

Economic Hardship and Depression Among Women in Latino Farmworker Families

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Abstract Farmworker family members risk poor mental health due to stressors including poverty, relocation, and documentation status. This paper explores the relationship between farm-work related stressors and depressive symptoms in women of Latino farmworker families. 248 mothers of young children completed fixed-response interviews in Spanish. Measures included the Center for Epidemiologic Studies-Depression Scale, Migrant Farmworker Stress Inventory, and USDA Household Food Security Survey Module. Bivariate analyses indicated greater depressive symptoms with more economic hardship, more farm work-related stressors, greater age, and being unmarried. In multivariable logistic regression, economic hardship remained the only factor associated with depressive symptoms. Greater economic hardship, but not general farm work-related stress, is a main factor associated with depression in women of Latino farmworker families. Maternal depression can have consequences for both mothers and families. Mental health services for women in farmworker families should be targeted to those with the greatest economic challenges.

Keywords Migrant workers · Mental health · Immigrants · Depression · Women

Introduction

Elevated rates of depression among adults are a significant health concern. Depression is common and widely distributed among the US population, but women are at increased risk [1]. Women are at higher risk for depression than men in every age group [2]. Depression affects women almost twice as much as men; and cumulative evidence from national studies suggests that minority groups, those without health insurance, and those with less than a high school diploma are significantly more likely to report major depression [2, 3].

Nolen-Hoekseman [4] argues that women experience higher rates of depression due to greater vulnerability to traumatic events, particularly sexual abuse, more chronic stress due to gender inequality, and different coping styles. Women are more likely to suffer from depression due to specific gender roles such as child and elder care, job inequality, economic discrimination, and stress from role conflict caused by concurrent employment and household responsibilities [5]. In addition, poverty is a consistent predictor of depression among women, especially mothers of young children [6, 7]. In the US, poverty affects women (15.8 %) more than men (13.1 %), and minority groups twice as much as non-Hispanic whites [2, 8].

Literature demonstrates the damaging effects of economic hardship on health for both parents and children. Children in poor families are five times as likely to be in fair or poor health as children in families that are not poor [9], increasing the burden in already distressed families. Understanding the negative impact of economic problems

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among families is critically important. Economic pressure from objective economic hardship, which includes factors such as low income, debt-to-asset ratio, and unstable work [10], leads to negative consequences for quality of life and psychological well-being [11].

The family stress model explains that economic disadvantage triggers feelings of economic pressure, which in turn lead to psychological distress in parents [12]. Conger et al. [13] used the family stress model as a framework to suggest that economic hardship is positively related to maternal depression, and high economic pressure leads to depressed mood in parents. In a study conducted in rural areas, the family stress model showed that mothers experienced depressive symptoms as a response to economic hardship [10].

This analysis considers the associations between the experience of economic hardship, the stressors of the farm work lifestyle, and depression among women in farmworker families. Farmworkers are a group at particularly high risk for economic hardship. Evidence from several studies of migrant and seasonal farmworkers has found prevalence of food insecurity, a marker for economic hardship [14], ranging from 49 to 71 %, which is 3–5 times that of the general US [15–18]. As immigrants in the US, farmworkers experience high rates of economic pressure. Farmworkers have few employment benefits, experience seasonal unemployment and are subject to low wages (e.g., lack of minimum wage and overtime provisions in many states) based on agricultural exceptionalism, which reinforce their hardship conditions [19]. These economic factors characterize the farm work lifestyle, as do aspects of social relations (having to associate with other workers in close quarters, experience of discrimination in new communities) and the stress of documentation status [20]. Farmworkers are an underserved population at substantially greater risk than the general population for numerous health problems, including mental poor health [21]. Most were born in Mexico, with 15 % of all farmworkers being indigenous Mexican and Central American, 60 % have no higher than a middle school education, and about one half lack authorization to work in the US [22].

A study of farmworkers residing in North Carolina reported prevalence of depressive symptoms at 40 % using the Center for Epidemiologic Studies Depression Scale (CES-D) [23]. In the northwest Ohio/southeast Michigan area, 37.8 % of Mexican-American farmworkers reached depression caseness with a CES-D score of 16 or greater [20]. In central California, Mexican-American farmworkers were found to have a much higher risk for depression than general population groups, concluding that discrimination and poverty may contribute to elevated levels of psychological distress [24]. Other contributors include structural stressors and situational stressors like crowded living conditions, and concerns about documentation [25].

Most studies document depression among male farmworkers, leaving significant gaps when attempting to capture the impact on Latina women from farmworker families. Twenty-five percent of farmworkers are women [26], but women in farmworker families, who do not themselves work as farmworkers, may also be at risk for depression. One of few studies conducted with Mexican-American migrant farmworker mothers argued that they are especially at risk for depression due to the stressful conditions they face: low income, limited education, poor working conditions, substandard housing, and frequent mobility [27]. These risks may not only harm their own mental health, but may also put their children's mental health at risk. Since mothers are usually the main caretakers in families, maternal depression may have a negative impact on their children and families. Maternal depression is a risk factor for poor parenting, which affects the child-mother relationship. Higher levels of maternal negativity were significantly related to mothers' current depressive symptoms and authors suggest that maternal depression may manifest in high levels of irritability, which may be communicated to young children through mother-child interactions [28]. Therefore, it is imperative to focus on the stressors that affect these women's emotional stability in order to improve their quality of life and, potentially, that of their children.

This study was conducted in rural counties in North Carolina. This state has the sixth largest farmworker population in the nation. It has been estimated that approximately 100,000 farmworkers and their dependents live in North Carolina [29], but precise numbers are not available. The goals of this paper are (1) to describe the levels of depressive symptoms of women in farmworker families, (2) to examine the levels of depression by personal and family characteristics, and (3) to test the hypothesis that higher levels of farmwork-related stressors, including economic hardship, are associated with higher levels of depressive symptoms among Latina women in farmworker families.

Methods

Participants

Data analyzed were obtained from a larger study designed to document the dietary and physical activity patterns of young children in Latino farmworker families in North Carolina. A total of 248 child-mother dyads were recruited. By design, about one quarter of the mothers belonged to migrant farmworker families; the remainder were from seasonal farmworker families. Seasonal farmworker families reside in the same area year-round and are

employed part of the year as farmworkers. Migrant farmworkers change residences to do farm work [30]. The residency patterns may affect mental health, as isolation noted for many immigrant Latino families in new settlement areas [31] may impact their well-being. The goal was to create a sample representative of farmworker families with young children in North Carolina. Because no sampling frame of Latino farmworker families exists and because the narrow child age range would require contacting a substantial portion of the eligible population, a site-based sampling plan [32–35] was developed to provide as large a contact base as possible. Such a plan, based on well-developed relationships with farmworker-serving institutions, was appropriate for this hard-to-reach population and has been used in the investigators' previous immigrant health research [36, 37].

For institutions such as Head Start, subject to privacy regulations, a staff member contacted the family, introduced the study, and obtained authorization to release contact information. In other cases, a trained data collector, who was a native Spanish-speaker, attempted contact with individuals for whom contact information was available. All participants provided signed informed consent. Because of the multi-pronged nature of the site-based sampling, with organizations compiling lists of potential participants as well as study staff conducting direct recruitment at sites, it was not possible to obtain precise figures to calculate refusal or participation rates.

Data Collection

Interviews were collected from April, 2011, through April, 2012, by nine trained interviewers. Data collection had four main elements: maternal interview, child anthropometrics, dietary assessment, and physical activity assessment with accelerometers. The maternal interview was an interviewer-administered survey that included demographic, family and household characteristics, immigrant and migration patterns, and maternal depressive symptoms. Interviews were completed in Spanish at participants' homes or private locations. The Wake Forest School of Medicine Institutional Review Board approved all sampling, recruitment, and data collection procedures. A Certificate of Confidentiality was obtained from the National Institutes of Health to protect the anonymity of study participants.

Measures

Dependent Variable

Depressive symptomatology was measured using the short Spanish version of the Center of Epidemiologic Studies, Depression (CES-D) Scale. This version includes 10 items

assessing depressive symptoms in the three primary domains of symptomatology identified in the full 21 item version: depressed affect, interpersonal relations, and positive affect [38]. Participants rated the frequency of each symptom in the past week using a 0 to 3-point scale, including "rarely or none of the time (<1 day)" = 0, "some or a little of the time (1–2 days)" = 1, "occasionally or a moderate amount of time (3–4 day)" = 2, and "most or all of the time (5–7 days)" = 3. Depressive symptomatology score ranged from 0 to 30. A score of 10 or more was considered indicative of significant depressive symptomatology. The dichotomized variable was used in multivariable analysis. Previous analysis of data obtained in other studies with the Latino immigrant population indicated the 10-item short form of the CES-D had acceptable internal consistency and accounted for 78.3 % of the variance in scores from the full version [39].

Independent Variables

Economic hardship was measured using a Spanish-language adaptation of the 18-item USDA Household Food Security Survey Module [40]. Harrison and colleagues developed the Spanish language version, which has been validated across different Hispanic populations [41]. This instrument classifies household food security as secure, marginal, low, and very low within the previous 12 months. Items in this instrument are phrased in terms of money to purchase food. Food security is defined as having access to a supply of food that is nutritionally adequate and safe. Food insecurity is defined as lack of access to food due to economic barriers. Food security has been established as a measure of material, economic hardship in previous work [14] and has been shown to be sensitive to changes in unemployment, inflation, and food prices [42]. Like many low wage workers who hold multiple jobs or are employed seasonally, farmworkers find it difficult to give a reliable income figure and are sometimes reluctant to report income. For this reason, food security was chosen as a proxy. For multivariable logistic regression analysis, categories of marginal, low, and very low food security were combined, so that the comparison is between food secure and insecure.

Farm work-related stressors were measured using a reduced 25-item version of the Migrant Farmworker Stress Inventory (MFWSI) [43]. This tool evaluates potential mental health effects of distinct stressors representative of the farmworker lifestyle. The MFWSI has been used in previous research with this population to encompass stressor domains related to documentation status, separation from family, discrimination, and exploitation [44]. Participants were asked to rate how stressful they found each experience. Participants responded to each item on a

4-point scale from “have not experienced” to “extremely stressful.” Possible MFWSI scores range from 0 to 100, with higher scores indicating a greater degree of stress related to the migrant farmworker lifestyle. Scores over 50 % of the maximum are considered to meet criteria for a high degree of stress [44].

Household documentation status was assessed with two questions: “Do you have documents that allow you to be in this country legally?” and “Does your husband/partner have documents that allow him to be in the country legally?” Households were considered to be “documented” if either the participant or her partner had documentation. If neither had documents granting them legal residence, the household was considered “undocumented.”

Personal characteristics *age*, *education*, and *marital status* were obtained through self-reports. Women were considered “married” if they reported being married or living as married. Single, divorced, separated, or widowed were considered “not married.”

Data Analysis

Percentages and counts are presented for categorical sample characteristics, while means and standard deviations are presented for continuous characteristics. Bivariate associations between depression and categorical sample characteristics were analyzed using Chi square tests. Relationships between depression and continuous characteristics were tested via *t* tests. Multivariable logistic regression models were developed to identify predictors of maternal depression. All sample characteristics that were significantly associated with maternal depression at the 0.2 level via bivariate tests were included as predictors in these models. Adjusted odds ratios and 95 % confidence intervals are presented for the multivariable model. All statistical analyses were performed using SAS version 9.3.

Results

Participants ranged in age from 18 to 45, with over half (55.9 %) between the ages of 26 and 35 years old (Table 1). Educational attainment was low, with only 25.8 % having completed 10 or more years of schooling. By design, most of the participants were members of seasonal farmworker families (72.6 %); the remaining 27.4 % were from migrant farmworker families. Most reported being married or living as married (90.3 %) and undocumented (89.5 %). MFWSI scores averaged 38.5 ± 16.2 (SD); 25.4 % of the scores were 50 or higher, indicative of high stress. Over half reported low or very low household food security (51.6 %). Almost one-third (29.0 %) reported a household size of 2–4 people, 59.3 %

reported a household size of 5–7 people, and 11.7 % reported 8–12 people in the household.

CES-D scores ranged from 0 to 23. A third (31.2 %) had scores of 10 or higher, indicating significant depressive symptomatology. In bivariate analyses, participants with significant depressive symptomatology were older (30.6 ± 5.6) than those without (29.0 ± 5.9 ; $p = 0.040$). Depressive symptomatology was marginally associated with higher score on the MFWSI (41.3 ± 16.7 vs. 37.2 ± 15.9 ; $p = 0.062$). Household size was not associated with depressive symptomatology [5.23 ± 1.86 (depressed) vs. 5.65 ± 1.69 (not depressed), $p = 0.3120$]. Greater depressive symptomatology was associated with being unmarried ($p = 0.036$) and with lower food security ($p = 0.023$) (Table 2). Education, farmworker status, and household documentation status were not associated with depressive symptomatology.

Age, education, marital status, farmworker status, food security, and MFWSI were included in a multivariable logistic regression analysis. Food security remained the only factor associated with depressive symptoms (Table 3). Women with marginal, low, or very low food security were over twice as likely to report significant depressive symptomatology as those who reported high food security (OR 2.30; 95 % CI 1.23, 4.31).

Discussion

Almost a third (31.3 %) of all women reported significant depressive symptoms. These results show that mothers in farmworker families experience significant depressive symptomatology at three times the depression rates in the US household female population (9.3 %), as well as the general Hispanic population (11.4 %) [2, 45]. Depression among women is a common and treatable mental disorder. Women are more likely than men to suffer from depression and poverty [2, 8, 46]. Among women, increased stress due to gender inequalities, including job and household strains, different coping styles, and low-income, has persistently been associated with depression [4–7]. In addition, women from minority groups, those without health insurance, and those with less than a high school diploma are significantly more likely to report major depression [2, 3]. Mental health is particularly important to the health of farmworker women. Immigrant women in farmworker families are especially vulnerable due to their low education levels [47], and traditional gender role responsibilities for children, family, and domestic tasks in addition to work [48]. Over three-fifths (61 %) of farmworker households live in poverty [49]. In addition, documentation status may play a role in these women’s mental health. A study looking at factors related to low income farmworkers’ health status in

Table 1 Sociodemographic characteristics of Latino migrant farmworkers

Personal characteristics	Total sample (N = 248)	
	N	(%)
Age		
18–25 years	72	29.0
26–35 years	138	55.7
36–45 years	38	15.3
Educational attainment		
0–6 years	108	43.5
7–9 years	76	30.6
10 + years	64	25.8
Marital status		
Married/living as married	224	90.3
Not married	24	9.7
Farmworker status		
Migrant	68	27.4
Seasonal	180	72.5
Household documentation status		
Documented	38	14.4
Undocumented	209	84.6
Household food security		
High	97	39.1
Marginal	23	9.3
Low	87	35.1
Very low	41	16.5
Household size		
2–4	72	29.0
5–7	147	59.3
8–12	29	11.7

Yuma County, Arizona, found that higher level of stress were significantly associated with increased risk for poor mental health and poor psychological health [50]. A review of research on mental health status of undocumented Mexican immigrants [51] argues that undocumented Mexican immigrants’ experience of discrimination results in questioning self-worth, which may increase their risk of depression, and concluded that undocumented immigrants do have a unique risk profile, which may contribute to different mental health outcomes as compared to their documented counterparts. Finch and Vega [52] found that “legal status stress” had a significant effect on undocumented Mexican immigrants’ health outcomes and significantly increased the likelihood of rating one’s health as fair/poor.

This study shows that mothers in farmworker families that experience economic hardship show greater symptoms of depression. Low food security was a proxy for economic

Table 2 Bivariate analyses. Association between participant characteristics and depression

Characteristics	CES-D score				P value
	<10		≥10		
	N	(%)	N	(%)	
Education					
0–6 years	40	37	67	63	0.137
7–9 years	18	24	58	76	
10+ years	19	30	45	70	
Marital status					
Married/living as married	65	29	158	71	0.036
Not married	12	50	12	50	
Farmworker status					
Migrant	17	25	51	75	0.197
Seasonal	60	34	119	66	
Household documentation status					
Documented	10	26	28	74	0.482
Undocumented	67	32	142	68	
Household food security					
High	20	21	77	79	0.023
Marginal	9	41	13	59	
Low	30	34	57	66	
Very low	18	44	23	56	

hardship. This is justified, as food security is conceptualized and measured as a household economic characteristic. Although, in bivariate analysis, stress (measured by the MFWSI) was associated with depressive symptoms, this association was attenuated in multivariable analyses, indicating that economic stress had a stronger association with depressive symptoms.

Addressing issues of health in rural farmworker communities can be a challenge. The factors that challenge the mental health of the fast-growing Latino population remain poorly understood. This study is unique because it was conducted with women in Latino farmworker families. Women are the primary caregivers of their children; hence, it is important that we understand how the consequences of the challenges they face, such as economic hardship, might affect their mental health. The results from this study add an important contribution to the limited but increasing literature on farmworker mental health [53]. Results provide further information for health care workers, service providers, and researchers who work to protect the mental health of farmworkers and their families. Appropriate mental health services are often difficult for farmworkers and their family members to access, due to language limitations, insurance or funding issues, and general lack of such services in rural communities. Those mental health

Table 3 Multivariate logistic regression analyses

Effect	Odds ratio	95 % confidence interval	
Age	1.04	0.99	1.09
Education			
0–6 versus 7+ years (ref)	1.38	0.77	2.48
Marital status			
Not married versus married/living as married (ref)	2.33	0.92	5.87
Farmworker status			
Seasonal versus migrant (ref)	1.91	0.96	3.81
Food security			
Marginal, low, or very low versus high (ref)	2.30	1.23	4.31
Migrant Farm Worker Stress Inventory	1.01	0.99	1.03

providers who are available should target segments of farmworker populations who face the greatest risk for depression and should be trained on the challenges that are specific to this population. Consequently, becoming culturally sensitive and aware of how the risk factors affect mental health in farmworker families should be priorities in their training. Given the strong association between economic hardship and depressive symptoms, community workers and service providers should provide farmworker families with information about the services that are available to ease their economic hardship. These might include accessing the food safety net (e.g., Supplemental Nutrition Assistance Program (SNAP), formerly known as food stamps), which is typically available to their children born in the US and is designed to allow income used for food purchase to be diverted to other household needs. This study helps better understand possible effects of the lack of economic support that farmworker families face.

Extensive research supports an effect of economic hardship on mental health; further research should determine specifically how economic hardship strengthens the pathways to poor mental health. Mental health services in farmworker communities should be targeted to reach those with the greatest economic challenges. Further research should examine different pathways by which maternal depression affects the mother-child relationship.

It is important to interpret the results in the context of the study's limitations. The study was conducted with women residing in North Carolina, and results should not be generalized to all women in farmworker families. Future studies should include more areas of the US. The original study was not designed to measure the links to depression. Data are part of a study designed to document the dietary and physical activity patterns of young children in Latino farmworker families in the southeastern US. Food security was used as a proxy for economic hardship, but food security may be one of the most important factors leading to stress. Also, mental health was measured by using a short version of the CES-D which

indicates depressive symptoms. However, future studies that include a clinical evaluation of depression may provide greater information.

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