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A mental health intervention strategy for low-income, trauma-exposed Latina immigrants in primary care

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Abstract

Latinos in the United States face significant mental health disparities related to access to care, quality of care, and outcomes. Prior research suggests that Latinos prefer to receive care for common mental health problems (e.g., depression and anxiety disorders) in primary care settings, suggesting a need for evidence-based mental health services designed for delivery in these settings. This study sought to develop and preliminarily evaluate a mental health intervention for trauma-exposed Latina immigrants with depression and/or PTSD for primary care clinics that serve the uninsured. The intervention was designed to be simultaneously responsive to patients' preferences for individual psychotherapy, to the needs of safety-net primary care clinics for efficient services, and to address the social isolation that is common to the Latina immigrant experience. Developed based on findings from the research team's formative research, the resulting intervention incorporated individual and group sessions and combined evidence-based interventions to reduce depression and PTSD symptoms, increase group readiness, and improve perceived social support. Twenty-eight trauma-exposed low-income Latina immigrant women who screened positive for depression and/or PTSD participated in an open pilot trial of the intervention at a community primary care clinic. Results indicated that the intervention was feasible, acceptable, and safe. A randomized controlled trial of the intervention is warranted.

Keywords

mental health; depression; Latino; primary care; trauma; PTSD

Latinos in the United States face significant mental health disparities related to access to care, quality of care, and outcomes (McGuire & Miranda, 2008; USDHHS, 2001). Understanding of the mental health needs of Latinos is complicated by the fact that the US

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Latino population is quite heterogeneous with regard to country of origin, reasons for immigration, and socioeconomic status (Gonzalez-Ramos & Gonzalez, 2005; Guarnaccia et al., 2007). The mental health needs of immigrant Latinos and Latinos from Central and South America are of particular concern, given research documenting their lower likelihood of seeking treatment (Hough et al., 1987; USDHHS, 2001; Vega, Kolody, Aguilar-Gaxiola, & Catalano, 1999) and their high prevalence of trauma exposure (Fortuna, Porche, & Alegria, 2008; Hernandez, 2002; Kaltman, Gonzales, Hurtado de Mendoza, Serrano, & Mete, under review; Ugalde, Selva-Sutter, Castillo, Paz, & Canas, 2000). However, much of the research on the mental health of Latinos in the US focuses on those from Mexico, Puerto Rico, and Cuba (Alegria et al., 2006; Alegria et al., 2007: Karno et al. 1987: Moscicki et al., 1987; Vega et al., 1998).

Despite some historical, political, and regional differences, a few shared cultural values that prevail in Latin American countries have been identified (Marin & Marin et al., 1991; Simoni & Perez, 1995) and are relevant for interventions that aim to improve Latino mental health. In particular, cultural values of *confianza* (reciprocal trust and mutual generosity) and *personalismo* (warm interpersonal interactions) place the individual in a social context (Adames et al., 2014; Mezzich et al., 1999; Simoni & Perez, 1995) and contribute to the development of supportive networks outside the family (Simoni & Perez, 1995). Since social support can buffer the impact of trauma in mental health (e.g., Brewin, Andrews, & Valentine, 2000; Charuvastra & Cloitre, 2008), considering this component in Latino mental health interventions is key as some research suggest that Latina immigrants, especially those from Central America, have limited social support and they experience challenges in developing new trusting and supportive relationships in the host country (Hurtado de Mendoza et al., 2014; Menjivar, 2000; Viruell-Fuentes et al., 2013).

Prior research suggests that Latinos prefer to receive care for common mental health problems (e.g., depression and anxiety disorders) in primary care settings (Vega, Kolody, & Aguilar-Gaxiola, 2001; Wells, Klap, Koike, & Sherbourne, 2001), suggesting a need for evidence-based mental health services designed for delivery in these settings. Cognitive-behavioral approaches have been shown to be effective with diverse Latino populations (Kanter, Santiago-Rivera et al., 2010; Miranda, Duan et al., 2003; Muñoz, Aguilar-Gaxiola, & Guzman, 1986; Muñoz & Miranda, 1986; Organista, Muñoz, & Gonzalez, 1994) and have been successfully integrated into primary care (Chavira et al., 2014; Twomey, O'Reilly, & Byrne, 2014). However, there are few trauma-focused cognitive-behavioral interventions designed specifically for low-income Latino immigrants seeking care in primary care clinics that serve uninsured populations with limited access to mental health care.

In this paper, we describe the development and evaluation of Latinas Saludables (Healthy Latinas), a mental health intervention for monolingual Spanish-speaking trauma-exposed Latina with depression and/or PTSD for delivery in primary care clinics that serve uninsured immigrants primarily from Central and South America. We describe the formative research undertaken to develop the intervention and the specifics of the intervention itself. Then we present preliminary data regarding (1) the feasibility and safety of the intervention; (2) the acceptability of the intervention; and (3) changes in depression and PTSD symptoms, and perceived social support from an open pilot trial.

Description of the Latinas Saludables Intervention

Formative Research

Using a community-engaged approach, the Latina Mental Health Project research team collaborated with a group of primary care clinics that serve the uninsured immigrant community to do a series of mixed-methods research studies to inform the development of a sustainable mental health intervention for trauma-exposed Latina immigrants with depression and/or PTSD. First, to understand and contextualize Latinas' traumatic experiences and their help seeking behaviors, Latina immigrants (primarily from Central and South America) who were seeking care in the primary care clinics were interviewed in-depth. In addition to being exposed to a myriad of traumatic experiences (Kaltman et al., 2011), women reported feeling lonely and isolated and lacking a strong social network they could rely on, as they encountered several barriers to developing and maintaining social relationships in the US (Hurtado de Mendoza et al., 2014).

Second, to determine the prevalence of trauma, PTSD, and depression, we conducted a survey with a sample of 100 Latina immigrants randomly selected from the clinic rosters. The overwhelming majority (93%) reported trauma exposure and 22.8% and 18.8% met criteria for presumptive depression and PTSD, respectively (Kaltman, Gonzales, Hurtado de Mendoza, Serrano, & Mete, under review). Third, to explore barriers and facilitators to seeking mental health care, along with treatment preferences, a subgroup of women who met presumptive depression and/or PTSD criteria participated in an in-depth interview. Using a card-sorting task, participants rated different options related to several aspects of mental health services (e.g. mental health services setting: primary care clinic, mental health clinic, church, other) by ordering the options from the most to the least preferred (Kaltman, Hurtado de Mendoza, Gonzales, & Serrano, 2014). Most participants stated a preference for receiving mental health care by a mental health specialist in a primary care clinic (rated as the preferred provider and setting options by 77.8% and 48.1% respectively). For 66.7% of the participants, individual therapy was the preferred treatment modality, particularly supportive psychotherapy (48.1%) and cognitive behavioral therapy (CBT) (37%). Although participants valued the opportunity to meet other women with similar struggles, the preference for individual therapy was grounded in concerns about confidentiality and fears about being judged by others if participating in a group intervention, suggesting ambivalence towards group sessions.

Through a research partnership with the primary care clinics, it was clear that the clinics' needs were somewhat different from the women's preferences. The clinics were in search of cost-efficient mental health interventions, thus preferring group over individual interventions. However, in the past, they had struggled with having adequate attendance at group intervention sessions. In addition, they were interested in brief interventions that could be delivered by master's-level therapists to maximize the number of patients that could be treated, since the need for care vastly outpaced the supply of therapist time available.

This formative work (Kaltman et al., 2011; Kaltman et al., 2014; Hurtado de Mendoza et al., 2014) suggested three important characteristics of a mental health intervention designed to reduce PTSD and depression for low-income Latina immigrants. Specifically, it had to be

responsive to the women's treatment preferences, the needs of the clinics for cost-efficient services, and the goal of addressing social isolation and enhancing social support. The solution to meeting these diverse and inconsistent needs was to adapt existing evidence-based mental health interventions to develop Latinas Saludables, an intervention which consisted of both individual and group sessions.

Individual sessions—The individual component, designed to reduce symptoms and increase group readiness, included 90 minutes of intervention that could be delivered either in two or three sessions. This level of flexibility was deemed important to be able to accommodate the busy lives of the participants and to fit more easily into the flow of the primary care clinic. The intervention began with a brief component of history-sharing in which the interventionist got to know the participant through stories about her family, work situation, and interests. This exercise in trust building (Stacciarini, O'Keeffe, & Mathews, 2009) was deemed necessary from a cultural perspective (D'Angelo et al., 2009; Falicov, 2009) before proceeding to more structured activities.

Symptom reduction was addressed through Behavioral Activation (BA) (Beck, 1976; Beck, Rush, Shaw, & Emery, 1979) a component of CBT for depression, which has been shown to be efficacious as a viable stand-alone treatment for depression (Gortner, Gollan, Dobson, & Jacobson, 1998; Jacobson et al., 1996). Research has found BA to be an effective treatment for individuals with PTSD as well (Jakupcak et al., 2006). BA includes identification of problematic behaviors and inactivity and then implementation of a series of interventions to help individuals become more activated in their natural environment, bringing them into contact with available sources of reinforcement (Jacobson, et al., 1996; Lewinsohn, 1974). It includes daily activity monitoring, assessment of pleasure gained from participation in activities, graded assignments to increase engagement in pleasurable activities, and cognitive rehearsal of scheduled activities to identify potential obstacles (Jacobson, et al., 1996).

Group readiness was addressed via Motivational Interviewing (MI), a directive patient-centered communication style designed to elicit behavior change by galvanizing a patient's intrinsic motivation to change (Miller & Rollnick, 2013). Responsibility for initiating and maintaining change is left to the client (Miller & Rollnick, 2013). In the case of the Latinas Saludables intervention, the goal of using MI was to increase readiness for group participation.

Group sessions—At the conclusion of the individual sessions, participants were scheduled to attend the group sessions. The group component of the intervention included five 90-minute sessions and was designed to further reduce symptoms and to increase social support. Symptom reduction was targeted with continued BA and additional cognitive-behavioral techniques (self-care, relaxation techniques, addressing negative self-talk, cognitive restructuring, and problem-solving) (Beck, et al., 1979; Beck, 1995; Hegel & Arean, unpublished manuscript). Although building on the important work of others (Kanter, Santiago-Rivera et al., 2010; Miranda, Duan et al., 2003; Muñoz, Aguilar-Gaxiola, & Guzman, 1986; Muñoz & Miranda, 1986; Organista, Muñoz, & Gonzalez, 1994), the intervention was designed to be much shorter to accommodate the needs of the primary care setting.

Each group session started with a review and brief discussion of the group rules (confidentiality, emphasis on individual level of comfort with regard to degree of disclosure of personal experiences, commitment to the group, provision of constructive and respectful feedback to each other, and importance of practicing the strategies outside the class) followed by setting the agenda of the session. Next, the interventionists introduced a well-known saying (*refrán*) related to the session's CBT strategy and led a discussion of its possible meanings. For instance, the saying "when one door closes, another one opens" was used in the problem solving session to exemplify that when one has a problem there are likely many potential solutions to be considered. This was intended to make the strategy more accessible to the target population with very low literacy levels and to introduce the psychoeducational information that would be addressed later in the session. Participants then spent time working on a craft project. The time devoted to the craft project served two purposes: first, the women had a few moments to relax and enjoy each other's company in a less structured way to facilitate social connection; and second, the crafts were used in a closing ritual during the final session to enhance group cohesion. Next, the assigned CBT strategy was discussed and the skills were practiced. A vignette of a fictional Latina immigrant (Ana) was used to make the psychoeducational content more relatable. Each session concluded with a goal-setting component, in which each woman's prior goal was reviewed and new goals were set for the following week.

Social support was expected to increase through the expanded social network provided by the group. This was expected to happen naturally through the shared experience of the group sessions and the use of specific group cohesiveness strategies including the craft activity. In addition, the interventionists encouraged participants' comments about how their experience in the group could lead to the development of new relationships and explicitly discussed the expectation that participants would continue to meet after the formal intervention ended.

Methods

Procedures

An open pilot trial of the Latinas Saludables intervention was conducted at a community primary care clinic in the northern Virginia area that serves low-income, uninsured patients, many of whom are Latino immigrants. Recruitment of a convenience sample was achieved via posted flyer, referral by clinic staff, and outreach screening in the waiting room.

Interested women were screened for traumatic event exposure, depression symptoms, and PTSD symptoms. Women screened positive if they endorsed at least one trauma experience and one or both depression symptoms on the PHQ-2 (Kroenke, Spitzer, & Williams, 2003), which is a subset of the questions from the PHQ-9, and/or at least two of the four PTSD symptoms on the Primary Care PTSD Screen (Prins et al., 2003).

Following informed consent procedures, a baseline interview confirmed study eligibility, defined as a score of 10 or higher on the PHQ-9 (Kroenke, Spitzer, & Williams, 2001; Spitzer, Kroenke, & WIlliams, 1999; Spitzer et al., 1994) and/or a score of 30 or higher on the PTSD Checklist (PCL) (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996;

Weathers, Litz, Herman, Huska, & Keane, 1993). The baseline evaluation also included measures of demographics, trauma history, and perceived social support.

Participants completed a post-intervention evaluation, which included the PHQ-9, PCL, and perceived social support, as well as a semi-structured interview that included both closed- and open-ended questions about their general experience with the intervention. All assessments were conducted in interview format in Spanish to address low-literacy levels in the population. Women were given $20 and $30 gift cards to compensate for their time in the baseline and post-intervention evaluations.

Four groups of participants in two cohorts were conducted (two groups in September – December 2011 and two groups in January – April 2012). Two bilingual/bicultural research assistants conducted all of the assessments and co-led the intervention. All study procedures were approved by the Georgetown University Institutional Review Board (IRB).

Interventionist Training and Supervision

Interventionists were two bilingual/bicultural research assistants with training in psychology; neither was a licensed practitioner. Prior to starting the pilot study, the interventionists read background literature on BA, MI, and CBT. Training sessions were held to discuss the readings, review the intervention manual, and conduct role-plays of each component of the intervention. Once the study began, the PI listened to early audiotapes of the individual sessions and provided feedback to the interventionists. Participants' cases were discussed with the PI throughout the trial on a weekly basis.

Participants

A total of 62 women were screened. Of those screened, forty-seven women (76%) screened positive and were invited to complete a baseline evaluation. Thirty-seven women (79%) completed the baseline evaluation. Seven women did not complete the baseline evaluation because of scheduling difficulties due to work schedules and three declined participation beyond the screening. Of those who completed the baseline, eight women did not qualify based on symptom criteria and one did not meet eligibility criteria because she was not a patient of the clinic. Twenty-eight women met study criteria and were invited to participate in the intervention.

Measures

Trauma exposure—Exposure to potentially traumatic events was assessed with an adapted version of the Stressful Life Events Screening Questionnaire (SLESQ) (Corcoran, Green, Goodman, & Krinsley, 2000; Goodman, Corcoran, Turner, Yuan, & Green, 1998; Green, Chung, Daroowalla, Kaltman, & DeBenedictis, 2006). The original SLESQ consists of 13 questions that address a range of traumatic events, including sexual and physical assault/abuse and traumatic bereavement. The SLESQ has been shown to have good test-retest reliability and adequate convergent validity (with a lengthier interview) (Goodman et al., 1998). The Spanish-version of the SLESQ has been used in other studies with Latina immigrants (Miranda et al., 2003). For the current study, three questions were added to the SLESQ based on the team's earlier qualitative research with a similar patient population that

suggested the relevance of these items (Kaltman et al., 2011). These questions were related to witnessing domestic violence as a child, experiencing controlling behavior by a partner, and having experienced an additional trauma experience that the participant was unwilling to disclose during the interview.

PTSD—PTSD symptoms were evaluated with the PTSD Checklist (Blanchard et al., 1996; Weathers, et al., 1993). Respondents rated the degree of distress they had experienced for each of the DSM-IV PTSD symptoms (APA, 1994) on a 5-point scale. The PCL has good reliability with structured interviews for PTSD (Blanchard et al., 1996). The PCL has been used in studies of Latino immigrants (Eisenman, Gelberg, Liu, & Shapiro, 2003) and a psychometric study demonstrated general measurement equivalence across English- and Spanish-language versions (Grant, 2004). Internal consistency of the PTSD Checklist for this sample was good (Cronbach's alpha = .90). Presumptive PTSD was defined by a PCL score of 30 or higher.

Depression—Depression symptoms were assessed using the PHQ-9, a brief assessment of depression typically used in primary care (Kroenke, et al., 2001; Spitzer, et al., 1999; Spitzer, et al., 1994). Respondents rated the frequency with which they had been bothered by nine symptoms of depression, mapping onto DSM-IV criteria (APA, 1994), on a 4-point scale. The PHQ-9 has been shown to have adequate reliability, convergent validity, discriminant validity, and sensitivity to change (Cameron, Crawford, Lawton, & Reid, 2008; Kroenke, et al., 2001; Löwe, Kroenke, Herzog, & Grafe, 2004; Martin, Rief, Klaiberg, & Braehler, 2006). The reliability and validity of the Spanish version of the PHQ-9 has also been established (Diez-Quevedo, Trangil, Sanchez-Planell, Kroenke, & Spitzer, 2001; Wulsin, Somoza, & Heck, 2002). Internal consistency of the PHQ-9 for this sample was good (Cronbach's alpha = .86). Presumptive depression was defined by a PHQ-9 score of 10 or higher.

Perceived social support—Perceived social support was assessed with the 19-item Medical Outcomes Study Social Support Survey (MOS-SSS) (Sherbourne & Stewart, 1991). Participants were asked to report how often various forms of social support were available to them on a 5-point scale. Although validation studies of the Spanish MOS-SSS have not been conducted, the English MOS-SSS overall scale and subscales have demonstrated construct and factorial validity, as well as high stability over time (Sherbourne & Stewart, 1991). The MOS-SSS has been used with English and Spanish-speaking Latino research participants (Calderón et al., 2010; Campos et al., 2008; Surkan, Peterson, Hughes, & Gottlieb, 2006). Internal consistency of the MOS-SSS for this sample was excellent (Cronbach's alpha = .92).

Semi-structured interview—Questions focused on women's opinions about what they liked most and least about the individual and group sessions, perceptions about the length of the intervention, obstacles they faced in attending the intervention sessions, the specific intervention strategies that they found most and least useful, and suggestions to improve the intervention.

Data Analysis

Descriptive statistics were calculated for demographic variables as well as baseline and post-intervention levels of depression symptoms, PTSD symptoms, and social support. Within-samples t-tests were conducted to examine changes in depression symptoms, PTSD symptoms, and social support from baseline to post-intervention. Effect sizes were calculated. All analyses were conducted using SPSS for Macintosh Version 22.

Qualitative semi-structured interview data were transcribed and analyzed in Spanish by the research team. The purpose of this analysis was to examine issues related to feasibility and acceptability of the intervention from the participants' perspective. Two members of the research team were assigned to read each of the interview transcripts. Following a joint discussion in which main themes were identified (e.g., positive aspects of intervention, negative aspects of intervention, obstacles encountered), two members of the research team coded each interview using a directed content analysis approach (Hsieh & Shannon, 2005). Disagreements between the paired coders were discussed until consensus was reached. Quotes that exemplified key points were chosen for presentation in the manuscript and translated into English by two bilingual members of the research team using standard translation and back-translation procedures. Some quotes were necessarily shortened using (…) to indicate excluded text.

Results

Demographics

On average, women were 48 years old ($M = 48.2$, $SD = 10.1$) and had arrived in the US an average of 15 years prior ($M = 15.3$, $SD = 7.8$). The greatest proportion of women was from Central America (61%, $n=17$); the rest were from South America. El Salvador was the most represented country (46%, $n=13$) followed by Bolivia (14%, $n=4$), Peru (11%, $n=3$), and Argentina (11%; $n=3$). They had completed an average of 10.6 years of school ($SD = 4.1$). Most of the participants' (85%, $n=23$) past-year annual household income did not exceed $20,000. Most women (75%, $n=21$) were employed in full time (36%, $n=10$) or part-time (39%, $n=11$) jobs. Approximately one-third of the participants (32%, $n=9$) were married or living with a partner. All of the women had children ($M = 2.54$, $SD = 1.10$), and slightly more than half of the women (54%, $n=15$) were living with one or more of their children. On average, the women reported 7.3 types of trauma exposure ($SD = 3.4$; range 2–15). The most commonly reported types of trauma exposures included: physical abuse as a child (75%, $n=21$), emotional abuse (71%, $n=20$), and physical assault as an adult (64%, $n=18$). Fifty-seven percent ($n=16$) of the participants met presumptive criteria for PTSD and depression, 36% ($n=10$) for PTSD only, and 7% ($n=2$) for depression only.

Feasibility and Safety

Implementation of the Latinas Saludables intervention was quite successful. Of the 28 eligible participants, 27 finished the individual intervention component. One participant attended only the first individual session and withdrew from the intervention for logistical reasons.

Based on completion of the individual intervention component, 27 women were scheduled to participate in the group sessions. Twenty-four participants (89%) completed at least one group session. The number of women attending at least one group session was deemed an important data point to capture due both to the reluctance of the patient population to attend groups (Kaltman et al., 2014) and due to the difficulty the clinics reported in implementing group interventions. Three participants completed no group sessions. Once women attended the first group session, they tended to continue with the group. The majority of women attended four or five group sessions (79%, *n=19*).

The individual component prior to the group sessions was developed to address ambivalence about group treatment, as well as to be responsive to patient preferences. The women reported that they felt that they were able to build trust with the interventionist in the individual sessions and that they resolved some of their concerns about groups via discussions about their readiness for group participation. For instance, one participant explained how crucial it was for her to clarify her concerns prior to joining the group during the individual sessions:

> At the beginning you explained everything well and you made me feel that, in a group meeting, it would be my choice if I wanted to share something or not, and that made me feel confident.

Remarkably, the vast majority of the women were able to attend most of the intervention sessions despite their multiple responsibilities and competing priorities; most participants were working or looking for a job and slightly more than half lived with their children. More than half of the participants (61%, *n*=17) reported obstacles to attending the individual sessions, and most faced barriers to attending the group sessions (86%, *n*=24). The fact that individual sessions were flexibly scheduled might account for that difference. The most common barriers to attending both individual and group sessions included transportation issues, weather conditions, and having conflicting work schedules.

The intervention was also deemed to be safe. No adverse events were reported to the IRB during the study.

Acceptability

Overall, participants reported positive perceptions of the intervention. With regard to the individual sessions, women evaluated positively the history sharing and the BA components. Most women valued the chance to unburden themselves (*n*=17) and have a caring, supportive and professional person (*n*=11) to provide advice and listen without judgment (*n*=10). Some (*n*=7) felt that talking about private issues and past experiences was useful. Several women (*n*=7) praised the trust, intimacy, and confidentiality of the individual sessions. *“I enjoyed talking with you, to tell you what I had never shared with anyone…one does not have the trust to share with other people, and with you I liked opening my heart and sharing.”*

With regard to the BA component, women (*n*=8) reported the benefits of learning how to set goals, make step-by-step plans, and have an alternative should their first plan not work. More than half of the participants felt that three individual sessions were sufficient (*n*=16),

while the others would have preferred to have more sessions (*n*=11). In relation to the session duration, more than half (*n*=15) considered that half-hour sessions were enough time whereas others (*n*=12) would have preferred longer sessions.

Despite initial ambivalence, women were extremely pleased with the group sessions and what they learned. They reported enjoying the craft project (*n*=13) and the use of *refranes* (*n*=13). Participants also reported appreciating the vignettes that were used to exemplify the CBT skills (*n*=9). They noted that they liked to share experiences (*n*=14) and they found it helpful to realize that others were living with similar problems (*n*=7). Feeling part of a group (*n*=2), meeting new people (*n*=4), the possibility of continued relationships beyond the intervention (*n*=4), and learning from others (*n*=4) were also perceived as positive aspects by several women.

> I liked the way trust was given, kindness… I learned ideas, sayings, some crafts, I learned to share, I learned to express myself, to talk about some things that were happening to me, and to listen … I liked the group environment.

Relaxation (*n*=12) and self-care (*n*=12) were the strategies reported as most useful, although most women noted that all of the CBT strategies were valuable (*n*=16). One participant described what she had gained from the CBT exercises as including, *"…how to control my emotions, to relax… To think about how to bring new ideas to my mind to think differently…."* Sometimes, instead of recalling specific names of the CBT techniques (e.g., addressing negative self-talk), participants remembered the content of the technique as exemplified in vignettes of a fictional character (Ana) (*n*=5). They clearly identified with Ana's life and the vignettes about her difficulties "*I liked Ana because sometimes one goes through the same things that she was going through*." The Ana vignettes appeared to make the strategies more comprehensible to the participants. They also recalled the *refranes* that were used to introduce the CBT technique in each session (e.g. "when one door closes, another opens"). The *refranes* seemed to resonate with the women as they captured relevant information in a few words that felt familiar and was consistent with their heritage and familial experience. *"A few wise words that teach a lot in an easy way that can be remembered."*

Participants did have some concerns and suggested areas for improvement. Some women suggested making the sessions longer to get to know the group members better, as well as to provide more opportunity for everyone to talk (*n*=7). Some women recommended doing continuous, open groups (*n*=8). Women were split in terms of their perceptions regarding the adequacy of the number of group sessions; around half thought that five group sessions were enough (*n*=12), while the other half would have preferred more sessions (*n*=11). Some women felt that 90 minutes was not enough time (*n*=8). None of the women thought the group sessions were too many or too long.

Some of the women described putting into practice the strategies that they were learning in the intervention (e.g., engaging in pleasurable activities, relaxation strategies, cognitive restructuring) (*n*=6). For instance, a woman explained how she used the CBT techniques to avoid constant worry or misinterpretation of situations. Another participant mentioned that

she continued to craft at home to feel more relaxed, while another explained how she reengaged with a previously enjoyed, pleasurable activity.

> I have always loved reading. In the past, I used to read and now I want to start reading books again to feel good…that is what I told my husband and he said, "Do you want to read? You are changing!"

Changes in Symptoms and Social Support

Levels of depression symptoms, PTSD symptoms, and social support are presented in Table 1 for the baseline and post-intervention assessment points for the intention-to-treat sample. Changes in symptom level from baseline to post-intervention for both depression and PTSD were significant, with 66.7% and 42.3% of participants falling below threshold levels of presumptive depression and PTSD, respectively, following the intervention.

Levels of social support did not change from baseline to post-intervention, counter to expectations. Despite this finding, there was some evidence in the semi-structured interview data that women experienced improvements in their perceived social support. Women highlighted their enthusiasm for being with others like themselves and having the opportunity to share with and learn from others (n=16). *"The days that we were all together were beautiful because everybody could say what they felt… We were sad at the beginning, but then everyone was happy, everyone wanted to participate and talk."* Some of the participants (n=4) also talked about connecting with the women from their group beyond the formal group sessions. *"I have new friends. Perhaps I can contact them in the future and I can rely on someone to talk to and unload because I have so much inside and I don't have my family here with me."*

Discussion

The goal of this research project was to develop and preliminarily evaluate a mental health intervention for trauma-exposed Latina immigrants with depression and/or PTSD to be delivered in primary care clinics that serve the uninsured. The intervention was designed to be simultaneously responsive to patients' preferences for individual psychotherapy, to the need of primary care clinics that serve the uninsured for cost- and time-efficient services, and to address the social isolation that is so common to the Latina immigrant experience. Developed based on findings from the research team's formative research (Kaltman et al., 2011; 2014; Hurtado de Mendoza et al., 2014), the resulting intervention, Latinas Saludables, incorporated both individual and group sessions. The goals of the individual sessions were to reduce symptoms and to address group readiness. The goals of the group sessions were to further reduce symptoms and to decrease social isolation during and beyond the group by increasing the social network of the participants.

The results from the open trial of the Latinas Saludables intervention (n =28) suggested that implementation of the intervention was feasible. Ninety-six percent of the participants completed the individual component of the intervention and 86% participated in the group component, despite initial significant reservations regarding group psychotherapy. The majority of participants attended four or five out of five group sessions. Although not

conclusive, this suggests that the individual component of the intervention was successful in getting women to initiate and sustain group treatment. If so, there might be several possible explanations. First, the individual sessions were essential for the women to establish a connection with the interventionist, who by design was also one of the two group interventionists. Thus, the women felt more secure going to the groups because they had a solid therapeutic relationship already established. Second, the individual sessions directly addressed their ambivalence about the groups and enhanced their motivation to attend the groups. Third, the individual sessions allowed the women time to learn about and gain experience with the treatment model. These findings contrast with other trials of group psychotherapy in which retention was low (Miranda, Azocar, Organista, Dwyer, & Areane, 2003; Organista, Muñoz, & Gonzalez, 1994; Stacciariniet al., 2009). Further, the findings point to the importance of evaluating the effectiveness of treatment engagement strategies that can be used to ameliorate entrenched mental health disparities in access to quality care (Kouyoumdjian, Zamboanga, & Hansen, 2003; Miranda et al., 2005).

Overall, the intervention seemed to be acceptable to the participants of the open trial. They had largely positive comments regarding both the individual and group components of the Latinas Saludables intervention. The participants reported learning from the BA and CBT activities. Interestingly, when describing the specific strategies, they often referred to the *refranes* (i.e., “when one door closes, another opens”) and vignettes (Ana’s stories). These were adaptations made to the intervention to increase its cultural relevance and comprehensibility for participants with low education levels. The intervention was also deemed to be safe.

On average, levels of depression and PTSD symptoms were reduced from the baseline assessment to the post-intervention assessment. Two-thirds of the participants who started the intervention with a presumptive diagnosis of depression no longer met that criterion at the post-intervention assessment. These findings must be interpreted with caution in the absence of a control group. For more definitive evidence, the intervention will need to be evaluated in the context of a randomized controlled trial with an appropriate comparison group. Forty-two percent of those with PTSD no longer met the criterion for presumptive PTSD at the post-intervention assessment. Although compelling, the findings for PTSD were not as strong as those for depression. While this is consistent with research that suggests that PTSD may take more time to improve and/or be more resistant to change (Green et al., 2006; Hegel et al., 2005), the intervention may need to be enhanced to include strategies specifically targeting PTSD symptoms.

Contrary to what was hypothesized, the assessed levels of social support did not significantly change from baseline to post-intervention. However, some of the women made comments during the semi-structured interview that referenced perceptions of increased social support. They referred to the benefits of meeting other women in the group, feeling that they had made new friends, and the hope that they would continue meeting beyond the formal group sessions. These contradictory findings may suggest that the quantitative measure of social support did not adequately capture changes in social support among our study participants, indicating the need to find a social support measure more specifically designed for immigrants (Wong, Yoo, & Stewart, 2007) for use in further studies of this and other

interventions. Or, it is possible that the intervention did not exert a powerful enough effect on perceptions of social support among the group participants or that the effect was too early to detect. The group may have expanded the women's social networks, but more time was needed to develop closer supportive relationships. In fact, several women suggested wanting more group sessions. Although the intervention included components to promote group cohesion (e.g. crafts), future interventions that include specific techniques and skills to enhance social support networks are warranted.

Although the results of the open trial look promising, a number of study limitations warrant mentioning. First, there was no control or comparison group, so evidence of symptom improvement should be interpreted very cautiously. Second, the sample was a convenience sample of a group of Latina immigrants. Thus, its generalizability beyond this group is uncertain. In addition, because the sample was self-selected, participants may have been more motivated than typical primary care patients. Third, self-report measures were used to assess presumptive depression and PTSD. While these measures were given in an interview format to address low-literacy issues, more formal diagnostic interviews might be warranted in a larger trial. Finally, the interviews were administered by the interventionists, introducing an additional confound. However, having the interventionists do the baseline assessments also yielded positive outcomes; most women reported building trust with the interventionists when they shared their traumatic experiences. It also helped the interventionists become more familiar with the women before starting the individual sessions.

This study examined the feasibility, acceptability, safety, and preliminary efficacy of a primary care mental health intervention for low-income trauma-exposed Latinas with depression and/or PTSD. The intervention was grounded in extensive formative research. The incorporation of both individual and group sessions, sought to increase the acceptability of group psychotherapy among a population with ambivalence about this form of mental health treatment. Because of the promising findings, a fully-powered scientifically-rigorous, randomized controlled trial with long-term follow-up is warranted. Should this trial provide evidence of the intervention's efficacy, next steps may involve application to primary care settings that provide services to other low-income, underserved groups.

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Table 1

Changes in symptom and social support scores from baseline to post-intervention

		Baseline	Post-Intervention		
Measure	***n***	***Mean (SD)***	***Mean (SD)***	***p-value***	**Effect Size**
Depression	18	15.11 (3.45)	7.89 (6.64)	.000	1.29
PTSD	26	46.23 (11.76)	32.96 (12.96)	.000	0.89
Social support	28	49.46 (17.53)	50.82 (16.30)	ns	

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