Published in final edited form as:
Health Promot Pract. 2014 May ; 15(3): 365–372. doi:10.1177/1524839913511635.

Results from a Pilot Promotora Program to Reduce Depression and Stress among Immigrant Latinas

Dr. Anh N. Tran, Ph.D., MPH [Assistant Professorand Vice Chief of Education],
Division of Community Health, Department of Community and Family Medicine, Duke University Medical Center, Durham, North Carolina anh.tran@duke.edu

Dr. India J. Ornelas, Ph.D., MPH [Assistant Professor],
Department of Health Services, University of Washington, Seattle, WA. iornelas@uw.edu

Dr. Mimi Kim, Ph.D [Research Fellow],
Biobehavioral Research on Health Disparities, Duke University Medical Center, Durham, North Carolina. mimi@unc.edu

Ms. Georgina Perez, MSW, LCSW [Program Coordinator],
Division of Community Health, Department of Community and Family Medicine, Duke University Medical Center, Durham, North Carolina. georgina.perez@duke.edu

Ms. Melissa Green, MPH [Project Manager],
Program on Health Disparities, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, North Carolina. mgreen@schsr.unc.edu

Ms. Michelle J. Lyn, MBA, MHA [Assistant Professor and Chief], and
Division of Community Health, Department of Community and Family Medicine, Duke University Medical Center, Durham, North Carolina. Michelle.Lyn@duke.edu

Dr. Giselle Corbie-Smith, MD, MSc [Professor]
Social Medicine and Medicine, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina. gcorbie@med.unc.edu

Keywords

Latino; Minority Health; Mental Health; Lay Health Advisors/Community Health Workers; Women's Health; Health Disparities

Introduction

There are an estimated 40 million immigrants living in the United States, with over half (53%) coming from countries in Latin America. The stressful experiences that Latino immigrants face before, during, and after migration to the U.S. puts them at increased risk for poor mental health (Alegría, Canino et al. 2008; Hochhausen, Le et al. 2011). Latinas are at heightened risk due to stigma, limited access to mental health resources, domestic

The corresponding author is: Anh N. Tran, PhD, MPH Assistant Professor and Vice Chief of Education Division of Community Health Duke University Medical Center, Box 104425 Durham, NC 27710 919.681.6079 (tel) 919.613.6899 (fax) anh.tran@duke.edu.

violence, and gender role expectations (Cabassa and Zayas 2007; Shattell, Quinlan-Colwell et al. 2010). Stressors associated with the immigration process, such as unsafe migration, discrimination, linguistic isolation, and loss of family support can exacerbate this risk for Latinas who are immigrants (Corbie-Smith, Yaggy et al. 2010; Ornelas and Perreira 2011). Latina immigrants are also less likely to have access to and seek appropriate mental health services less often than U.S. born women and women of other racial/ethnic groups (Hochhausen, Le et al. 2011). They face barriers to accessing quality mental health care due to lack of health insurance, few culturally and linguistically competent providers, and/or the stigma associated with seeking care for mental health (Stacciarini, O'Keeffe et al. 2007; Hochhausen, Le et al. 2011; Grant and Greene 2012). Less than 9% of mentally ill Latinas contact a mental health specialist (American Psychiatric Association 2010) and rates are even lower for Latina immigrants.

Background

For Latina immigrants living in new immigrant settlement areas, mental health disparities are magnified by even fewer culturally appropriate services and limited social support. Latinos immigrating to the United States are settling in new areas beyond traditional immigrant gateway communities (Vásquez, Seales et al. 2008). The Southeast has become a new frontier for Latino immigrants as they respond to labor demands or relocate from traditional gateway communities, in search of areas with lower cost of living. The growth of the Latino population in North Carolina exemplifies this trend. From 2000 to 2010, the Latino population increased by 111% with the total population now over 800,000 (Gill 2012). Latinos living in new settlement areas often arrive in communities with few services that address the concerns and interests of Latino or immigrant populations.

Furthermore, the needs and experiences of Latinos in emerging communities are different from those in more concentrated and longstanding communities(Villalba, Brunelli et al. 2007; Shattell, Quinlan-Colwell et al. 2010). Immigrants in these settings often face pressure to acculturate quickly, which only heightens the potential for increased mental health risk given the ongoing stress associated with migration experiences, especially in areas of politicized and unfriendly immigration policies (Willerton, Dankoski et al. 2008).

Innovative strategies are needed to improve Latinos' access to quality mental health services. The current fiscal and healthcare policy climate requires more efficient use of limited resources in environments with workforce shortages of mental health care professionals and interpreters, limited access to health insurance and limitations of our health care safety net (Auger and Verbiest 2007). Evidence in the literature, as well as our own experience working with this population, supports *promotora* programs as a promising intervention to improve health outcomes among Latino populations (Corbie-Smith, Yaggy et al. 2010; Squires and O'Brien 2012). *Promotoras* (also known as lay health advisors, community health workers/advocates or patient navigators) are suggested to be an effective and economic method to help extend health promotion and existing service delivery efforts to marginalized populations (Balcazar, Rosenthal et al. 2011). *Promotora* interventions are increasingly appreciated for their health education capacity in addition to the unique ability of *promotoras* to serve as 'bridges' between community members and health care providers.

More empiric evidence, however, is needed to demonstrate the impact of *promotoras* in the communities where they work and live - especially in addressing mental health promotion (Viswanathan, Kraschnewski et al. 2010). There is still a dearth of understanding regarding the scope and potential of *promotoras'* impact in the area of mental health problems(Stacciarini, Rosa et al. 2012)

To address these gaps in the literature, this manuscript describes the evaluation of ALMA (Amigas Latinas Motivando el Alma/Latina Friends Motivating the Soul), a pilot *promotora* intervention offered in three North Carolina counties to improve mental health among Latinas. The intervention, which was developed within a community-based participatory framework, trains *promotoras* to conduct outreach to Latina women in their social network (*compañeras*) (Corbie-Smith, Yaggy et al. 2010; Green, Perez et al. 2012). In this paper we focus on assessing the impact of the intervention on the mental health outcomes among the Latina women in the *promotoras'* social network (*compañeras).*

Methods

We used a pre-post one group study design to evaluate the potential efficacy of the ALMA intervention on the following outcomes among *compañeras*: 1) decreased depressive symptoms; 2) improved attitudes towards depression and treatment; 3) decreased perceived and acculturative stress levels; 4) increased levels of social support; and 5) increased coping mechanisms.

The ALMA Intervention

P*romotoras* were recruited and trained to serve as lay health educators in mental health and coping skills, using a linguistically and culturally tailored curriculum for recently immigrated Latinas (Corbie-Smith, Yaggy et al. 2010; Tran, Ornelas et al. 2012), full details on the curriculum are published elsewhere (Green, Perez et al. 2012). The training curriculum consisted of at least six 2-3 hour training sessions on mental health, stress and coping skills, and how to reach out to women in the *promotoras'* social networks. All sessions were conducted in Spanish. A bilingual/bicultural licensed clinical social worker (LCSW) facilitated all the training sessions. During each session, the *promotoras* received information and tangible resources (e.g., handouts, resources guides, and self-care items) that could be shared with their *compañeras*. Distributed materials were collectively referred to as a *comfort basket*, a collection of items to enhance support and healthy coping.

After the training, the *promotoras* met monthly with the curriculum facilitator (LCSW) as a group, for four to nine booster sessions, to complete a monthly log of their activities and to discuss their outreach experience. These sessions reinforced *promotoras*' skills and provided opportunities for *promotoras* to share their experiences disseminating information and support to *compañeras*.

Promotoras identified up to three women (*compañeras)* in the community with whom to share their mental health promotion resources and information on a regular basis with the goal of preventing and reducing negative mental health outcomes. *Promotoras* were directed to conduct at least three contacts with the selected *compañeras* and to report on the

resources discussed with and types of support (e.g., emotional, tangible, informational, companionship) provided to these individuals.

Setting

The ALMA intervention took place in three communities in central North Carolina (Chatham, Durham, and Wake counties). Chatham County's population is 65,976 and 13.2% are persons of Latino origin; Durham County has a population of 279,641 and 13.5% are Latino; and Wake County's population is 952,151 and Latinos comprise 10% of that total (Ennis, Ríos-Vargas et al. 2011). The ALMA *promotora* training curriculum was provided to only one community at a time and hosted in a group setting (Green, Perez et al. 2012; Tran, Ornelas et al. 2012)

Recruitment and Data Collection

Compañeras were recruited by the *promotoras* either by phone or in person in each of the three counties. Inclusion criteria included being a woman, age 18 and older, who identified as Latina. Even though our preference was to recruit women who were newly immigrated, this was not an eligibility criterion.

Each participant was assessed to determine whether referral was needed for the following conditions: substance abuse or dependence, suicidal ideation or tendencies, psychosis, seizure disorders, or dementia. Expression or history of these conditions excluded participation in the intervention and led to referral to a bilingual and bicultural mental health specialist and/or other appropriate mental health agency. C*ompañeras* completed the baseline and follow up Spanish language questionnaire at the location of the participants' choice (usually in their homes or quiet community space area) or by phone, after providing verbal consent.

Measures

Depression—Depressive symptoms were measured with the Spanish version of the 20-item Center for Epidemiological Studies Depression Scale (CES-D) (Radloff 1977; Soler, Perez-Sola et al. 1997). Respondents were asked to indicate how often a list of statements has been true over the past 7 days (rarely/never; some of the time; occasionally; most or all of the time). Items were summed from 0 to 60 with higher scores indicating more frequent depressive symptoms (α = .94). Scores of 22 and higher indicate possible clinically relevant depressive symptoms while scores of 16–21 indicate moderate levels of depressive symptoms

Attitudes about depression and treatment were assessed with the Spanish version of the Patients Attitude Toward and Ratings of Care for Depression scale (PARC-D) (A Cooper, Brown et al. 2000) which assesses treatment effectiveness, treatment problems, expectations of treatment, and access to care. Responses range from strongly disagree (1) to strongly agree (5) and are summed with higher scores indicating more positive attitudes about seeking treatment for depression (α=.68).

Stress—We assessed general stress with the 14-item Perceived Stress Scale (PSS), which has demonstrated adequate reliability in the Spanish language (Cohen, Kamarck et al. 1983; González Ramírez and Landero Hernández 2007). PSS scores are calculated by reversing the scores on the seven positive items and then summing across all 14 items (a= .74). Acculturative stress was assessed with an abbreviated version of the Migrant Farmworker Stress Inventory (Hovey and Magaña 2000). The 30 item scale contains a list of potential acculturation stressors and had response options “Have not experienced” (0), “Not at all stressful” (1), “Somewhat stressful” (2), and “Extremely stressful” (3). Scores are summed across items so that a higher score indicates a higher level of acculturative stress.

Social Support and Coping Measures—Social support was measured according to the 12-item Multidimensional Scale of Perceived Social Support (Zimet, Dahlem et al. 1988). Response options ranged from “strongly disagree” (1) to “strongly agree” (5) with a higher summed score indicating more social support. To assess coping behaviors, we administered an abbreviated Spanish version of the Brief COPE (Carver 1997; Perczek, Carver et al. 2000). Our version consisted of 22 items. They covered 11 domains, which include self distraction, active coping, denial, substance use, emotional support, venting, positive reframing, planning, humor, acceptance, and religion (α= .95). Responses for each domain were averaged, and responses ranged from “I didn't do this at all” (1) to “I did this a lot” (4).

Demographic Variables—Demographic measures included age, marital status, years of educational attainment, family income, household size, years of residence in the United States, primary language, and country of origin.

Data Analysis

Means and frequencies for all variables were calculated to describe the study population and assess pre- and post-test differences. For our main outcomes, depression, attitudes about depression and treatment, stress, social support and coping responses, we calculated means and standard deviations for each of the variables at pre-test and then used linear regression to test for significant differences in pre- and post-test scores. The beta is an estimate of the average difference between pre- and post-test across participants. Using SAS software version 9.2 survey procedures to adjust standard errors for within subject correlation (SAS Institute 2011), we conducted regression analyses to predict each outcome according to the domains of independent variables identified above.

Results

Compañera Characteristics

The characteristics of the *compañeras* are presented in **Table 1**. Of the 58 *compañeras* that were originally recruited to participate in the intervention, 32 completed a post-test assessment (55%). In Wake County, 14 *promotoras* recruited 24 *compañeras*. In Durham County, 20 *promotoras* recruited 22 *compañeras*. In Chatham County, 14 *promotoras* recruited 12 *compañeras*. Demographic characteristics for *compañeras* were similar across intervention sites. *Compañeras* had an average age of 38, were mostly married or living with a partner (67%), and most spoke Spanish only. Most *compañeras* had at least a high school

education with 1/3 reporting some college or a college degree. Nearly 60% were currently employed, but less than 1/3 had health insurance. They had an average household size of 3.9 members and had been in the United States, on average, for 9.5 years. Nearly 2/3 of the *compañeras* came from Mexico and the remainder mainly came from South American countries.

Depression and Stress

Pre- and post-test levels of depressive symptoms and stress are presented in **Table 2**. At the pre-test assessment, *compañeras* had mean scores on the CES-D slightly above 16 indicating clinically important levels of depressive symptoms. There were significant changes in the levels of depressive symptoms, with an 8 point decrease from mean at post-test (50% reduction, $p<.01$). There was also a significant but modest 4 point change in attitudes about depression treatment (10% increase, $p<0.001$).

Levels of perceived stress decreased by 4 points from mean at post-test (15% reduction, $p<0.01$), as did acculturative stress by 0.2 points (12% reduction, $p<.05$). The most commonly reported acculturation stressors were being away from family and friends (83%); concerns about drug and alcohol use in their community (81%); the lack of stores nearby (79%); and difficulty communicating in English (77%).

Social Support and Coping

Mean levels of perceived social support increased significantly with a 6 point increase at post-test ($p<0.01$). We also saw significant increases in several types of positive coping responses, including self-distraction (19%, $p<0.01$), active coping (17%, $p<0.01$), emotional support (16%, $p=0.0$), positive reframing (15%, $p<0.01$), and planning (17%, $p<0.01$).

Discussion

The ALMA study demonstrated the impact of a *promotora* intervention in improving mental health outcomes among *promotoras'* peers, their *compañeras.* This is one of only a few studies that assessed the outcomes of a *promotora* intervention focused on mental health. In the context of healthcare reform mandates for *promotora* and community health worker interventions and the shifting demographics of the U.S., these data provide further evidence of the potential efficacy of this intervention approach in underserved communities.

Participants in the ALMA intervention reported lower levels of perceived stress and acculturation stress. The most prevalent acculturation stressors among *compañeras* were related to being away from family and friends, concerns about drugs and alcohol in their communities, and limited English proficiency. The ALMA curriculum focused specifically on building social networks among Latinas, which may have helped alleviate the loneliness and lack of support women felt from being away from their families. *Promotoras* were also trained to connect women with Spanish-language resources and services in their communities, in an effort to reduce stress related to language barriers.

Within the ALMA curriculum, we also used several skill-building activities, to teach *promotoras* specific coping skills (Green, Perez et al. 2012). We assessed changes in several

coping methods, five of which were found to be significantly associated with improved mental health: self-distraction, active coping, use of emotional support, positive reframing, and planning. Among the coping responses which showed significant improvement, there was a distinction of behavior-oriented coping mechanisms (e.g., emotional support, planning, self-distraction, active coping) versus attitude-oriented ones (e.g., positive reframing planning). Other studies (Willert, Thulstrup et al. 2009) have shown that even when behavior-oriented coping mechanisms are targeted for change, they are not so easily modified as compared to changing use of positive coping mechanisms that are attitudinal-based. It is promising that *compañeras* also reported significant change in the use of behavior-oriented coping mechanisms.

Given that our intervention increased social support and certain coping strategies, as well as decreasing depressive symptoms, it is possible that social support and coping are potential mediators or moderators of depressive symptoms. Cox and colleagues (Cox, Buman et al. 2008) examined depressive symptoms in Latina adolescent mothers and their perceived maternal caretaking ability and social support. The authors concluded that depression was associated with decreased confidence in their parenting ability and decreased perceived social support, with a possible moderating effect of social support on the relationship of self-esteem and depression. Taken together, these findings suggest that increasing social support and improved coping skills may have the potential to prevent or reduce depression.

Also, as we expected and consistent with the literature on mental health, the *compañeras*' initial scores on the CES-D indicated a clinically significant level of pre-clinical depression. Post-intervention results, however, showed a significant reduction in depressive symptoms. This clinically important result further suggests a possible route to increasing coping skills and social support in order to address stress and depression triggers before they translate to actual depressive symptoms.

Still, there will be some women who do need formal mental health services. The vast majority of anxiety and depressive symptoms are treated in primary care practices, especially for minority communities with limited English proficiency (Vargas Bustamante, Chen et al. 2010); thus, Latinos may be especially at risk for unmet mental health needs, given their lack of resources to access timely healthcare services (Hochhausen, Le et al. 2011). Our study found a modest improvement in attitudes about depression treatment post-intervention, suggesting that *promotoras* may have a role to play in reducing community level stigma surrounding mental health care seeking among Latina immigrants. Cabassa and colleagues (Cabassa and Zayas 2007) demonstrated that Latino immigrants 'perceived depression was associated with various interpersonal and social factors. The authors also found that demographics, acculturation, depressive symptoms, and past mental health service use were related to the patients' perspectives on depression and related care. As a result, the authors recommended incorporating Latinos perceptions and attitudes into the design of depression interventions. Similarly, in the ALMA study, the *promotora*-based intervention was developed specifically with this intention -to incorporate the unique perceptions and experiences of the study participants into the core intervention components. The ALMA findings support the intervention's objectives to not only improve mental health for Latinas but to also positively impact prevalent perceptions about seeking mental health

care. Future research is needed to determine the utility of a community-based mental health *promotora* intervention like ALMA that could collaborate with primary care practices and community mental health providers in order to identify strategies of building collaboration and improved integration of mental health and primary care services for Latinos.

Limitations

Our findings should be considered in the context of its limitations. There is a risk of bias due to social desirability in responses since our data were self-reported and because the interviewers administering the pre/post surveys were known to the participants. However, this would likely bias results toward the null since any underreporting of symptoms, the potentially 'desirable' response, could have occurred both at baseline and follow-up. In addition, for this pilot study, we used a pre-post design with participants as their own controls. As a result, there may have been changes in depressive symptoms that do not directly relate to the ALMA curriculum, for example, regression to the mean, simply having a *promotora* periodically follow up with you or already having a pre-established social connection with your *promotora.* Yet, the ALMA findings presented here were highly significant, both clinically and statistically, with a small sample size and, thus, are encouraging for the potential positive impact on mental health outcomes for Latinas.

Conclusion

While rates of mental illness in Latinos in the United States are similar to or higher than that of other groups, Latinos report receiving less mental health services and having poorer mental health status than other groups. Women in Latino communities, especially immigrants, are at risk for poor mental health and often do not receive needed services. ALMA demonstrated the potential impact of a lay health educator model in improving depressive symptoms and stress for Latinas. Interventions such as ALMA that focus on building self-care strategies are crucial to reducing preclinical symptoms and addressing healthcare disparities that results from unavailable or underutilized mental health services. Future studies should assess the impact of stress and coping on depression for Latinas in the context of a *promotora* intervention to further define the importance of these variables in the design of future interventions. Such interventions should also consider the value of developing community based infrastructures that create linkages to mental health care for Latinas as well as the important role that paraprofessionals such as *promotoras* have in addressing the needs of underserved.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

The authors would like to express their gratitude to Susan Yaggy and Connie Blumenthal for their leadership in the initial conceptualization of ALMA and to our Community and Academic Advisory Committees for their continual guidance throughout the development, implementation and evaluation of ALMA. We are also appreciative to Dr. Mike Bowling for lending his expertise during the data analysis phase, to Rachel Page for her assistance in data entry and preliminary analyses, and to Angela Thrasher for her review of final drafts of the manuscript. Finally, we

extend our most sincere thanks to all of the ALMA participants for their time, energy and dedication. We are humbled by their commitment to better their own health and that of other women in their community.

References

A Cooper L, Brown C, et al. Primary care patients' opinions regarding the importance of various aspects of care for depression. General hospital psychiatry. 2000; 22(3):163–173. [PubMed: 10880709]

Alegría M, Canino G, et al. Prevalence of mental illness in immigrant and non-immigrant US Latino groups. The American journal of psychiatry. 2008; 165(3):359. [PubMed: 18245178]

American Psychiatric Association. Mental Health Dispartities: Hispanics/Latinos. 2010.

Auger S, Verbiest S. Lay health educators' roles in improving patient education. N C Med J. 2007; 68(5):333–335. [PubMed: 18183753]

Balcazar H, Rosenthal EL, et al. Community health workers can be a public health force for change in the United States: three actions for a new paradigm. American journal of public health. 2011; 101(12):2199–2203. [PubMed: 22021280]

Cabassa LJ, Zayas LH. Latino immigrants' intentions to seek depression care. American Journal of Orthopsychiatry. 2007; 77(2):231–242. [PubMed: 17535121]

Carver CS. You want to measure coping but your protocol's too long: Consider the brief cope. International Journal of Behavioral Medicine. 1997; 4(1):92–100. [PubMed: 16250744]

Cohen S, Kamarck T, et al. A global measure of perceived stress. Journal of Health and social behavior. 1983; (4):385–396. [PubMed: 6668417]

Corbie-Smith G, Yaggy SD, et al. Development of an interinstitutional collaboration to support community-partnered research addressing the health of emerging Latino populations. Academic Medicine. 2010; 85(4):728–735. [PubMed: 20354397]

Cox JE, Buman M, et al. Depression, parenting attributes, and social support among adolescent mothers attending a teen tot program. Journal of pediatric and adolescent gynecology. 2008; 21(5): 275–281. [PubMed: 18794023]

Ennis, SR.; Ríos-Vargas, M., et al. The Hispanic Population: 2010. US Department of Commerce, Economics and Statistics Administration, US Census Bureau; 2011.

Gill H. Latinos in North Carolina: A Growing Part of the State's Economic and Social Landscape. Immigration Policy Center. 2012

González Ramírez MT, Hernández R. Landero. Factor structure of the Perceived Stress Scale (PSS) in a sample from Mexico. The Spanish Journal of Psychology. 2007; 10(1):199–206. [PubMed: 17549893]

Grant R, Greene D. The health care home model: primary health care meeting public health goals. Journal Information. 2012; 102(6)

Green M, Perez G, et al. Amigas Latinas Motivando el ALMA (ALMA): development and Pilot Implementation of a Stress Reduction Promotora Intervention. Calif J Health Promot. 2012

Hochhausen L, Le H-N, et al. Community-Based Mental Health Service Utilization Among Low-Income Latina Immigrants. Community mental health journal. 2011; 47(1):14–23. [PubMed: 19821029]

Hochhausen L, Le H-N, et al. Community-Based Mental Health Service Utilization Among Low-Income Latina Immigrants. 2011; 47(1):14–23.

Hovey JD, Magaña C. Acculturative stress, anxiety, and depression among Mexican immigrant farmworkers in the Midwest United States. Journal of Immigrant Health. 2000; 2(3):119–131. [PubMed: 16228745]

Ornelas IJ, Perreira KM. The role of migration in the development of depressive symptoms among Latino immigrant parents in the USA. Social Science & Medicine. 2011; 73(8):1169–1177. [PubMed: 21908089]

Perczek R, Carver CS, et al. Coping, mood, and aspects of personality in Spanish translation and evidence of convergence with English versions. Journal of Personality Assessment. 2000; 74(1): 63–87. [PubMed: 10779933]

Radloff LS. The CES-D scale: A self-report depression scale for research in the general population. Applied Psychological Measurement. 1977; 1:385–401.

SAS Institute. SAS 9.2 Cary. NC: 2011.

Shattell MM, Quinlan-Colwell A, et al. A cognitive-behavioral group therapy intervention with depressed Spanish-speaking mexican women living in an emerging Immigrant community in the United States. Advances in Nursing Science. 2010; 33(2):158. [PubMed: 20460961]

Soler J, Perez-Sola V, et al. Validation study of the Center for Epidemiological Studies-Depression of a Spanish population of patients with affective disorders]. Actas Luso-Españolas de Neurología, Psiquiatría y Ciencias Afines. 1997; 25(4):243.

Squires A, O'Brien MJ. Becoming a Promotora A Transformative Process for Female Community Health Workers. Hispanic Journal of Behavioral Sciences. 2012; (3):457–473.

Stacciarini J-MR, Rosa A, et al. Promotoras in mental health: a review of English, Spanish, and Portuguese literature. Family & community health. 2012; 35(2):92–102. [PubMed: 22367256]

Stacciarini JMR, O'Keeffe M, et al. Group therapy as treatment for depressed Latino women: A review of the literature. Issues in Mental Health Nursing. 2007; 28(5):473–488. [PubMed: 17613148]

Tran AN, Ornelas IJ, et al. Evaluation of Amigas Latinas Motivando el Alma (ALMA): A Pilot Promotora Intervention Focused on Stress and Coping Among Immigrant Latinas. Journal of Immigrant and Minority Health. 2012:1–10. [PubMed: 21590335]

Vargas Bustamante A, Chen J, et al. Use of preventive care services among Latino subgroups. American Journal of Preventive Medicine. 2010; 38(6):610–619. [PubMed: 20494237]

Vásquez MA, Seales CE, et al. Rodrígues H, Sáenz R, Menjivar C. New latino destinations. Latinas/os in the United States: Changing the Face of America. 2008:19–35.

Villalba JA, Brunelli M, et al. Examining the academic and personal social experiences of latina/o children in southeastern us rural, burgeoning latino communities. Rural Educator. 2007; 28(3):12.

Viswanathan M, Kraschnewski JL, et al. Outcomes and costs of community health worker interventions: a systematic review. Medical care. 2010; 48(9):792–808. [PubMed: 20706166]

Willert MV, Thulstrup AM, et al. Changes in stress and coping from a randomized controlled trial of a three-month stress management intervention. Scandinavian Journal of Work, Environment & Health. 2009; 35(2):145–152.

Willerton E, Dankoski ME, et al. Medical family therapy: A model for addressing mental health disparities among Latinos. Families, Systems, & Health. 2008; 26(2):196.

Zimet GD, Dahlem NW, et al. The Multidimensional Scale of Perceived Social Support. Journal of Personality Assessment. 1988; 52(1):30–41.

Table 1

Demographic Characteristics of the *Compañeras*

	***Compañeras* (n=58)**	
	n/mean	**%**
Site		
Wake	24	42
Durham	22	38
Chatham	12	21
Age	38.0	-
Marital Status		
Married or living with partner	35	64
Single/divorced/widowed	20	36
Language		
Spanish	57	98
Indigenous dialect	1	2
Education		
Less than High School	23	42
High School	14	25
Some college/College degree	18	33
Currently employed	34	59
Has health insurance	17	29
Household size	3.9	-
Years in the U.S.	9.5	-
Country of origin		
United States	1	2
Mexico	38	65
South America	12	21
Caribbean/Central America	7	12

Table 2

Pre-post Measures of Mental Health Outcomes for the *Compañeras*

	Pre-ALMA mean	SD	*B*	Post-ALMA mean	*p*
Depression					
Depressive Symptoms (CES-D, range 0-60)	16.45	17.14	−7.98	8.47	0.01
Attitudes about depression treatment (PARC-D, range 0-60)	41.17	7.19	3.98	45.15	0.00
Stress					
Perceived stress (range 14 – 42)	26.68	4.32	−4.03	22.65	0.00
Acculturation stress (range 0-3)	1.60	0.47	−0.20	1.4	0.03
Social Support					
Multidimensional Scale of Perceived Social Support (range 12–60)	47.91	8.79	6.06	53.97	0.01
Coping Responses (range 1-4)					
Self-distraction	3.15	0.71	0.63	3.78	0.00
Active Coping	3.04	0.82	0.53	3.57	0.00
Denial	1.56	0.75	−0.17	1.39	0.26
Substance Use	1.05	0.31	−0.01	1.04	0.88
Use of Emotional Support	3.19	0.91	0.51	3.7	0.00
Venting	2.52	5.24	−0.94	1.58	0.27
Positive Reframing	3.24	0.73	0.48	3.72	0.00
Planning	3.05	0.70	0.53	3.58	0.00
Humor	2.22	0.81	0.25	2.47	0.16
Acceptance	2.97	0.59	0.20	3.17	0.16
Religion	3.22	0.88	0.13	3.35	0.47