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Understanding the Relationship Between Social Stressors, Trauma, and Somatic Symptoms Among Latina Immigrant Women

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Abstract

Background—Latina immigrant women are at increased risk for poor mental health. Little is known about factors associated with somatic symptoms, the physical manifestation of distress, in this population. This study examined associations between social stressors, trauma, and somatic symptoms.

Methods—This study used survey data from a community-based sample of Latina immigrant women ($n = 154$). We determined the frequency of somatic symptoms and used linear regressions to estimate associations of stressors and trauma with physical symptoms.

Results—Most participants reported mild or moderate levels of somatic symptom severity. In univariate models, all social stressors and trauma types were significantly associated with higher levels of somatic symptoms. A multivariate model suggested perceived stress was associated with increased somatic symptoms after accounting for other stressors and trauma.

Discussion—Future research should examine whether stress and trauma lead to higher levels of somatic symptoms among Latina immigrants.

Keywords

Latina immigrants; Somatic symptoms; Stress; Trauma

Introduction

Depression is often overlooked and undertreated in Latinas in the USA, in part due to cultural factors that influence how symptoms are experienced [1, 2]. Some studies suggest that Latinas commonly express depressive symptoms and psychological distress through physical manifestations, known as somatic symptoms [3–5]. Examples of somatic symptoms include shortness of breath, feeling heart pounding or racing, back pain, stomach pain, and pain in arms, legs, or joints [4]. Previous research among Latinas has also documented common cultural constructions of somatic symptoms experienced as a result of stressful life experiences, such as “susto” and “nervios” [6–9]. These cultural constructs have been identified as “idioms of distress” because they provide a culturally meaningful way for

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people to communicate and explain their mental distress, illness experiences, and suffering [10–12]. Because of the many different ways patients present with somatic symptoms, they can be difficult to diagnose and are associated with increased health care utilization [3]. Persistent somatic symptoms can negatively affect both physical and mental health [13].

Latinas may be more likely to perceive and communicate stress as physical symptoms than other racial/ethnic groups because of familiar cultural understandings of distress and trauma [11, 14–17]. For example, “nervios” is an illness often associated with psychological distress that can manifest as headaches, chest pain, abdominal pain, and high or low blood pressure [6]. Previous research has shown that somatic symptoms are associated with older age and lower educational attainment. However, research on the relationship between somatic symptoms and acculturation has been mixed [4, 18, 19]. Latina immigrants may be at increased risk for depressive and somatic symptoms due to stressors related to immigration and adapting to life in the USA [20]. These women often experience financial stress, discrimination, and separation from their families during the migration process [21, 22]. Following migration, language barriers and fear of deportation contribute to overall mental distress [23].

Trauma is also commonly experienced by Latina immigrants, before, during, and after the migration process [24, 25]. Exposure to adverse events is associated with mental distress, poor health, and high somatic symptom severity among Latino immigrants [5, 15, 26–29]. In addition, exposure to abuse and neglect, interpersonal violence, and sexual violence during childhood has been associated with higher levels of somatic symptoms [30, 31]. Cultural explanations for traumatic life events, such as “susto,” are also associated with physical symptoms such as problems with sleep, trembling, vomiting, and diarrhea [7]. There is evidence that these associations are stronger among women than men [32, 33].

Because of their unique experiences, it is important to understand the way Latina immigrants experience distress and its impact on their mental and physical health. The goal of this study was to build on previous literature by assessing the prevalence of somatic symptoms and their association with trauma and social stressors in a community-based sample of Latina immigrants.

Methods

Study Design and Data Collection

This study used baseline data from the Amigas Latinas Motivando el Alma (ALMA) study, an evaluation of the efficacy of a group-based intervention on depression and anxiety among Latina immigrants in Western Washington. The study was conducted in partnership with two community-based organizations providing social services such as English classes, employment opportunities, and parenting support to Latino immigrants, which also served as the sites for the intervention. Participants were recruited from among organization clients from September 2018 to March 2020 using fliers, social media, and word of mouth. To be included in the study women had to be at least 18 years, be Spanish speaking, and identify as Latina immigrant. Women with a history of bipolar disorder, schizophrenia, or those with high levels of depressive symptoms (score of 20 or higher on the Patient Health

Questionnaire-9 [PHQ-9] administered during screening) were excluded from the study. Participants were screened ($n = 172$) and enrolled ($n = 156$) in waves until recruitment goals were met. Two participants were ineligible at screening, 4 declined to participate, and 10 were lost to follow-up between the screening and the survey. Consent was provided by participants, and the study was approved by the University of Washington Human Subjects Division.

Survey Measures

Surveys were administered by trained bilingual interviewers in Spanish. The surveys included questions on demographic characteristics, perceived stress, acculturation stress severity, immigration stressors, discrimination, traumatic experiences, and somatic symptoms.

Demographic Characteristics—Participants provided demographic information including age, years in the USA, country of origin, language (Spanish, Spanish more than English, bilingual, or more English than Spanish), the highest level of education completed (less than high school degree, high school degree or equivalent, or at least some college), and monthly household income dichotomized under \$2200 or at least \$2200 per month corresponding with federal poverty guidelines for a household of four. A household size of four was used based on the average number of people per household in our sample (4.34 [SD = 2.03]). Participants were asked whether they were currently working, their marital status (defined broadly as currently living with a partner or not), and their immigration status. Participants were given several response options to indicate their immigration status, including the option not to answer. Based on our previous research, we were most interested in restrictions related to being in the USA without permission [24]. Therefore, responses were categorized into (1) US citizen/resident/possession of a current visa, (2) entry and/or stay without permission, and (3) those who preferred not to or did not answer.

Perceived Stress—The Perceived Stress Scale (PSS)-4 was used to assess the frequency with which events in participants' lives were stress-inducing in the prior month [34]. Scores ranged from 0 to 16, with higher scores indicating a higher frequency of perceived stress. The PSS has been previously used among Spanish-speaking populations [35, 36].

Acculturation Stress—Acculturation stress severity was measured using six items adapted from the Migrant Farmworker Stress Inventory (MFWSI) [37]. Items were selected based on the results of formative work to identify the common and pertinent acculturation stressors among Latina immigrants [24]. Items included difficulty accessing healthcare, difficulty communicating in the English language, working long hours, feeling like they do not belong in the USA, difficulty finding a place to live, and difficulty migrating. Each item was scored on a 4-point scale: not at all stressful, somewhat stressful, moderately stressful, or extremely stressful. Responses were summed for a total score, ranging from 0 to 18 with higher scores indicating higher levels of acculturation stress.

Immigration-Related Stressors—We assessed immigrant stress using 9 items from the Immigration Stressor Scale based on formative work with Latina immigrant women

in the USA [24, 38, 39]. Questions asked how often participants had experienced each immigration-specific worry. Response options for each item were scored never (1), seldom (2), sometimes (3), and always (4). The scale was divided into 3 stress subcategories: family separation, legal concerns, and basic needs. The family separation subscale contained items such as worrying about friends and family in their country of origin. The legal concern subscale examined topics such as fear of being arrested and/or deported. The basic needs subscale contained items related to worries about serious illness or accidents and meeting the basic needs of the family. Responses of items in subscales were summed for a total score ranging from 0 to 9 with higher scores indicating more frequent stressors.

Discrimination—Discrimination was measured using a 5-item instrument developed based on the California Health Interview Survey and adapted from the Everyday Discrimination Scale [40]. Participants were asked whether they had been “treated unfairly” at work, stores, restaurants, when receiving medical care, by police, courts, or immigration enforcement since arriving in the USA. An indicator variable was created for experiencing discrimination in any setting.

Traumatic Life Events—Traumatic life events were measured using a 15-item adapted version of the Life Events Checklist (LEC-5) for the Diagnostic and Statistical Manual of Mental Disorders-5 [41]. Participants were asked if they had ever experienced specific events anytime during their lifetime and received a total score between 0 and 15. Life events were collapsed into three subgroups: physical assault, sexual assault, and having witnessed violence. The physical assault included (1) being attacked, stabbed, or seriously injured; (2) being hit, slapped, kicked, or beaten up by a family member; and (3) being hit, slapped, kicked, or beaten up by someone not in your family. Sexual assault included having had an adult touch your private parts when they were not supposed to and whether someone forced or pressured sexual relations. Witnessing violence included (1) seeing someone else attacked, stabbed, shot at, seriously injured, or killed; (2) seeing a family member attacked, hit, slapped, kicked, or beaten; and (3) seeing someone from the community attacked, hit, slapped, kicked, or beaten. Individual indicator variables for each subgroup were created for the subgroups described.

Depressive Symptoms—Depressive symptom severity was assessed using the PHQ-9, which asks how frequently in the previous 2 weeks participants have experienced common symptoms of depression. Response options were reported as not at all, several days, more than half the days, and nearly every day. Responses were summed to create a total score ranging from 0 to 27. The PHQ-9 has been assessed for use among racial and ethnic minority populations including Latinos [42].

Anxiety Symptoms—Anxiety symptom severity was measured using the Generalized Anxiety Disorder-7 (GAD-7) scale, which had previously been validated in a Spanish-speaking community sample [43]. The 7-item measure asks how frequently participants have been bothered by experiencing common symptoms of anxiety using the same response options available in the PHQ-9. Responses were summed for a total score which ranged from 0 to 21.

Post-traumatic Stress—The Post-Traumatic Checklist (6-item Civilian Version [PCL-C]) was used to measure symptoms of post-traumatic stress disorder [44]. Participants indicated how much they were bothered over the past month by traumatic experiences, such as recurring memories and avoidance of activities using not at all, a little bit, moderately, quite a bit, or extremely. Response options were summed with scores ranging from 6 to 30. An indicator variable with a threshold PCL-C score of 14 indicated a high severity of post-traumatic stress disorder symptoms [44].

Somatic Symptoms—Somatic symptoms were assessed using the Patient Health Questionnaire-15 (PHQ-15) translated into Spanish. The scale asks participants to report how much 15 different physical symptoms have bothered them over the past 4 weeks [45]. Responses were recorded on a scale from 0 to 2 (not bothered at all, bothered a little, or bothered a lot) for a total score range of 0 to 30. PHQ-15 categories include minimal (0 to 4), mild (5 to 9), moderate (10 to 14), and severe (15 to 30). Somatic symptoms comprising the PHQ-15 measure include stomach pain, back pain, headaches, chest pain, and trouble sleeping. The Spanish-translated PHQ-15 has been validated for use in patients with depression and/or anxiety disorders [45].

Data Analysis

Our analytic sample included all participants with somatic symptoms data ($N = 154$); we excluded 2 enrolled participants due to missing outcome data. Data was mostly complete; only 7 participants did not answer all questions. Mean imputations were used for the missing values, which were considered missing at random as no discernible pattern of missingness was found. Descriptive statistics were tabulated with other demographic characteristics, somatic symptoms, depression, anxiety, PTSD, traumatic life experiences, and social stressors. Linear regression models examined the association of perceived stress, acculturation stress severity, discrimination, family separation stress, legal concern stress, basic needs stress, physical assault, sexual assault, and witness of violence as independent variables with somatic symptom severity as the outcome of interest. Models were adjusted for age, education, and language, chosen a priori due to their association with somatic symptoms in previous studies [18, 19, 46]. A final adjusted model included all stressors and trauma associated with somatic symptoms in univariate analyses with $p < 0.05$. This was used to estimate the association between all stressors and trauma in the presence of each other with somatic symptom severity.

Results

The characteristics of our sample are described in Table 1. The mean age of the women was 40.36 (standard deviation [SD] 10.25). On average, participants reported living in the USA for 14.19 years ($SD = 7.15$) and 84% were born in Mexico. Many participants had entered or were in the USA without permission (51%). Most had a high school degree or equivalent or some college or college degree (79%). About 30% were currently employed. Within the study population, 16% experienced minimal somatic symptoms, 38% had mild symptoms, 33% had moderate symptoms, and 13% had severe symptoms. The mean level of somatic symptom severity was 9.35 ($SD = 4.64$). The mean depression symptom score was 7.35

(SD = 4.94), indicating mild severity, and the mean anxiety symptom score was 7.19 (SD = 5.00), indicating mild severity. The mean PTSD symptom score was 13.37 (SD = 5.46).

The mean perceived stress score in our sample was 6.39 (SD = 3.11), indicating that participants reported experiencing at least one stressor sometime in the past month. The mean acculturation stress severity score was 7.87 (SD = 3.99) indicating that, on average, participants reported that more than one item was at least somewhat stressful. The mean scores for family separation stress, legal concern stress, and basic needs stress were 6.41 (SD = 1.85), 4.42 (SD = 2.77), and 5.92 (SD = 2.28), respectively, indicating participants experienced at least one stressor sometimes. Approximately 29% of the participants reported experiencing discrimination in any setting.

Nearly every woman (97%) reported experiencing at least one type of trauma. More than half reported being a witness of violence and/or experiencing physical assault, 64% and 54%, respectively. Two-fifths (40%) of our sample reported experiencing sexual assault (results of the other types of trauma are reported in the Appendix Table 3).

Table 2 shows the coefficients for regression models estimating the association of each stressor and trauma with somatic symptom severity adjusted for age, education, and language. All stressors and trauma types, including perceived stress, immigration stress, discrimination, family separation, legal concerns, basic needs, physical assault, sexual assault, and witness of violence, were significantly associated with increased somatic symptom severity. Among the stressors, perceived stress, basic needs stress, and discrimination were the most strongly associated with somatic symptom severity. Among the different types of trauma, sexual assault was the most strongly associated with somatic symptom severity. In the full adjusted model, which included all stressors and trauma types, only perceived stress was significantly associated with somatic symptom severity.

Discussion

In this study, we evaluated social stressors, trauma, and somatic symptoms in a community-based sample of Latina immigrants. Most of the participants in our study were experiencing at least mild or moderate levels of somatic symptoms. Participants also reported high levels of social stressors and exposure to trauma. Our results showed that general stress, the stress associated with acculturation and immigration, discrimination, and trauma were all associated with higher levels of somatic symptoms.

This study builds on previous studies documenting somatic symptoms in Latina immigrant women, especially those related to “idioms of distress” such as “nervios” and “susto” [5–8, 15, 26, 27, 47, 48]. Our findings suggest that somatic symptoms may be a common presentation of distress for Latina immigrants, even among those with only mild levels of depressive and anxiety symptoms. Previous studies have documented similar levels of somatic symptoms among Latina participants recruited from health care settings with a history of stress or trauma [3, 49]. Participants experiencing stress and trauma were more likely to report somatic symptoms, suggesting that somatic symptoms may be an expression of distress. In particular, basic needs, discrimination, and sexual assault were strongly

associated with increased symptom severity. Future studies should examine the impact of these different types of stressors, when they occur during the migration process, and when they lead to increased symptom severity.

As with previous studies, we found that participants in our study experienced high levels of immigration-related stressors and trauma [50, 51]. The stress related to being separated from family was the most frequently reported immigration-related stressor. Our study took place in a designated sanctuary city with measures to protect and support immigrants, including those without legal permission to enter or stay in the country [52]. Therefore, women in our study may have had fewer legal concerns than women living in other locations where there is increased immigration enforcement.

Nearly all participants reported experiencing at least one traumatic life event, witnessing or experiencing physical violence was the most common. Previous studies among Latina immigrant women have also documented that trauma is a common experience throughout the migration process [20, 29, 53]. Many women in our study also had high levels of PTSD symptoms. Given the association between trauma and somatic symptoms, future studies should focus on the relationships between somatic symptoms and PTSD.

Most participants in the ALMA study were recruited from existing clients at community-based organizations, and women receiving services from community-based organizations may experience fewer stressors or traumatic life events than their counterparts. Our study sample was comprised mostly of women from Mexico who had been in the USA for about 10 years. Latina immigrant women from other countries or with different migration histories may have different cultural norms. Future research should include larger diverse samples with more varied experiences, including different countries of origin. Social desirability bias may have led participants to underreport mental health symptoms, trauma experiences, and being in the USA without permission. Another limitation is that we did not ask participants specifically about “idioms of distress” or their cultural beliefs about their symptoms, which may limit our understanding of the complex ways that emotions and somatic symptoms were expressed by Latina immigrant women in our study. The cross-sectional study design limits our ability to infer the causal relationships between social stressors, trauma, and somatic symptoms. Longitudinal studies could further elucidate the mechanisms by which stress and trauma affect somatic symptoms over time.

Implications for Practice and Policy

Latina immigrants in our study faced significant stressors and exposure to trauma, which were associated with somatic symptoms indicative of poor mental health. Many of these stressors are related to restrictive immigration policies that lead to unsafe migration and economic stress. Immigration policy reform can help reduce trauma by providing women with safer ways to enter the USA and limiting family separation, for example, a path to citizenship for undocumented immigrants, safeguarding family units with mixed statuses in the USA, and addressing root causes of migration in their countries of origin [54].

Health professionals serving this population should consider how stress and trauma experienced by Latina immigrants may be associated with physical pain and trouble sleeping. Latina immigrant women have limited access to mental health services and may be more likely to seek help for mental health concerns from primary care providers [53]. Providers should be aware of the importance of creating a safe environment for Latina immigrant women to share whether stressful life experiences are impacting their health. Future interventions could focus on training health care workers to recognize somatic symptoms and “idioms of distress” when treating immigrant women, who may relate their symptoms to specific cultural knowledge. In addition, the research could examine the effectiveness of interventions that target physical expressions of psychosocial distress experienced by Latina immigrants, such as those that include body awareness, biofeedback, deep breathing, and/or mindfulness techniques. Lack of access to mental health care is in part due to Latina immigrants’ ineligibility for health insurance and the lack of bilingual health care providers. Latina immigrants should have opportunities to enroll in health insurance exchanges regardless of their immigration status. In addition, expanding the role and integration of community health workers (CHWs) into primary care could help address the shortage of Latino and bilingual health care providers [54, 55].

Conclusions

In order to truly address the underlying causes of social stress, somatic symptoms, and trauma, we need to address the factors driving social inequities, such as poverty, sexism, racism, social support services, and exclusionary immigration policies.

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Appendix

Table 3

Frequency of traumatic events and mean somatic symptoms (PHQ-15) scores

Traumatic event	Yes		No		Categorization
	N	%	N	%	
1) Serious natural disaster	49	31.8	105	68.2	-
2) Serious accident or injury	82	53.2	72	46.8	-
3) Being robbed through the use of threats, force, or a weapon	47	30.5	107	69.5	-
4) Being hit, slapped, kicked, or beaten up by someone in your family	70	45.5	84	54.5	Physical assault
5) Being hit, slapped, kicked, or beaten up by someone not in your family	35	22.7	119	77.3	Physical assault
6) Saw someone in your family attacked, hit, slapped, kicked, or beaten	69	44.8	85	55.2	Witness of violence

Traumatic event	Yes		No		Categorization
	N	%	N	%	
7) Saw someone in your community that was attacked, hit, slapped, kicked, or beaten up	64	41.6	90	58.4	Witness of violence
8) Adult touched your private parts when they were not supposed to	51	33.1	103	66.9	Sexual assault
9) Someone forced or pressured you to have relations when you could not say no	47	30.5	107	69.5	Sexual assault
10) Sudden, unexpected death of someone close to you	77	50.0	77	50.0	-
11) Being attacked, stabbed, shot at, or seriously injured	18	11.7	136	88.3	Physical assault
12) Saw someone else attacked, stabbed, shot at, seriously injured, or killed	35	22.7	119	77.3	Witness of violence
13) Medical procedure that caused a lot of stress or fear	84	54.6	70	45.4	-
14) Exposure to a war zone	17	11.0	137	89.0	-
Physical assault	83	53.9	71	46.1	4, 5, 11
Sexual assault	61	39.6	93	60.4	8, 9
Witness of violence	98	63.6	56	36.4	6, 7, 12
Any trauma	149	96.8	5	3.3	

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Table 1Participant characteristics ($N = 154$)

Demographic	N^i	Percent
Age		
40 or under	79	51.3
Over 40	75	48.7
Years in the USA		
Less than 10	34	22.1
10–19	87	56.5
20 or more	33	21.4
Country of birth		
Mexico	129	83.8
Country other than Mexico	25	16.2
Immigration status		
Citizen or current visa/permission	50	32.5
Entry and/or stay without permission	78	50.7
Preferred not to or did not answer	26	16.9
Language		
Only Spanish	72	46.8
More Spanish than English	58	37.7
Same or mostly English	24	15.6
Education		
Less than high school degree	47	30.5
High school degree or equivalent	62	40.3
Some college or college degree	45	29.2
Monthly income		
Under \$2200	71	47.0
\$2200 or more	80	53.0
Employment		
Working	48	31.2
Not working	106	68.8
Partner living at home		
Currently living with a partner	90	58.4
Not living with a partner	64	41.6
PHQ-15 severity		
Minimal (0–4)	25	16.2
Mild (5–9)	58	37.7
Moderate (10–14)	51	33.1
Severe (15–30)	20	13.0
PHQ-9 severity		
None (0–4)	55	35.7
Mild (5–9)	54	35.1

Demographic	<i>N</i>ⁱ	Percent
Moderate (10–14)	30	19.5
Moderately severe-severe (15–27)	15	9.7
GAD-7 severity		
None (0–4)	53	34.4
Mild (5–9)	52	33.8
Moderate (10–14)	33	21.4
Severe (15–21)	16	10.4
PTSD severity		
Low (0–13)	88	57.5
High (14–30)	65	42.5

N may not add up to 154 due to participants' nonresponse/missing data

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Table 2

Adjusted individual and full model coefficients estimating association of social stressors and trauma with somatic symptoms ($N = 154$)

Social stressors and trauma	Individual model adj. coef. ⁱ	95% CI		p -value ⁱⁱ	Full model adj. coef. ⁱ	95% CI		p -value ⁱⁱ
		0.53	0.95			0.27	0.75	
Perceived stress	0.74	0.53	0.95	0.00*	0.51	0.27	0.75	0.00*
Acculturation stress	0.27	0.08	0.45	0.01*	-0.04	-0.21	0.14	0.68
Family separation stress	0.60	0.13	1.06	0.01*	0.13	-0.29	0.55	0.55
Legal concern stress	0.50	0.23	0.77	0.00*	0.18	-0.12	0.49	0.24
Basic needs stress	0.79	0.50	1.07	0.00*	0.20	-0.19	0.59	0.32
Discrimination	2.93	1.35	4.52	0.00*	1.51	-0.19	3.20	0.08
Physical assault	1.94	0.52	3.37	0.01*	0.61	-0.79	2.00	0.39
Sexual assault	3.14	1.74	4.53	0.00*	1.11	-0.59	2.80	0.20
Witness of violence	1.71	0.15	3.27	0.03*	0.05	-1.52	1.62	0.95

Regression models were adjusted for age, education, and language

* Found to be significant at the level of $p = 0.05$