Social Stressors and Severity of Somatic Symptoms among Latina Immigrant Women

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Abstract

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Latina immigrants are exposed to several social stressors including those related to immigration and adjusting to life in the United States. These stressors have been associated with poor mental and physical health including somatic symptoms, which are physical aches and pains associated with distress, depression and anxiety. Our study aimed to describe patterns of social stressors and somatic symptoms in a community-based sample of Latina immigrants. The analysis used baseline data collected from women in 2018-2019 from the Amigas Latinas Motivando el Alma (ALMA) study (N = 107). Social stressors and somatic symptom severity were assessed in an in-person survey conducted by a bilingual interviewer. Frequencies and means of demographic characteristics, social stressors, and somatic symptoms were calculated. Linear regression models estimated the associations between stressors and somatic symptom severity, adjusted for age, education and language. Our sample was mostly older than 40 years (54%), about half of

our sample only spoke Spanish (47%) and less than half had a high school degree or equivalent degree (41%). Mild (40%) and moderate (34%) levels of somatic symptom severity were common in our sample. Our study showed that most women experienced low to moderate levels of stress. Higher levels of social stressors were associated with higher levels of somatic symptom severity. All stressors were significantly associated with increased somatic symptom severity, in adjusted models. Very few studies have assessed the prevalence of somatic symptoms and how they are related to stress in Latina immigrant women. With the under-recognized and under-treatment of mental health among Latinas it is important to better understand how Latina immigrants experience these stressors, including the tendency to present distress as physical symptoms.

Introduction

Depression is often under-recognized and under-treated in Latinas in the United States (US), in part due to cultural factors that influence the way Latinas experience depressive symptoms (Alegría, Canino, et al., 2008; Alegría, Chatterji, et al., 2008; Lewis-Fernandez, Das, Alfonso, Weissman, & Olfson, 2005). One way in which Latinas express depressive symptoms and psychological distress is through physical aches and pains, also clinically known as somatic symptoms (Bauer, Chen, & Alegría, 2012; Interian, Allen, Gara, Escobar, & Díaz-Martínez, 2006; Katon, Kleinman, & Rosen, 1982; Koss, 1990). Somatic symptoms are often unable to be explained medically and can be associated with increased use of healthcare services, due to primary care physicians not recognizing symptoms as mental health concerns (Interian et al., 2006; Katon et al., 1982). These somatic symptoms can arise from stressors and trauma that many Latinas may encounter (Loeb et al., 2018). If untreated, persistent somatic symptoms can negatively affect both physical and mental health (Creed et al., 2012; Edwards, 2008; Jamieson & Steege, 1997; Jones, Van Oudenhove, Koloski, Tack, & Talley, 2013; Minen et al., 2016)

Previous research has shown that women are more likely to report somatic symptoms than men (Canino, Rubio-Stipec, Canino, & Escobar, 1992; Piccinelli & Simon, 1997; Ros Montalbán, Comas Vives, & Garcia-Garcia, 2010). However, women also experience higher levels of psychological distress than men (Betrus, Elmore, & Hamilton, 1995). Only a few previous studies have examined somatic symptoms among Latinas. In those studies, somatization was associated with older age, lower acculturation, recent migration, and lower educational attainment (Angel & Guarnaccia, 1989; Canino et al., 1992; Escobar, Rubio-Stipec, Canino, & Karno, 1989; Ramos, 2005; Tamayo, Román, Fumero, & Rivas, 2005).

Research has also shown that Latina women have a unique way of expressing phycological distress that may be due to their culture. Among Latinas, somatic forms of distress have been characterized with cultural idioms, such as "ataques de nervios" (attack of nerves), which is a strong emotional response to interpersonal stressors (Lewis-Fernandez et al., 2005). Research has also shown that Latinas express somatic symptoms more than Latino men (Barsky, Peekna, & Borus, 2001; Kemp et al., 2012; Wenzel, Steer, & Beck, 2005). Because somatization is a more common way for Latinas to experience social or emotional distress, somatic symptoms may be an important indicator of depression (Escobar et al., 1987; Kirmayer & Young, 1998; Liefland, Roberts, Ford, & Stevens, 2014; Skapinakis & Araya, 2011; Zuvekas & Fleishman, 2008).

Exposure to traumatic and adverse events, such as those many Latina immigrants experience during migration, have also been associated with distress, poor mental health and high somatic symptom severity (Garcini et al., 2016; Loeb et al., 2018; Tran et al., 2014). In addition to these stressors, undocumented Latina immigrants face language difficulties and fear of deportation, which may contribute to anxiety and overall mental distress (Arbona et al., 2010). Latina immigrants also experience stressors such as poverty, discrimination, and separation from their families, which can lead to poor mental health (Caplan & Buyske, 2015; Cavazos-Rehg, Zayas, & Spitznagel, 2007; Cobb, Xie, Meca, & Schwartz, 2017; Garcini et al., 2017; Sullivan & Rehm, 2005; Torres, Alcántara, Rudolph, & Viruell-Fuentes, 2016). These types of social stressors are important components to understanding somatic symptom presentation because they increase the risk for poor physical and mental health, including physical aches and pains, anxiety, depressive symptoms, and a variety of chronic health conditions (Loeb et al., 2018; Ros Montalbán et al., 2010).

Latinos represent a large and growing part of the US population, representing 18.1% of the US population or roughly 58.8 million people (US Census Bureau, 2017). Therefore, it is important to understand the way Latinos experience distress, as many Latino immigrants face chronic stressors before, during, and after migration. As centers of the Latino household, Latinas work outside the home as well as carrying responsibilities inside the home. Thus, it is imperative to examine psychosocial burdens of Latinas. However, very few studies have assessed the prevalence of somatic symptoms among Latina immigrants and their relationship to social stressors. This study aims to describe patterns of somatic symptom presentation and their associations with social stressors in a community-based sample of Latina immigrants.

Methods

Study Design and Data Collection

This study used data from the Amigas Latinas Motivando el Alma (ALMA) study. The ALMA study evaluated the impact of a group-based intervention on depression and anxiety among Latina immigrants. Women were recruited at community-based organizations serving Latino immigrants. To be eligible for study, women had to be 18 years or older, Spanish-speaking, and identify as a Latina immigrant. All participants provided consent and the study was approved by the University of Washington Human Subjects Division. Participants were asked to complete four interviewer administered surveys in Spanish as part of the study. This analysis used only data collected as part of their first survey in 2018-2019.

Survey Measures

All measures included in the survey were administered in Spanish. Data were collected by trained bilingual interviewers at community organization partner sites. The survey included questions on participant demographic characteristics, perceived stress, migrant stress severity, discrimination, perceived stress, immigrant stressors, and somatic symptoms.

Demographic characteristics – Participants provided demographic information including age (under 40, 40 or older), years in the US (less than 10 years, 10 – 20 years, > 20 years), country of origin (Mexico, country other than Mexico), English proficiency (only Spanish, Spanish more than English, same or English more), highest level of education completed (less than high school degree, high school degree or higher), monthly income (under $2200, $2200 or more), employment status (working, currently not working), marital status (currently living with partner, not living with partner), and immigration status. Immigration status in the US was recorded using a survey with 9 categories to facilitate analyses, responses were recoded into three categories: US citizen/resident/possession of a current visa, entry and/or stay without permission, or preferred not to answer.

Perceived Stress – The Perceived Stress Scale (PSS) was used to assess overall stress level. The 4-item scale measures the degree to which events in the participant's life are stress-inducing in the past month (Cohen, 1988). Participants were asked how often they experienced certain overwhelming thoughts or feelings. Total scores ranged from 0 to 16, with higher scores indicating a higher level of perceived stress. The PSS has been previously used among Spanish-speaking populations (Ramírez & Hernández, 2007), and a longer version (PSS-10) has been validated in a sample of Latino adults (Baik et al., 2019).

Migrant Stress Severity – Migrant Stress Severity was measured using six items adapted from the Migrant Farmworker Stress Inventory (MFWSI) (Hovey & Magaña, 2000). Items were selected based on literature review and formative work among Latina immigrants to identify the most common and relevant stressors. The selected items included: difficulty accessing healthcare, difficulty communicating in the English language, working long hours, feeling like they do not belong in the US, difficulty finding a place to live, and difficulty migrating to this country. Each item was scored on a 4-point scale. Response options included: Not at all stressful (0), Somewhat stressful (1), Moderately stressful (2), Extremely stressful (3). Responses were summed for a total score, ranging from 0 to 18 with higher scores indicated higher levels of stress.

Discrimination – Discrimination was measured using a 5-item instrument, developed based on items used in the California Health Interview Survey adapted from the Everyday Discrimination Scale (Shariff-Marco et al., 2011). Participants were asked whether, since arriving to the US, they had been "treated unfairly", at work, at stores or restaurants, from getting medical care, by police, courts, or immigration enforcement. We created an indicator variable for those that had ever experienced discrimination in any setting.

Immigrant Stressors – We assessed immigrant stress using selected items from the Immigration Stressor Scale (Goodkind, Gonzales, Malcoe, & Espinosa, 2008; Read-Wahidi & Decaro, 2017). The nine items selected were selected based on formative work with this population (Rios Casas et al., 2020). Each item was scored on a 4-point scale, indicating how

often participants had experienced each immigration-specific worry. Response options included: Never (0), Seldom (1), Sometimes (2), and Always (3*).* The scale is divided into 3 stress subcategories; social relationships, legal concern and basic needs, each with 3 related items. The social relationships stress subscale contained items such as, worrying about friends and family back in their home country. The legal concern stress subscale contained items such as, worrying about being arrested and worrying about being deported. The basic needs stress subscale contained items such as, worrying about serious illness or accident, and worrying about meeting the basic needs of the family. Responses of items in subscales were summed for a total score ranging from 0 to 9.

Somatic Symptoms – Somatic symptoms were assessed with the Spanish version of the Patient Health Questionnaire-15 (PHQ-15). The scale asks participants to report how much 15 different physical problems have bothered them over the past 4-weeks (Kroenke, Spitzer, Williams, & Löwe, 2010; Ros Montalbán et al., 2010). Responses range from, Not bothered at all (0), Bothered a little (1), and Bothered a lot (2), for a total score range of 0 to 30. PHQ-15 scores of 5, 10, and 15 represent thresholds for minimal (0 to 4), mild (5 to 9), moderate (10 to 14), and severe (15 to 30) levels of somatic symptom severity. Symptoms that are included in the PHQ-15 measure are; stomach pain, back pain, headaches, chest pain, and trouble sleeping. The PHQ-15 has been validated for Spanish use in patients with depression and/or anxiety disorders in psychiatry but has not been used widely in Latino populations in the US (Ros Montalbán et al., 2010).

Data Analysis

Our analytic sample include all participants with complete data for somatic symptoms (N=107). Rare cases of missing values were mean imputed (n>5). Descriptive statistics were tabulated for demographic characteristics, social stressors, including; perceived stress, migrant stress severity, discrimination, and immigrant stressors, as well as somatic symptom severity. Regression coefficients were calculated using perceived stress, migrant stress severity, discrimination, social relationships stress, legal concern stress, and basic needs stress as independent variables and somatic symptom severity as the dependent variable. Adjusted models included age, education, and language, which have been observed to be associated with somatic symptoms in previous studies (Table 2) (Alegría et al., 2007; Barsky, Orav, & Bates, 2005; Demyttenaere et al., 2010; Hegeman, de Waal, Comijs, Kok, & van Der Mast, 2015; Pina & Silverman, 2004; Ramos, 2005; Schaakxs, Comijs, Lamers, Beekman, & Penninx, 2017). Finally, a full adjusted model (Table 3) including all stressors estimated the association between all stressors and somatic symptom severity.

Results

The characteristics of our sample are described in Table 1. In our sample, 54% were over 40 years old. The majority of our sample reported living in the US for more than 10 years (83%), and 85% were born in Mexico. Many (48%) entered or are in the US without permission and spoke only Spanish (47%). About 41% had a high school degree or equivalent degree, and 71% were not currently employed. In terms of somatic symptom severity, 14% had minimal levels, 40% had mild levels, 34% had moderate levels, and 12% had severe levels somatic symptom severity. There were no significant differences in somatic symptom severity across demographic characteristics.

Adjusted regression models for each social stressor and somatic symptom severity are presented in Table 2. All stressors, including perceived stress, migrant stress severity, discrimination, social relationships stress, legal concern stress and basic needs stress, were significantly associated with increased somatic symptom severity, in adjusted models. Discrimination was strongly associated with increased somatic symptoms. Those who experienced discrimination had 2.34-point higher level of somatic symptom severity than those that did not. All other stressors were also associated with higher somatic symptom severity. In the full model (Table 3), only perceived stress continued to be associated with somatic symptom severity. For each additional point increase on the perceived stress scale, there was an increase of 0.64-point in somatic symptom severity.

Discussion

In this study we aimed to examine social stressors and somatic symptoms in a community-based sample of Latina immigrants. Our study results showed that perceived stress, migrant stress, social relationships stress, legal concern stress and basic needs stress were all associated with higher levels of somatic symptom severity. The majority of our sample reported mild or moderate levels of somatic symptoms. Although all immigration related stressors were significant and important in understanding somatic symptom severity on their own, when assessed together general perceived stress had the most significant impact on somatic symptom severity. This is an important finding, suggesting that it is important to consider both types of stress in order to understand patterns of somatic symptoms in Latinas.

Very few studies have assessed the prevalence of somatic symptoms and how they are related to stress in Latina immigrant women. Our findings suggest mild and moderate levels of

somatic symptoms were common among Latina immigrant in our sample. Our sample had a higher percentage of mild and moderate levels of severity than a previous study validating the PHQ-15 measure (Kroenke, Spitzer, & Williams, 2002). This study included a large sample of primary and obstetrics-gynecology patients (Kroenke et al., 2002). Another validity study with a sample of participants with high levels of medically unexplained symptoms reported a mean somatic severity score much higher (14.4, SD = 5.3) than our study (9.5, SD = 4.52) (Interian et al., 2006). This mostly Latino sample was recruited through clinical sites to treat moderate to severe levels of somatic symptoms (Interian et al., 2006). Therefore, the higher levels of somatic symptom severity could be attributed to these differences.

Our study shows that most women experienced low to moderate levels of stress. The mean perceived stress score in our sample was below the midpoint of the PSS-4 scale range. The average migrant stress severity score was also below the midpoint of its scale. The mean severity scores for our three immigrant stress scores were in the upper half of the scale for social relationships stress and basic needs stress and in the lower half for legal concern stress. This is an important addition to the literature, as levels of immigration and general stress among Latina immigrant women have not been reported in previous studies.

Previous research has shown somatic symptoms are associated with stressors and trauma (Loeb et al., 2018). Our study results show that the kinds of stressors that are associated with somatic symptom severity among immigrant Latinas are both general and immigrant related. Although all stressors were positively associated with symptom severity, when controlling for other associated stressors perceived stress severity, general perceived stress showed the strongest relationship with somatic symptoms.

The association between somatic symptoms and stressors may have several underlying factors. Somatization among Latinas has been associated with older age, lower acculturation, lower education and recent migration (Canino et al., 1992; Piccinelli & Simon, 1997; Ros Montalbán et al., 2010). In our sample, younger women tended to have higher levels of somatic symptoms; however, this association was not statistically signifcant. Younger women might express stressors more strongly as somatic symptoms due to not being as acculturated older women. In our sample, the majority of women under 40 had been in the US less than 20 years, compared to women over 40 who were more likely to have been in the US more than 20 years. Similar to other studies, women that had migrated more recently also had higher levels of somatic symptoms. However, women that spoke both English and Spanish had higher somatic symptom severity levels than those who only spoke Spanish or Spanish more than English. This may be due to being exposed to more stressors while navigating two distinct cultures, particularly in one in which they may be speaking a second language.

Our study has a few limitations, firstly most participants of the ALMA study were recruited from a group of existing clients at community-based organizations in which study sessions were held. Thus, our sample may be comprised of participants that differ from the overall Latina population, due to their relationship with an existing organization that may offer services for dealing with social stressors. Caution must be taken when interpreting our results and generalizing to the broader Latina immigrant community. The sample consisted of all female participants, future studies should consider how the expression of stressors may differ between genders (Barsky et al., 2001). Additionally, stress measures had various recall times, from past months to since arrived in the US. Ideally, measures of similar recall times would be more beneficial. The use of adapted stress measures also hindered our ability to compare our stressor

results with that of other studies. Despite these limitations the study contributes to the limited literature of somatic symptom severity and patterns of stressors experienced by Latina immigrant women. Our study also had several strengths. The inclusion of various stress measures covering everyday stress, discrimination and immigrant stressors allowed for a better examination of association with somatic symptom severity. In addition, the administration of the survey by trained bilingual interviewers allowed for great response rates and data collection with minimal missing data.

Conclusion

The Latina immigrant population faces various stressors including discrimination, fear of deportation, loss of protective social relationships and stress due to acquiring basic needs, that result in poor mental and physical health. With the under-recognized and under-treatment of mental health among Latinas it is important to better understand how Latina immigrants experience these stressors, including the tendency to present distress as physical symptoms (Liefland et al., 2014). Researchers and healthcare professional serving this population should consider types and severity of stressors experienced by Latina immigrants and ask their patients about their physical aches and pains. The continued work of healthcare professionals to inform and educate Latinas about the importance of reporting symptoms, and their possible association to psychiatric distress is also needed. It is imperative for them to be informed and familiar with stressors Latinas face and the complex relationship between stressors and somatic symptom severity, to provide appropriate services.

Table 1: Participant Characteristics (N = 107)

Demographic	N[i]	Percent[ii]	Mean somatic severity score	(sd)
Age				
Under 40	49	45.8%	10.22	(4.64)
Over 40	58	54.2%	8.91	(4.37)
Years in the US				
Less than 10	18	17.0%	10.44	(4.84)
10 – 20	63	59.4%	9.52	(4.62)
> 20	25	23.6%	8.64	(4.02)
Country of Birth				
Mexico	91	85.1%	9.40	(4.45)
Country other than Mexico[iii]	16	15.0%	10.17	(5.01)
Immigration Status				
Citizen or Current Visa/Permission	32	29.9%	9.08	(4.03)
Entry and/or stay without permission	51	47.7%	9.67	(4.75)
Preferred not to or did not answer	24	22.4%	9.75	(4.77)
Language				
Only Spanish	50	46.7%	8.58	(3.91)
More Spanish than English	40	37.4%	9.79	(5.08)
Same or mostly English	17	15.9%	11.59	(4.24)
Education				
Less than high school degree	33	30.8%	9.09	(4.66)
High school degree or equivalent	44	41.1%	9.11	(4.06)
At least some college	30	28.0%	10.56	(4.97)
Monthly Income				
Under $2200	49	47.1%	9.57	(4.29)
$2200 or more	55	52.9%	9.35	(4.81)
Employment				
Working	31	29.0%	9.76	(4.62)
Not working	76	71.0%	8.90	(4.27)
Partner living in Home				
Currently living with partner	64	59.8%	9.39	(4.30)
Not living with a partner	43	40.2%	9.70	(4.87)
Categorical PHQ-15 Severity				
Minimal (0-4)	15	14.0%	2.87	(0.83)
Mild (5-9)	43	40.2%	7.30	(1.39)
Moderate (10-14)	36	33.6%	12.06	(1.62)
Severe (15-30)	13	12.2%	17.46	(2.11)
Stressors			**Mean stressor score**	**(sd)**
Perceived Stress			6.15	(3.11)
Migrant Stress Severity			7.60	(4.12)
Discrimination in any setting (N & %)				
Yes			27	25.2%

No	80	74.8%
Social Relationships Stress	6.42	(1.92)
Legal Concern Stress	4.27	(2.68)
Basic Needs Stress	5.75	(2.37)

[i] N may not add up to 107, due to participants non-response/missing data

[ii] Percentages may not add up to 100% due to rounding

[iii] El Salvador (N=6), Columbia (N=3), United States (N=2), Argentina (N=1), Ecuador (N=1), Guatemala (N=1), Peru (N=1), Venezuela (N=1)

Table 2. Adjusted Coefficients Estimating Association of Social Stressors with Somatic Symptom Severity (N= 107)

Social Stressors	**Adj. Coef.**	**95% CI**		**p-value**
Perceived Stress	0.72	0.48	0.96	0.000*
Migrant Stress Severity	0.27	0.05	0.50	0.016*
Discrimination in any setting	2.34	0.40	4.27	0.018*
Social Relationships Stress	0.73	0.24	1.21	0.003*
Legal Concern Stress	0.56	0.22	0.90	0.001*
Basic Needs Stress	0.71	0.37	1.04	0.000*

Table 3. Adjusted Coefficients of Social Stressors and Somatic Symptoms and other Significant Stressors (N = 107)

Social Stressors	**Adj. Coef.**	**95% CI**		**p-value**
Perceived Stress	0.61	0.36	0.86	0.000*
Migrant Stress Severity	0.01	-0.19	0.22	0.888
Discrimination in any setting	1.64	-0.23	3.51	0.084
Social Relationships Stress	0.06	-0.50	0.63	0.827
Legal Concern Stress	0.26	-0.14	0.66	0.201
Basic Needs Stress	0.16	-0.26	0.57	0.453

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