

Short Communication

Depression and disability in seasonal and migrant Hispanic agricultural workers[☆]

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Abstract

Objective: To examine the relationship between depression and disability in seasonal and migrant Hispanic agricultural workers.

Methods: A total of 315 adult Hispanic agricultural workers living in northwest farmworker housing were interviewed to diagnose major and minor depression and assess disability. Statistical analysis determined demographic and clinical factors significantly related to a diagnosis of depression and examined the association between depression and disability.

Results: The rate of major depression was 3.2% ($n=10$) and of minor depression, 6.3% ($n=20$). The sole demographic factor significantly associated with depression was female gender ($P<.02$). Controlling for gender, regression analysis demonstrated increased disability in those diagnosed with major and/or minor depression ($P<.001$). Those diagnosed with depression had a significantly higher mean total disability score [20.6 (95% CI 16.8–24.4) vs. 6.8 (95% CI 5.6–8.0)] than those without such diagnosis. Nondepressed subjects were significantly more likely (39% vs. 3%) to be completely free of functional impairment than those with depression ($P<.001$).

Conclusions: This study confirms the known association between depression and disability and extends it to the seasonal and migrant Hispanic farmworker population. The severity of disability found in the depressed group was such that it could affect performance of agricultural work compared with that found in the nondepressed group.

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1. Introduction

Farmwork is one of the most hazardous industries in the USA [1]. Mental well-being was determined to be the sole significant health factor that affects farmworkers' weekly wages [2]. Depression is associated with unintentional injury, absenteeism and decreased productivity, resulting in billions of dollars of lifetime earnings loss [3,4].

Accurate diagnosis and treatment of depression is associated with the ability to retain employment and increased productivity [5,6].

The association between depression and functional impairment has yet to be investigated in the seasonal and migrant Hispanic farmworker population. There is wide variability in the reported prevalence of depression in Hispanic farmworkers because most studies measured depressive symptoms using depression-screening scales and not *actual* clinical depression. These studies reported that 20–41% of Mexican farmworkers had significant depressive symptoms [7–12]. However, in a study using a structured psychiatric interview the prevalence of major depression was only found to be 3–4% in migrant farmworkers [12], which is similar to that of the general population [13].

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The aim of the current study is to examine the association of depression with disability in Hispanic farmworkers living in farmworker housing in northwestern United States.

2. Methods

This study was completed as a part of a larger study that tested the sensitivity and specificity of an audiotaped mental health survey developed for low literacy levels compared with a personal interview using standard instruments [14]. Detailed descriptions of the setting, subject selection, data collection and the study instruments can be found in that publication. The human subjects review committee of the University of Washington approved the study.

2.1. Setting

This study was conducted during June and August of 2002 in 11 Hispanic farmworker housing units in Oregon, Idaho and Washington. Five of the housing units were year-round living quarters, and six of the housing units were operational during the spring and summer growing season.

The seasonal housing consisted of small wooden huts with no indoor plumbing or heat, trailers with plastic tarp coverings for the roof or cinderblock rooms. Most were located in the middle of a field or in a forested area. Most were owned by growers. The year-round housing ranged from low-income community housing units owned by the county to modern, completely equipped townhouses owned by a church organization.

2.2. Subjects

This is a cross-sectional study of 315 personal interviews performed by two trained research assistants, with excellent interrater and intrarater reliability [14]. The majority of subjects ($n=304$) were interviewed in Spanish. The remaining subjects were interviewed in English.

2.3. Study instruments

The interview survey included the Primary Care Evaluation of Mental Disorders Patient Health Questionnaire (PRIME-MD PHQ), validated in both Spanish and English [15,16], to assess depression, risk for alcohol abuse and panic disorder, and the 12-item World Health Organization Disability Assessment Schedule II (WHO DAS II) [17]. The criteria for major depression required the patient to have a score of 10 or more on the PRIME-MD PHQ and five or more depressive symptoms present for more than half of the days with at least one of these symptoms being either depressed mood or anhedonia. To meet the criteria for a minor depression diagnosis, patients had to have a score of >4 and two to four symptoms present for more than half the days with one of the symptoms being either depressed mood or anhedonia.

The WHO DAS II is a standardized, cross-cultural measure of disability using a 12-item list, six subscales and overall measure of disability. Scores range from 0 to 100, with higher scores indicating more functional impairment. The six subscales include understanding and communicating, getting around, self-care, getting along with people, life activities and participation in society.

Medical comorbidity was measured by a self-rated list of medical illnesses from the Medical Outcomes Study [18]. Subjects were asked about their medical conditions including arthritis, diabetes, mental illness, hospitalizations and medications.

2.4. Statistical analysis

t tests and χ^2 analysis were used to compare depressed and nondepressed populations across demographic and clinical factors. Analysis of covariance and logistic regression analysis were used to examine the association between depression and disability and the components of disability most affected by depression.

3. Results

A total of 315 Hispanic farmworkers completed the interview. There was no way to assess how many farmworkers could have participated but did not participate. There was an equal number of men and women, with on average an elementary school education and earnings below US\$8000 annually. The majority (81%) spoke Spanish as their first language, and 14% spoke an indigenous language as their first language: Mixteco, Trique, Sabeteco or Mum. Ninety percent were born in Mexico, 6% were born in the USA, and 4% were born in Guatemala. The length of time in the USA ranged from 1 month to 32 years (mean 7.4 years). Sixty-five percent were seasonal workers who lived in one residence year-round, and 35% migrated.

The majority worked with row crops (56%) or tree fruits and nuts (25%); food processing, nurseries, fisheries, farm equipment/irrigation, forestry, dairy and managerial were other job types. Strawberries, blackberries, beets and asparagus were the most frequent crops. Job type was not found to be significantly related to disability or depression. However, gender was significantly related to a subject's job type: only men worked farm equipment and irrigation, while only women worked in fisheries and held managerial positions. More extensive demographic data of this population are covered in the previously published article [14].

The rate of major depression was 3.2% ($n=10$) and of minor depression, 6.3% ($n=20$). Subjects diagnosed with either major or minor depression were more than twice as likely to be female (70% vs. 30%). Total panic disorder prevalence was determined to be 1.9% ($n=6$). Those with depression (major and/or minor) had a significantly higher prevalence of panic disorder (13.3% vs. 0.7%) compared with subjects without depression, $P<.001$). Of the subjects,

Table 1
Six subscales and overall disability WHO DAS II scores

	Depression diagnosis	No diagnosis
	Mean score (95% CI)	Mean score (95% CI)
Total disability	20.6 (16.8–24.4)	6.8 (5.6–8.0)
Life activities	23.9 (17.5–30.3)	8.8 (6.7–10.9)
Getting around	19.8 (15.2–24.4)	5.1 (3.7–6.6)
Getting along with people	13.3 (9.7–16.8)	5.6 (4.4–6.7)
Understanding/communicating	24.6 (19.3–29.9)	9.0 (7.3–10.7)
Self-care	22.3 (16.9–27.6)	5.2 (3.5–6.9)
Participation in society	19.1 (13.0–25.2)	8.0 (6.0–10.0)

Scores range from 0 to 100, with higher scores indicating more functional impairment.

4.7% ($n=15$) met the criteria for risk for alcohol abuse. There was no significant association between a depression diagnosis and risk of alcohol dependence ($P=.34$).

There were no significant differences between those found to be depressed vs. nondepressed on age, education, number of children, number of persons living in the home, language spoken and marital status. The sole demographic factor significantly related to depression was female gender ($P<.02$). The majority (78%, 246/315) had no medical illnesses. Medical comorbidity did not affect the independent relationship of depression with disability when controlling for gender.

Controlling for gender, regression analysis demonstrated increased disability in the global score and all six subscales of the WHO DAS II in those diagnosed with major and/or minor depression ($P<.001$) (Table 1). Those diagnosed with depression had significantly higher mean total disability scores [20.6 (95% CI 16.8–24.4) vs. 6.8 (95% CI 5.6–8.0)] than those without such diagnosis. Nondepressed subjects were significantly more likely (39% vs. 3%) to be completely free of functional impairment than those with depression ($P<.001$). The subscales of the WHO DAS II most affected by depression were self-care [22.3 (95% CI 16.9–27.6) vs. 5.2 (95% CI 3.5–6.9)] and understanding/communicating [24.6 (95% CI 19.3–29.9) vs. 9.0 (95% CI 7.3–10.7)].

4. Discussion

In a large sample of seasonal and migrant Hispanic farmworkers in the northwest, this study found the rate of major depression to be 3% and minor depression to be 6%, which is similar to that of the general population [13,19], and is the only other study of Hispanic farmworkers using a structured psychiatric interview [12]. The low rate of depression may reflect a “healthy worker” selection bias, whereas only the healthiest workers can perform the arduous labor required. Depression was significantly associated with disability, consistent with numerous other studies [2–4]. Unlike in other studies, our sample included only physical laborers, those working row crops or picking

tree fruits. The disability associated with depression is at risk to be underrecognized and undertreated because of the paucity of medical or mental health services available to these workers.

Among patients with medical illnesses, major depression is associated with the second highest degree of disability, with heart disease causing the highest level of disability [18,20]. Studies have shown that as depression improves, disability improves [21,22]. Depression treatment is associated with improved physical and social functioning, mental health, general health perception, disability days and retention in employment [22–26]. It is likely, therefore, that treating depression in Hispanic farmworkers may not only improve mental well-being but also productivity and time lost to disability days. However, there were only a few individuals in our sample who were receiving mental health treatment.

The major limitation of this study is that it is a cross-sectional study limiting interpretation of causality. The selection of subjects was not random and, therefore, may not be representative or generalizable to other Hispanic farmworkers. The selection of housing units was done by participating clinics and only those whose owners allowed entrance were visited. Although residents of 11 camps were interviewed and a large study sample was obtained, these housing units may not be representative of living areas in the northwest or other areas of the USA.

This study confirms the association between depression and disability and extends it to the Hispanic farmworker population. Further studies are needed to investigate how best to set up mental health services and decrease the disability associated with mental illness in this population.

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