



HHS Public Access

Author manuscript

J Am Psychiatr Nurses Assoc. Author manuscript; available in PMC 2017 September 29.

Published in final edited form as:

J Am Psychiatr Nurses Assoc. 2017 ; 23(1): 28–36. doi:10.1177/1078390316669230.

Social Determinants of Depression Among Hispanic Women

Giovanna De Oliveira¹, Rosina Cianelli², Karina Gattamorta³, Norma Kowalski⁴, and Nilda Peragallo⁵

¹Giovanna De Oliveira, PhD, University of Miami, Coral Gables, FL, USA

²Rosina Cianelli, PhD, University of Miami, Coral Gables, FL, USA

³Karina Gattamorta, PhD, University of Miami, Coral Gables, FL, USA

⁴Norma Kowalski, PsyD, Center for Advanced Neuropsychology, Tamarac, FL, USA

⁵Nilda Peragallo, DrPH, University of Miami, Coral Gables, FL, USA

Abstract

BACKGROUND—Depression is the number one cause of disability in the world. Hispanic women are at a higher risk for depression than Caucasian and African American women. This is in part due to multiple social determinants of health that affect the individual, family, aggregates, and community.

OBJECTIVE—To investigate the social determinants of depression among Hispanic women in South Florida.

DESIGN—This is a secondary cross-sectional data analysis. A total of 280 Hispanic women from South Florida between 18 and 50 years of age were analyzed.

RESULTS—Depression is prevalent among Hispanic women in South Florida (37.5%). Education, health status, and living with partner were significant predictors of depression in the sample.

CONCLUSION—Development of a culturally tailored risk assessment tool that highlights the social determinants of depression in Hispanic women is essential, as it could be used as a standard practice in primary care and other appropriate settings.

Reprints and permissions: sagepub.com/journalsPermissions.nav

Corresponding Author: Giovanna De Oliveira, School of Nursing and Health Studies, University of Miami, 5030 Brunson Dr., Coral Gables, FL 33146, USA. g.deoliveira@umiami.edu.

Authors' Note

The views expressed in written training materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

Author Roles

Giovanna De Oliveira: Study concept, design, data collection, analysis and interpretation of data; Rosina Cianelli: Study concept, drafting and critical revision of the manuscript; Karina Gattamorta: Critical revision of article with emphasis in data analysis; Norma Kowalski and Nilda Peragallo: Critical revision of article.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Keywords

Hispanic; women; social determinants; depression

Despite depression being a common and treatable mental health illness, it is the number one cause of disability in the world, affecting more than 350 million people (World Health Organization [WHO], 2012a). The illness is characterized by mood changes and alteration in self-attitude, cognitive functioning, sleep, appetite, and energy level, causing impairment in social and occupational functioning and a decrease in the quality of life of the depressed person, family, and friends (American Psychiatric Association [APA], 2013). Mistreated and nontreated depression can lead to suicidal and homicidal ideations, which in many cases turn into actual deaths (Doornbos, Zandee, & DeGroot, 2012). In fact, up to 13.5% of all people suffering from clinical depression end up committing suicide (Substance Abuse and Mental Health Services Administration [SAMHSA], 2015).

Mental illness has been shown to affect physical health, and an adequate balance between these two is needed for maintaining well-being and diminishing mortality and morbidity (NPS, 2010). For example, depression and coronary artery disease (CAD) have been found to have a bidirectional relationship: CAD can cause depression, and at the same time, depression is an independent risk factor for CAD (i.e., cardiac patients with depression are more likely to die of a heart attack than others; Khawaja, Westermeyer, Gajwani, & Feinstein, 2009). In addition, depression coexists with conditions such as substance abuse, cancer, Parkinson's disease, posttraumatic stress disorder, and eating disorders (National Institute of Mental Health, 2012).

Across different societies and social contexts throughout the world, depression affects significantly more women than men. The situation is similar in the United States, where women are 70% more likely than men to experience depression during their lifetime (WHO, 2012a). Hispanic women in the United States experience depression at about twice the rate of Hispanic males and are at a higher risk for depression than Caucasian and African American women (Shattell, Smith, Quinlan-Colwell, & Villalba, 2008). This is, in part, due to multiple social determinants of health that affect Hispanic women and their families. The social determinants of health are defined by the WHO (2014a) as "conditions in which people are born, live, grow, work, and age." These health conditions are related to social, economic, political, cultural, and environmental factors (WHO, 2012b). In other words, health is determined by the context in which people live. Unfortunately, many times individuals do not have direct control over their living conditions. As noted by Doornbos et al. (2013), social determinants of health (i.e., income, education, health status, and acculturation) among Hispanic women may play a crucial role in the development or exacerbation of depression.

The scarcity of research related to social determinants of depression among Hispanic women indicates that more research must be conducted to contribute to prevention, early identification, and prompt engagement in the treatment of depression among this population. The aim of this study was to investigate the social determinants of depression among Hispanic women in South Florida. Social determinants include intrapersonal factors (e.g.,

income, education, acculturation, health status, health insurance status, and employment status) and interpersonal factors (e.g., relationship status, living with partner, and living with children). Prior research suggests that these factors may play a role in depression among Hispanic women (Centers for Disease Control and Prevention, 2012; Institute of Medicine, 2012; National Council of La Raza, 2005).

Conceptual Framework

To better understand the social determinants associated with depression, social ecological model (SEM) was used for this study. The SEM (McLeroy, Bibeau, Steckler, & Glanz, 1988) looks at the environment from a social perspective and postulates that a phenomenon is influenced by multiple levels: intrapersonal, interpersonal, institutional, community, and public policy. Social determinants form part of this environment, as an individual interacts with other people in his or her physical environment (Greenfield, 2012). The first two layers of the SEM were used for this study: (a) intrapersonal factors (individual or unique characteristics of a person) and (b) interpersonal factors (formal and informal associations with significant others, social networks, family, and friends). Figure 1 depicts the adaptation of the SEM to this study.

Method

Research Design

This study is a secondary data analysis that uses cross-sectional baseline data from SEPA III: The Effectiveness Trial. SEPA stands for *Salud, Educacion, Prevencion y Autocuidado*, which translates to Health, Education, Prevention, and Self-Care (2P60MD002266-06 National Institute on Minority Health and Health Disparities, NIH/NIMHD). SEPA III, the parent study, is a randomized controlled experimental study that evaluates the effectiveness of the SEPA intervention in increasing HIV prevention behaviors and reducing the incidence of sexually transmitted infections among Hispanic women. This study obtained institutional review board approval from the Florida Department of Health.

Sample and Setting

The study sample consisted of 280 Hispanic women who completed baseline assessments between May 2013 and October 2014. This is a subset of the total 320 women from the parent study SEPA. Analysis of the full sample will be presented in a later publication. Inclusion criteria for the parent study were as follows: (a) self-identified as Hispanic, (b) between the ages of 18 and 50, and (c) reporting sexual activity within the last 3 months. Participant recruitment occurred at the Florida Department of Health and at the Miami Refugee Center, both in Miami-Dade County, and in public places frequented by Hispanic women in Miami. Trained female data collectors interviewed participants using a standardized protocol and a structured interview. Assessments were collected using a secure web-based research management software system (e-Velos) that allowed assessors to ask participants questions and document their responses on a computer. Women were interviewed in their preferred language, Spanish or English.

Variables

Depression—This outcome variable was measured using the Patient Health Questionnaire–9 (PHQ-9), a diagnostic tool for mental health disorders, originated from the Primary Care Evaluation of Mental Disorders (PRIME-MD) screening questionnaire for depressive symptoms developed by Spitzer, Kroenke, and Williams (1999). The PHQ-9 scores each of the nine *DSM-5* criteria for depression as 0 (*not at all*) to 3 (*nearly every day*). The diagnostic validity of the tool was established in various primary care and obstetrical clinics, and scores of ≥ 10 have 88% specificity and 88% sensitivity for depression (Kroenke, Spitzer, & Williams, 2001). The questions refer to how the person has felt in the previous 2 weeks. This screening instrument was originally developed in English and then translated into Spanish and a number of other languages (Wulsin, Somoza, & Heck, 2002).

Reliability reported for the English version of this instrument is $\alpha = .84$, and $\alpha = .85$ for the Spanish version (Merz, Malcane, Roesch, Riley, & Sadler, 2011). Reliability in this sample was $\alpha = .89$. Questions from the PHQ-9 include, “Over the last 2 weeks, how often have you been bothered by any of the following problems: (1) little interest or pleasure doing things ...” The options for answering are *not at all*, *several days*, *more than half the days*, and *nearly every day*. The PHQ-9 is a quick depression assessment tool. A definitive diagnosis of clinical depression can only be made by a trained clinician (APA, 2013). Therefore, any reference to depression in this article refers to depressive symptoms.

Intrapersonal-Level Factors

The majority of the information regarding the following intrapersonal factors were obtained from the SEPA Demographic Intake Form (DIF): (a) income, (b) level of education, (c) health status, (d) health insurance status, and (e) employment status. The DIF is a 21-item questionnaire that has been used in Spanish and English in prior SEPA studies with Hispanic women (Mitrani et al., 2013). Then, (f) acculturation was measured using the Bidimensional Acculturation Scale (BAS; Marin & Gamba, 1996).

1. *Income*. Participants were asked two questions in this category: (a) “Last month, what was the total amount you and your family lived on, including public assistance (after taxes)?” and (b) “How many people in this country live on this money?” The monthly family income was then divided by the number of people who live on this money, obtaining the participant’s per capita monthly income. The median for the sample was then calculated and the new variable was dichotomized as (a) below the median to median (≤ 500.00) and (b) above the median (>500.00).
2. *Education*. Education was assessed using a single item that asked “How many years of education have you completed?” The variable was dichotomized as (a) high school or fewer years of education (≤ 12 years) and (b) more than high school (13 or more years).
3. *Health status*. Health status was assessed with a single item asking, “How would you describe your health in the past 3 months?” Four response options were

given: poor, fair, good, and very good. These options were dichotomized as (a) fair/poor health and (b) good/very good health.

4. *Health insurance status.* Health insurance was assessed with a single item asking, “Do you have health insurance?” Answer options were yes/no.
5. *Employment status.* Employment status was assessed with a single item that asked, “Are you currently employed?” Answer options were yes/no.
6. *Acculturation.* The BAS contains two subscales that measure (a) how acculturated a person is to the Anglo American culture (non-Hispanic sub-scale) and (b) how acculturated the person is to his or her Hispanic culture of origin (Hispanic sub-scale; Marin & Gamba, 1996; Vasquez, Gonzalez-Guarda, & De Santis, 2011). According to Marin and Gamba (1996), a score of 2.5 can be used as a cutoff to indicate low or high level of acculturation. For this study, the variable was categorized as (a) highly acculturated to the Anglo American culture (≥ 2.5) and (b) not highly acculturated to the Anglo American culture (< 2.5). Reliability for this study in the Hispanic domain was $\alpha = .82$, and for the non-Hispanic domain it was $\alpha = .96$.

Interpersonal-Level Factors

The following data regarding intrapersonal factors were obtained from the SEPA DIF: relationship status, living with partner, and living with children.

1. *Relationship status.* Relationship status was assessed by asking, “What is your current relationship status?” Six answer options were given: single, divorced, in a relationship (not legally married), married, separated, and widowed. These were further grouped as “in a relationship” (those women belonging to the “married” or “in a relationship, not legally married” categories) and “not in a relationship” (women who self-reported as single, divorced, separated, or widowed).
2. *Living with partner.* Living with partner was assessed with a single question that asked, “Are you currently living with your spouse or partner?” Answer options were yes/no.
3. *Living with children.* Living with children was assessed with a single question that asked, “Do your children live with you?” Answer options were yes/no.

Data Analysis

Data analysis was performed using the IBM SPSS 22.0 software. Prior to data analysis, a check of data integrity was done including data cleaning, coding, and appropriateness of the data for analysis. There was no missing data identified on any of the variables from the parent study.

Descriptive, independent *t* tests, and multiple regression analysis were conducted. The simultaneous multiple regression analysis was performed with only the variables found to be significant during the independent *t* test analysis. The following assumptions were examined for regression analysis: sample size, multicollinearity and singularity, outliers, normality,

linearity, and homoscedasticity. In order to calculate sample size, the formula $N > 50 + 8m$ was used (where m equals the number of independent variables), with four independent variables in the regression this assumption and all others were met (Tabachnick & Fidell, 2007).

Results

Scores on the PHQ-9 ranged from 0 to 27 ($M = 4.30$, $SD = 4.71$). A total of 25.5% of women had mild depression (score range of 5–9), 7.1% had moderate depression (score range of 10–14), 3.9% had moderately severe depression (score range of 15–19), 1.1% had severe depression (score range of 20–27), and 62.5% had no depression (score range of 0–4). Ages for this sample ranged from 18 to 50 years ($M = 34.79$, $SD = 9.05$; see Table 1).

Independent t tests analysis showed that education, health status, relationship status, and living with partner had a significant association with depression (see Table 2). Participants who had levels of education of up to high school experienced greater levels of depression ($M = 5.19$, $SD = 5.27$) than participants who had more than a high school education ($M = 3.60$, $SD = 4.10$), with a significant difference, $t(278) = 2.75$, $p < .05$, representing a small-sized effect, $d = .34$. Women who were not in a relationship experienced greater levels of depression ($M = 5.87$, $SD = 5.41$) than participants who were in a relationship ($M = 3.78$, $SD = 4.34$), with a significant difference, $t(278) = 2.93$, $p < .05$, representing a small to medium-sized effect, $d = .43$.

Women who did not live with their partners experienced greater levels of depression ($M = 5.67$, $SD = 5.31$) than 81 participants who lived with their partners ($M = 3.64$, $SD = 4.25$), with a significant difference, $t(278) = 3.18$, $p < .05$, representing a small to medium-sized effect, $d = .42$. Participants with fair or poor self-reported health status experienced greater levels of depression ($M = 7.67$, $SD = 5.57$) than participants with good or very good self-reported *health* status ($M = 3.71$, $SD = 4.29$), with a significant difference, $t(278) = 4.38$, $p < .05$, representing a large-sized effect, $d = .80$.

These four variables were included in a simultaneous multiple regression (see Table 3), which was conducted with a continuous dependent variable (depression) and four categorical binary independent variables (education, health status, relationship status, and living with partner). The model with the four independent variables was statistically significant; however, relationship status was not a significant predictor of depression. This model's findings were as follows: $R^2 = .16$, $F(4, 200) = 9.503$, $p < .001$. Education, health status, and living with partner explained 16% of the variance in depression among Hispanic women, ages 18 through 50, residing in South Florida. The average PHQ-9 score for a woman with less than a high school education, poor/fair health status, and not living with a partner was 9.51. This value of close to 10 is indicative of moderate depression.

Discussion

This secondary data analysis study used cross-sectional data to examine several social variables as possible social determinants of depression among Hispanic women in South Florida. The study explored the following intrapersonal-level variables as possible social

determinants of depression among these women: (a) income, (b) education, (c) acculturation, (d) health status, (e) health insurance, and (f) employment status. In addition, interpersonal-level variables were explored as possible social determinants of depression. These included (a) relationship status, (b) living with partner, and (c) living with children. McLeroy et al.'s (1988) SEM was used as a framework to explain the phenomenon of the multilevel variables that play a role in depression in the sample.

Statistical analysis of the data revealed a 37.5% prevalence rate of mild to severe depression among study participants, which is above average when compared to findings in recent studies of Hispanic women of reproductive ages in the United States (Ertel, Rich-Edwards, & Koenen, 2011; Farr, Bitsko, Hayes, & Dietz, 2010; Fortner, Pekow, Dole, Markenson, & Chasan-Taber, 2011; Miranda, Siddique, Der-Martirosian, & Belin, 2005; Wassertheil-Smoller et al., 2014). These findings highlight the current and alarming presence of depression in the population studied and the need to continue working on joint efforts to properly screen, diagnose, and treat depression among Hispanic women in South Florida.

Looking at the demographics of this sample, specifically the country of birth, findings indicate that the great majority of study participants (95%) were born outside the United States. Being foreign-born did not protect these women from experiencing higher levels of depression, as has been suggested in other studies (Davila, McFall, & Cheng, 2009; Wassertheil-Smoller et al., 2014). In addition, even though these women were foreign-born, they had lived in the United States an average of 8.5 years. Research findings suggest that the longer a Hispanic woman lives in the United States, the higher the risk for depressive symptoms, as there is an increased sense of loss in cultural values, norms, and family cohesion (Lorenzo-Blanco & Cortina, 2013). These findings have implications for the promotion of cultural competence in nursing care explicitly and in health care in general; specifically understanding and respecting variations in values and norms among different cultures.

Although religiosity is not considered a possible social determinant of depression, it is important to highlight the effects of religiosity on stress and depression. These effects have been explored in prior research and have been shown to be inversely related to both stress and depression among immigrant Hispanic women (Kirchner & Patiño, 2010). In this study, 29.6% of women reported they did not practice any religion. This is in keeping with approximately the same percentage of women who described themselves as being not religious (28.2%). Therefore, low levels of religiosity may have also played a role in the high prevalence of depression in this study's sample.

Findings on all variables studied for this analysis were congruent with prior research findings, except for the variable "employment status." Even though most studies reviewed suggested that Hispanic women who were unemployed had higher levels of depression, findings here suggest that women who were employed experienced higher levels of depression than women who were not. This may be due to the fact that while employment may give women a sense of self-worth and financial freedom, it can also create additional stressors. Women have multiple responsibilities at home and are usually the pillar of their families. Working outside the house reduces the time these women would like to spend with

their families, making them vulnerable to depression. Trying to be *supermoms* certainly increases their psychological stress, which could trigger a depressive episode. Another plausible explanation for this finding may be related to job disparities. Women could have been overqualified and working in low-skilled, low-paying jobs. This inadequate employment leads to job dissatisfaction, which can make Hispanic women more prone to develop depressive symptoms (Castillo, Archuleta, & Van Landingham, 2006). The job disparity is in many cases related to language barriers and the fear of discrimination.

Separation from children has been significantly related to depressive symptoms among Hispanic women (Vermeesch et al., 2013). Demographics also showed that 23.2% of women who had children did not live with them. Furthermore, out of this 23.2%, more than 16% of women had children living in another country. Out of the 45 women with children living in another country, 18 (40%) had minor children (less than 18 years of age) living abroad. These findings suggest that immigration-related factors may play a role in the separation of these mothers from their children. Other factors causing separation of the mothers and children in this sample could be related to financial constraints, separation from partner, or having grown children. However, it is important to acknowledge that statistical analyses in this study did not find that separation from children was a predictor of depression among this subset of women. This could be in part due to having grown children, as pointed out above.

It is important to highlight the significant predictors of depression found in this study: education, health status, and living with partner. We found that women with more than a high school education had lower levels of depressive symptoms. These findings are consistent with those of extensive recent studies (March et al., 2014; Sternberg & Lee, 2013; Walker, Ruiz, Chinn, Marti, & Ricks, 2012) linking depression and educational level. This suggests that obtaining higher levels of education may be a protective factor against depression among Hispanic women. Women with good/very good health status had much lower levels of depression than women with fair/poor self-described health status. These results emphasize the intertwined and sometimes bidirectional relationship between physical and mental health. Chronic physical illness makes people vulnerable to depression, and depression can affect engagement in health promotion behaviors as well as interfere with adherence to management of acute and chronic illnesses (Brown et al., 2006; NAMI, 2014).

In addition, women who lived with their partners were significantly less depressed than women who did not. This variable was the greatest contributor to the variance of depression, according to the statistical analysis in this study. Prior research also indicates that living with a partner serves as a protective factor against depression. Partner support diminishes the feeling of loneliness among Hispanic women and lessens the risk of depression, especially among women with children (Schwarz, McVeigh, Hoven, & Kerker, 2012). Spousal or partner support has been shown to lessen the stress related to family and work responsibilities among Hispanic women, regardless of other factors such as income or education (Fortner et al., 2011).

Hispanic women suffer many changes in their interpersonal environment. Immigrants experience a significant geographical move: a new country, a new language, new friends,

and separation from loved ones (role transitions). Nonimmigrant Hispanic women are caught in between two cultures (Anglo American and Hispanic) and at times feel pressured to carry on the values and norms of their ancestors, altering the relationships with people in their environment. These changes in their interpersonal environment make women more susceptible and prone to develop depressive symptoms (Markowitz & Weissman, 2004).

Moreover, ethnicity-related cultural values (e.g., *familismo*, *machismo*, and *marianismo*) and sex-role norms and expectations have placed additional burdens on Hispanic women from generation to generation (Amaro, Felipe, & Johnson, 1987; Cianelli, Ferrer, & McElmurry, 2008; Peragallo et al., 2005; Peragallo et al., 2012). Therefore, having someone to rely and depend on while living in a foreign country provides a perceived balance and stability in their lives, especially for Hispanic immigrants (who make up most of our sample). As the stress lessens, so does the risk for depression (Lee, 2011).

Social ecological models, such as the framework used in this study, depict several levels that interact to influence health (McLeroy et al., 1988). Although this study examined only factors at the intra- and interpersonal levels, other levels of the SEM, such as institutional, community, and public policy, play an important role in mental health, and actions need to be taken across these levels. For example, at the institutional and community levels, the promotion of community and social service institutions that assist with services (e.g., transportation and language) to Hispanic immigrants aid in the promotion of mental health (Ornelas & Perreira, 2011). Local and federal governments must work together in order to diminish social inequalities that affect people's overall well-being (physical and mental health).

Limitations

Hispanics tend to minimize or avoid disclosing signs of depression, fearing they may be discriminated against due to having a mental condition (Leung, LaChapelle, Scinta, & Olvera, 2014). Therefore, one of the limitations of this study may include the possibility of underreporting depression-related symptoms. With regard to study design, because this was a cross-sectional study, temporal relationships could not be established. In addition, it was not possible to examine all levels of the SEM given this study's design, due to the fact that this was a secondary data analysis.

Future Research

In order to continue to explore and analyze the social determinants of depression among Hispanic women, research must continue. Future studies should recruit Hispanic women from different backgrounds in proportion to their percentage in the overall population. In the United States, Mexicans, Puerto Ricans, and Cubans are the largest Hispanic subgroups. Hispanics of Mexican origin account for almost two thirds of all Hispanics in the United States (64.9%), so it is crucial to study their patterns and associated factors with regard to depression. For example, it has been suggested in the literature that depression manifests itself differently among different Hispanic subgroups. While the prevalence of depression is higher in Puerto Ricans, the intensity and chronicity of this condition is higher among Mexicans (Oquendo et al., 2001). A large and balanced sample of Hispanic immigrants and

nonimmigrants would provide a better picture of the social determinants of depression that affect these groups.

Environmental factors and cultural factors are also part of the social determinants of mental health (WHO, 2014b). Acculturation, for example, although found not to be a significant social determinant of depression in this sample, is a factor that must continue to be explored. Acculturation has yielded conflicting findings in the literature in relation to depression in Hispanic women. Acculturation could be further explored using qualitative studies that assess the positive and negative experiences of immigrant Hispanics in U.S. society. In this way, sources of individual stressors and internal conflicts could be analyzed.

Prior research has suggested that depression can affect engagement in health promotion behaviors (Atkins, 2010; Brown et al., 2006; Cianelli et al., 2013; NAMI, 2014) such as condom use, substance abuse, and noncompliance with medication and dietary regimens. Therefore, it would be informative to study the mediating effects of depression in the relationship between its social determinants and engagement in health promotion behaviors. This will highlight the influence of depression in primary prevention and will give mental health a greater priority, which is needed worldwide (WHO, 2014b).

Based on an extensive literature review, a culturally tailored risk assessment tool that highlights the social determinants of depression in Hispanic women is nonexistent. The APA's *DSM-5* clearly highlights the crucial importance of cultural issues to proper clinical practice. Concepts such as cultural syndromes, cultural idioms of distress, and cultural explanation or perceived causes should be taken into account during clinical encounters, as they assist in accepting or rejecting a specific diagnosis (APA, 2013).

This study constitutes a starting point to the development of such a screening tool, which could serve as a filter to help identify Hispanic women who may be prone to depression. To develop a comprehensive tool, many other possible social determinants of depression need to be explored (i.e., *familismo*, *marianismo*, *machismo*, discrimination, separation from family, and family and partner conflict). Moreover, this tool will also need to be piloted and checked for acceptance and feasibility. This study informs and adds to the existing knowledge base on Hispanic women and depression and will help effectively intervene and implement health care practices that reduce health disparities related to depression.

Conclusion

This study is the first conducted that looks at the social determinants of depression among Hispanic women in South Florida, using an ecological framework to analyze the multilevel complexity of depression. Social determinants have a significant influence in the development of several mental health disorders, including depression. Hispanic women are a vulnerable group with a higher risk of developing depression than the general population, not only due to their gender but also due to their social environment. Therefore, nurses need to practice proactively and become culturally sensitive to the mental health care needs of this group of patients when encountering them in daily practice.

Findings of this study suggest that when a Hispanic woman does not live with her partner, has an educational level of below high school, and has a fair or poor health, she has a significantly higher risk of developing depression. Several other factors need to be further studied to better understand social determinants of depression among Hispanic women. Development of a culturally tailored risk assessment tool that highlights the social determinants of depression in Hispanic women is also essential, as it could be used as a standard practice in primary care and other appropriate health care settings.

Acknowledgments

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Support for this research was received from the Center of Excellence for Health Disparities Research: El Centro, National Center on Minority Health and Health Disparities Grant P60MD002266. Funding for the Minority Fellowship Program (MFP) was made possible (in part) by Grant Number 2T06SM060559-04 and Grant Number 1T06SM061725-01 from SAMHSA.

References

- Amaro H, Felipe N, Johnson J. Family and work predictors of psychological well-being among Hispanic women professionals. *Psychology of Women Quarterly*. 1987; 11:505521.
- American Psychiatric Association. *Diagnostic and statistical manual of mental disorders*. 5. Arlington, VA: Author; 2013.
- Atkins R. Self-efficacy and the promotion of health for depressed single mothers. *Mental Health in Family Medicine*. 2010; 7:155–168. [PubMed: 22477937]
- Brown LK, Tool-Shams M, Lescano C, Houck C, Zeidman J, Pugatch D, Lourie KJ. Depressive symptoms as a predictor of sexual risk among African American adolescents and young adults. *Journal of Adolescent Health*. 2006; 39:444.e1–e8. [PubMed: 16919811]
- Castillo L, Archuleta D, Van Landingham A. The influence of employment status on depressive symptomatology of U. S.-born Mexican American women. *Journal of Rural Community Psychology*. 2006; E9(1) Retrieved from http://www.marshall.edu/jrcp/9_1_Castillo.htm.
- Centers for Disease Control and Prevention. An estimated 1 in 10 adults in the U.S. report depression. 2012. Retrieved from <http://www.cdc.gov/Features/dsDepression/>
- Cianelli R, Ferrer L, McElmurry BJ. HIV prevention and low-income Chilean women: Machismo, marianismo and HIV misconceptions. *Culture, Health & Sexuality*. 2008; 10:297–306. DOI: 10.1080/13691050701861439
- Cianelli R, Lara L, Villegas N, Bernales M, Ferrer L, Kaelber L, Peragallo N. Impact of Mano a Mano Mujer, an HIV prevention intervention, on depressive symptoms among Chilean women. *Journal of Psychiatric and Mental Health Nursing*. 2013; 20:263–272. DOI: 10.1111/j.1365-2850.2012.01907.x [PubMed: 22452388]
- Davila M, McFall SL, Cheng D. Acculturation and depressive symptoms among pregnant and postpartum Latinas. *Maternal and Child Health Journal*. 2009; 13:318–325. DOI: 10.1007/s10995-008-0385-6 [PubMed: 18636323]
- Doornbos MM, Zandee GL, DeGroot J. Clinging to any bit of joy: Urban, ethnically diverse, impoverished women's descriptions of anxiety and depression. *Archives of Psychiatric Nursing*. 2012; 26:437–447. DOI: 10.1016/j.apnu.2011.12.007 [PubMed: 23164400]
- Ertel KA, Rich-Edwards JW, Koenen KC. Maternal depression in the United States: Nationally representative rates and risks. *Journal of Women's Health*. 2011; 20:1609–1617. DOI: 10.1089/jwh.2010.2657
- Farr SL, Bitsko RH, Hayes DK, Dietz PM. Mental health and access to services among US women of reproductive age. *American Journal of Obstetrics and Gynecology*. 2010; 203:542e1–e9. DOI: 10.1016/j.ajog.2010.07.007 [PubMed: 20817143]

- Fortner RT, Pekow P, Dole N, Markenson G, Chasan-Taber L. Risk factors for prenatal depressive symptoms among Hispanic women. *Maternal and Child Health Journal*. 2011; 15:1287–1295. DOI: 10.1007/s10995-010-0673-9 [PubMed: 20824317]
- Greenfield EA. Using ecological frameworks to advance a field of research, practice, and policy on aging-in-place initiatives. *The Gerontologist*. 2012; 52(1):1–12. DOI: 10.1093/geront/gnr108
- Institute of Medicine. How far have we come in reducing health disparities?. Washington, DC: National Academies Press; 2012.
- Khawaja IS, Westermeyer JJ, Gajwani P, Feinstein RE. Depression and coronary artery disease: The association, mechanisms, and therapeutic implications. *Psychiatry*. 2009; 6(1):38–51.
- Kirchner T, Patiño C. Stress and depression in Latin American immigrants: The mediating role of religiosity. *European Psychiatry*. 2010; 25:479–484. DOI: 10.1016/j.eurpsy.2010.04.003 [PubMed: 20619614]
- Kroenke K, Spitzer RL, Williams JB. The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine*. 2001; 16:606–613. [PubMed: 11556941]
- Lee SY. Racial variations in major depressive disorder onset among immigrant populations in the United States. *Journal of Mental Health*. 2011; 20:260–269. DOI: 10.3109/09638237.2011.562260 [PubMed: 21574791]
- Leung P, LaChapelle AR, Scinta A, Olvera N. Factors contributing to depressive symptoms among Mexican Americans and Latinos. *Social Work*. 2014; 59(1):42–51. [PubMed: 24640230]
- Lorenzo-Blanco EI, Cortina LM. Latino/a depression and smoking: An analysis through the lenses of culture, gender, and ethnicity. *American Journal of Community Psychology*. 2013; 51:332–346. DOI: 10.1007/s10464-012-9553-3 [PubMed: 22956250]
- McLeroy KR, Bibeau D, Steckler A, Glanz K. An ecological perspective on health promotion programs. *Health Education & Behavior*. 1988; 15:351–377. DOI: 10.1177/109019818801500401
- March D, Luchsinger JA, Teresi JA, Eimicke JP, Findley SE, Carrasquillo O, Palmas W. High rates of depressive symptoms in low-income urban Hispanics of Caribbean origin with poorly controlled diabetes: Correlates and risk factors. *Journal of Health Care for the Poor and Underserved*. 2014; 25:321–331. DOI: 10.1353/hpu.2014.0027 [PubMed: 24509029]
- Marin G, Gamba RJ. A new measurement of acculturation for Hispanics: The Bidimensional Acculturation Scale for Hispanics (BAS). *Hispanic Journal of Behavioral Sciences*. 1996; 18:297–316. DOI: 10.1177/07399863960183002
- Markowitz J, Weissman MM. Interpersonal psychotherapy: Principles and application. *World Psychiatry*. 2004; 3(3):136–139. [PubMed: 16633477]
- Merz EL, Malceme VL, Roesch SC, Riley N, Sadler GR. A multigroup confirmatory factor analysis of the Patient Health Questionnaire-9 among English- and Spanish-speaking Latinas. *Cultural Diversity and Ethnic Minority Psychology*. 2011; 17:309–316. DOI: 10.1037/a0023883 [PubMed: 21787063]
- Miranda J, Siddique J, Der-Martirosian C, Belin TR. Depression among Latina immigrant mothers separated from their children. *Psychiatric Services*. 2005; 56:717–720. DOI: 10.1176/appi.ps.56.6.717 [PubMed: 15939949]
- Mitrani VB, McCabe BE, Gonzalez-Guarda RM, Florom-Smith A, Peragallo N. Participation in SEPA, a sexual and relational health intervention for Hispanic women. *Western Journal of Nursing Research*. 2013; 35:849–866. [PubMed: 23493674]
- National Council of La Raza, Institute of Hispanic Health. Clinical disparities in Latino mental health: Transforming research into action. 2005. Retrieved from <http://research.policyarchive.org/20241.pdf>
- National Institute of Mental Health. Who is at risk?. 2012. Retrieved from <http://www.nimh.nih.gov/health/topics/depression/index.shtml#part4>
- National Prevention Strategy. America's plan for better health and wellness. 2010. Retrieved from <http://www.health-care.gov/center/councils/nphpphc/strategy/report.pdf>
- Oquendo M, Ellis S, Greenwald S, Malone K, Weissman M, Mann J. Ethnic and sex differences in suicide rates relative to major depression in the United States. *American Journal of Psychiatry*. 2001; 158:1652–1658. [PubMed: 11578998]

- 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; 73:1169–1177. DOI: 10.1016/j.socscimed.2011.07.002 [PubMed: 21908089]
- Peragallo N, DeForge B, O'Campo P, Lee S, Kim YJ, Cianelli R, Ferrer R. A randomized clinical trial of an HIV-risk reduction intervention among low-income Latina women. *Nursing Research*. 2005; 54:108–118. [PubMed: 15778652]
- Peragallo N, Gonzalez-Guarda RM, McCabe BE, Cianelli R. The efficacy of an HIV risk reduction intervention for Hispanic women. *AIDS and Behavior*. 2012; 16:1316–1326. DOI: 10.1007/s10461-011-0052-6 [PubMed: 21969175]
- Schwarz AG, McVeigh KH, Hoven C, Kerker BD. Racial and ethnic differences in depression by partner status and the presence of children in the household. *Women's Health Issues*. 2012; 22(6):e553–e561. DOI: 10.1016/j.whi.2012.07.006 [PubMed: 22964361]
- Shattell MM, Smith KM, Quinlan-Colwell A, Villalba JA. Factors contributing to depression in Latinas of Mexican origin residing in the United States: Implications for nurses. *Journal of the American Psychiatric Nurses Association*. 2008; 14:193204.doi: 10.1177/1078390308319034
- Spitzer RL, Kroenke K, Williams JBW. Validation and utility of a self-report version of PRIME-MD: The PHQ primary care study. *Journal of the American Medical Association*. 1999; 282:1737–1744. [PubMed: 10568646]
- Sternberg RM, Lee KA. Depressive symptoms of midlife Latinas: Effect of immigration and sociodemographic factors. *International Journal of Women's Health*. 2013; 5:301–308. DOI: 10.2147/IJWH.S43132
- Substance Abuse and Health Services Administration. Suicide Prevention. 2015. Retrieved from <http://www.samhsa.gov/suicide-prevention>
- Tabachnick, BG., Fidell, LS. Using multivariate statistics. 5. Boston, MA: Pearson; 2007.
- Vasquez E, Gonzalez-Guarda RM, De Santis J. Acculturation, depression, self-esteem, and substance abuse among Hispanic men. *Issues in Mental Health Nursing*. 2011; 32:90–97. DOI: 10.3109/01612840.2010.528169 [PubMed: 21247274]
- Vermeesch AL, Gonzalez-Guarda RM, Hall R, McCabe BE, Cianelli R, Peragallo NP. Predictors of depressive symptoms among Hispanic women in South Florida. *Western Journal of Nursing Research*. 2013; 35:1325–1338. DOI: 10.1177/0193945913496152 [PubMed: 23858067]
- Walker JL, Ruiz RJ, Chinn JJ, Marti N, Ricks TN. Discrimination, acculturation and other predictors of depression among pregnant Hispanic women. *Ethnicity & Disease*. 2012; 22:497–503. [PubMed: 23140083]
- Wassertheil-Smoller S, Arrendondo EM, Cai J, Castaneda SF, Choca JP, Gallo LC, ... Zee PC. Depression, anxiety, antidepressant use, and cardiovascular disease among Hispanic men and women of different national backgrounds: Results from the Hispanic Community Health Study/Study of Latinos. *Annals of Epidemiology*. 2014; 24:822–830. [PubMed: 25439033]
- World Health Organization. Depression. 2012a. Retrieved from <http://www.who.int/mediacentre/factsheets/fs369/en/>
- World Health Organization. Social determinants of health: Report by the Secretariat. 2012b. Retrieved from http://www.who.int/social_determinants/B_132_14-en.pdf?ua=1
- World Health Organization. Social determinants of health. 2014a. Retrieved from http://www.who.int/social_determinants/en/
- World Health Organization. Social determinants of mental health. 2014b. Retrieved from http://apps.who.int/iris/bitstream/10665/112828/1/9789241506809_eng.pdf?ua=1
- Wulsin L, Somoza E, Heck J. The feasibility of using the Spanish PHQ-9 to screen for depression in primary care in Honduras. *Primary Care Companion to the Journal of Clinical Psychiatry*. 2002; 4(5):191–195.

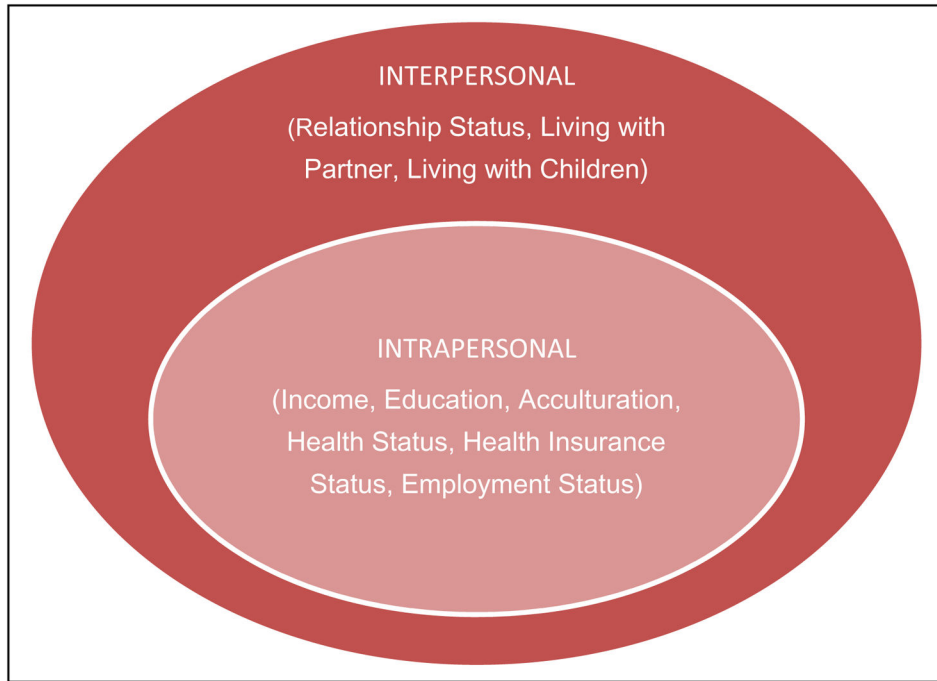


Figure 1.
Intra- and interpersonal levels of the social ecological model.
Note. Based on McLeroy et al. (1988).

Table 1

Demographic Characteristics.

Demographic Characteristics	<i>M</i>	<i>SD</i>	<i>n</i> (%)
Age	34.79	9.05	
Years in the United States	8.49	8.41	
Number of children			
0			66 (23.6)
1			94 (33.6)
2			75 (26.9)
3			32 (11.4)
4 or more			13 (4.7)
Children living in another country			
No			169 (60.4)
Yes			45 (16.1)
Has no children			66 (23.6)
Place of birth			
Cuba			144 (51.4)
Nicaragua			29 (10.4)
Honduras			26 (9.3)
Colombia			25 (8.9)
United States			14 (5.0)
Dominican Republic			13 (4.6)
Other			29 (10.4)
Religion			
Christian			103 (36.8)
Roman Catholic			84 (30.0)
None			83 (29.6)
Other non-Christian			10 (3.6)

Table 2

Independent *t* Tests Social Determinants of Depression.

Variable	Group 1		Group 2		<i>t</i>	<i>df</i>	<i>P</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Income	4.58	4.95	3.98	4.40	1.06	277	>.05	.13
Education	5.19	5.27	3.60	4.10	2.75	278	<.05	.34
Acculturation	7.00	4.36	4.25	4.71	1.29	278	>.05	.61
Health status	7.67	5.57	3.71	4.29	4.38	278	<.05	.80
Employment	4.05	4.66	4.95	4.81	-1.43	278	>.05	-.19
Health insurance	4.31	4.72	4.30	4.72	0.02	278	>.05	0
Relationship status	5.87	5.41	3.78	4.34	2.93	278	<.05	.43
Living with partner	5.67	5.31	3.64	4.25	3.18	278	<.05	.42
Living with children	5.03	5.04	4.53	4.83	0.68	203	>.05	.10

Significant relationships shown in bold

Table 3

Multiple Regression Analysis Findings.

Variables	Unstandardized	Standardized	<i>p</i>
	B	Beta	
Constant	10.146	—	<.001
Education	-1.288	-.132	<.05
Health status	-3.306	-.246	<.001
Living with partner	-2.792	-.258	<.001

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript