beginning of all ten sessions including: mindful breathing, mindful eating and walking, riding the wave of cravings, mindfulness to thoughts, self regulation, and slowing down reactions.	Promote mindful awareness, self-management and emotional regulation, relapse prevention
	Latinx and youth sample	Motivational Interviewing/cultural formulation	Therapeutic Alliance/motivation
		Recovery skills including mindful and cognitive inventory of triggers—and substance use recovery refusal skills Cognitive Restructuring (5 step) 1. Identify thought/feeling; 2. Identify triggering situation; 3. Weigh the validity of the thought/practice compassion 4. Consider alternatives thoughts and transforming thoughts 5. Taking action for self care.	Improve self-Management of symptoms using mindfulness, cognitive therapy and self-care skills
Psycho-education and interventions for depression and anxiety	Engagement and Counseling for Latinos (ECLA) Alegria et al., 2014	Psychoeducation on depression and anxiety, examples of typical cognitive distortions related to depression and anxiety.	Effective in decreasing depression and anxiety symptoms among Latinx seen in primary care settings using CBT
	Comparing Strategies to Reduce Stress and Depression (CERED) Alegria et al., 2014	Cognitive Restructuring, Behavioral Activation	
	Latinx sample		

Table 2

Flow of the Final IIDEA intervention by session

Session	Content	Core Components
1	Introduction to the program, results of baseline assessments (depression, anxiety, PTSD, and substance problems), cultural formulation, psycho-education of problems identified, and goals for treatment, self-care plan, and relaxation breathing.	Psychoeducation Motivational interviewing Combined with cultural formulation-explanatory models for Engagement in care
2	Introduction to mindfulness practice, relationship between thoughts, feelings, and behaviors, and psychoeducation on common styles of thinking (cognitive distortions, e.g., catastrophizing) relevant to the target problem.	Psychoeducation Mindfulness practice Cognitive styles of thinking Motivational interviewing
3	Mindfulness practice, learning and applying cognitive restructuring	Mindfulness practice Cognitive restructuring Motivational interviewing
4	Mindfulness practice, cognitive restructuring, strategies to manage cravings	Mindfulness practice Cognitive restructuring Motivational interviewing Relapse Prevention & Recovery
5	Mindfulness practice, cognitive restructuring, recovery skills and relapse prevention	Mindfulness practice Cognitive restructuring Motivational interviewing Relapse prevention & Recovery
6	Mindfulness practice, relapse prevention (refusal skills), assertive communication (speaker-listener technique) for improved communication and negotiation around safe sexual practices and addressing conflicts	Mindfulness practice Relapse prevention Assertiveness-skills/interpersonal effectiveness HIV prevention Motivational interviewing
7	Mindfulness practice, psychoeducation about HIV and STDs, risk assessment, safety planning to decrease risky sexual behavior, opportunity for in-session HIV and STD testing	Mindfulness practice HIV prevention
8	Mindfulness practice, review of safety planning, problem-solving around risky sexual and addictive behavior, information about HIV testing, opportunity for in-session HIV and STD testing	Mindfulness practice HIV prevention
9	Mindfulness practice, pre and posttest counseling, opportunity for in-session HIV and STD testing, review of IIDEA skills	Mindfulness practice Psychoeducation HIV prevention Motivational interviewing
10	Mindfulness practice, review of participant's progress, developing of a self-care plan, processing termination, evaluation of any referrals needed for continuing treatment or maintenance	Mindfulness Relapse prevention & Recovery Motivational interviewing

Table 3.

Changes from baseline to 6-month follow-up, contrast between intervention and usual care groups

	Control (n=169)			Intervention (n=172)		
A. Changes on Mindfulness Attitude and Illness Management and Recovery (n=341)	Baseline	6Mon	Diff	Baseline	6Mon	Diff
MAAS (Mindfulness Attention Awareness Scale)	3.78	4.23	0.40	3.75	4.41	0.63
IMRQ (Illness management and Recovery Questionnaire)	17.67	19.36	1.62	17.76	20.27	2.38
B. Changes on Working Alliance Inventory (n=209)	Control (n=107)			Intervention (n=102)		
	Baseline	6Mon	Diff	Baseline	6Mon	Diff
WAI (Working alliance Inventory)	58.82	61.53	2.69	61.22	72.50	8.81

Note. 6Mon = six-month follow-up; Diff = difference in score

Table 4.

Contrast between intervention and enhanced usual care groups estimated using intent-to-treat analysis evaluated at 6-month follow-up

Measures:	**MAAS**	**IMRQ**	**WAI**
Estimated contrast between intervention and enhanced usual care group	0.20 *	0.95 ***	7.08 **
Effect size of estimated contrast	0.18	0.28	0.43
[confidence intervals]	[0.00,0.36]	[0.12,0.44]	[0.15,0.71]
N	341	341	209

Note.

[a] Contrast was estimated using intent-to-treat analysis adjusting for site differences, time trend and baseline scores. 95 percent of confidence intervals are reported in brackets.

* = p<0.05

** =p<0.01

*** =p<0.001.