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An Audiotaped Mental Health Evaluation Tool for Hispanic Immigrants With a Range of Literacy Levels

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Debilitating mental illness is treatable if found. There is no validated self-administered mental illness evaluation tool for immigrant Hispanic farm workers with variable literacy levels. This study tested sensitivity and specificity of an audiotaped survey developed for low literacy levels compared with standard interview instruments. Subjects from 11 migrant camps completed a self-administered audiotaped survey in Spanish to diagnose major depression, substance abuse, panic and generalized anxiety, and domestic violence. Primary care clinics assisted in finding camps and provided follow-up treatment. For 154 men and 156 women, the audio tool was most sensitive for major depression and specific for anxiety disorder, alcohol abuse, and domestic violence. Seventy percent of those diagnosed with major depression received appropriate treatment. This study validated an inexpensive, self-administered audio tool to evaluate the mental health of immigrant Hispanic farm workers with a wide range of literacy levels.

KEY WORDS: mental health tool; audiotape; Hispanic farm workers; migrant farm workers; depression; anxiety; domestic violence; low literacy levels.

INTRODUCTION

Mental illness is debilitating across cultures and is associated with unintentional injury, absenteeism, decreased productivity, and suicide. It results in billions of dollars of lifetime earnings loss (1, 2). Several recent studies suggest that accurate diagnosis and treatment of mental illness are associated with ability to retain employment and increased productivity (3, 4).

Migrant and seasonal farm workers are usually immigrants from Mexico, often in the United States illegally. Over half of migrant farm workers have less than a sixth-grade education (5). A busy clinician or a field investigator needs an accurate, easy-to-administer tool to detect mental health problems. Although there are Spanish-language mental illness scales validated in literate nonmigrant worker populations and a general health assessment tool for use in semiliterate populations (6, 7), there is no validated self-administered mental illness evaluation tool for use on Spanish-speaking immigrants with variable literacy levels.

This study tested the sensitivity and specificity of a self-administered mental illness evaluation tool developed for low literacy levels compared with the standard instruments administered by interviews. Such a tool could be used for surveillance, research, clinical diagnosis, and outreach to improve the mental health of this population.

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METHODS

Study Instruments

Setting

This study was conducted in 11 migrant camps in three states in the northwestern United States. Primary care clinics, with an outreach component, assisted in finding camps and introducing the study to owners and residents. In one state, investigators accompanied a mobile clinic health van to migrant camps where the study was conducted in a separate area. A social worker from the clinic in another state accompanied investigators to camps for four days; during 1 of the 4 days, the clinic organized a health fair during which interviews were conducted. A caseworker in the third state accompanied investigators to camps to conduct the study.

The Human Subjects Review Committee of the University of Washington approved the study. The 11 migrant camps in this study differed in the number of residents, type of ownership (grower, private, charity, or state), type of housing (year-round or seasonal; families or single men; trailers, cabins, or houses), and overall living conditions and atmosphere. The living conditions ranged from small wooden huts with no indoor plumbing or heat, located in the middle of a field to modern, completely equipped townhouses on a cul-de-sac.

Selection of Subjects

The study was conducted during June and August of 2002. Upon arrival to a camp, a research assistant or caseworker went door to door announcing that researchers were in the camp and would pay $20 for participation in a mental health study. In one state, there was also prior recruitment consisting of fliers and radio announcements.

Tents were set up in a visible outdoor area of the camp. Any adult in the camp who approached the research site was offered an opportunity to participate in the study if they could speak English or Spanish and were literate enough to recognize and circle "yes" and "no" in either language. After completing the study, all subjects were paid $20.

Data Collection

Subjects first completed a self-administered survey using the audio tool. They then were interviewed by two trained research assistants fluent in Spanish or, if English was preferred, by the principal investigator, a family physician. Data was entered and an initial evaluation of the data computed while the individual was present to identify those with severe depression or suicidal ideation for immediate referral.

Interviews

Interviewers were trained by a research interviewer trainer and evaluated during the first 10 interviews onsite. Performance was reviewed after the first five subjects and reevaluated for the next five subjects. The intrarater reliability and interrater reliability were greater than 90% except for subjects who appeared to be intoxicated. After the initial 10 subjects, subjects who appeared to be intoxicated were supposed to be excluded from the study, but no potential subjects appeared intoxicated for the remainder of the study. Data for all subjects were analyzed by the interviewer, and no significant difference was found among the interviewers in diagnosis of depression, alcohol abuse, anxiety, or domestic violence.

Depression, anxiety, alcohol abuse, and domestic violence scores were computed while the individual farm worker was present to identify those with positive audio or interviews for referral. The specificity and sensitivity of the developed audio tool to detect any or all of the illnesses of depression, substance abuse, and anxiety were calculated by comparing the audio tool with the interview survey. Since there is no 100% sensitive or specific standard instrument in mental illness and the standard instruments used for this study had not been tested for sensitivity or specificity in the migrant farm worker population, a person found to be positive for mental illness by either instrument was referred. The clinician diagnosis was compared with the developed survey for sensitivity and specificity.

RESULTS

Out of a total of 317 agricultural workers who completed the audio survey and the interview, 310 were included in this analysis. Seven were excluded because they were found to have randomly marked the audio survey or marked "yes" and "no" to the same questions. They were not excluded from the study at first because they said they understood the informed consent and could mark "yes" or "no" on the survey. These subjects did make some marks and were found to have not understood the

audio process only after they were fully interviewed. All subjects were familiar with and able to use the portable tape players and headphones.

Demographics

The study covered 154 men and 156 women from 11 different migrant worker camps in the northwestern United States. Of these, 33% were unmarried and 67% were married or living with a significant other; 53% earned $12,000 or less, 18% earned more than $12,000, and 24% did not know how much they earned. Over half worked in one agricultural type of job, over a third worked in two different classes of agriculture, and the rest worked in more than three different classes. There were 449 jobs for 316 people. The majority worked with row crops (55%) and tree fruits and nuts (24%).

The majority (81%) spoke Spanish as their first language, and 2% spoke Spanish and an indigenous language equally as their first language. Fourteen percent spoke an indigenous language as their first language: Mixteco, Trique, Sabeteco, or Mum. One percent had English as their first language, and 2% spoke both English and Spanish as their first language.

The majority of subjects were of Mexican decent. Ninety percent were born in Mexico, with 27% from Oaxaca, 14% from Michoacan, 5% from Nayarit, and 5% from Jalisco. Six percent were born in the United States, and 4% were born in Guatemala. The length of time in the US ranged from 1 month to 32 years, with a mean of 7.4 years. Sixty-five percent were seasonal workers who lived in one residence year-round, and 35% migrated.

Mental Health Evaluation

The rate of major depression by interview was 3.2% ($n = 10$) and minor depression, 6.3% ($n = 20$). By the audio tool criteria, major depression was found in 16.6% and minor in 19% of participants. Gender was the only demographic factor significantly related to depression. Anxiety rate on the interview and the audio tool was 1.9% ($n = 6$).[6] Based on the PHQ screening criteria of one response positive in order to suspect alcohol abuse, 6% of subjects met criteria for risk for alcohol abuse/dependence by interview, compared with the audio tool rate of 9.7%. The rate of domestic violence was 5.2% among the women respondents to the interview and on the audio tool 5.8% (see Table I).

Table I. Audio Tool Sensitivity and Specificity Compared With Interview

Condition	Sensitivity (%)	Specificity (%)
Major depression	80	85
Anxiety	50	99
Alcohol abuse	67	94
Domestic violence	63	97

Compared with the interview, the audio tool was most sensitive for major depression and specific for anxiety disorder, alcohol abuse, and domestic violence.

Seven out of 10 with major depression followed up with a mental health worker or provider (MD, PA, or ARNP). All seven of these persons were either treated with antidepressants or referred for antidepressants. There was a demand for free counseling in the state that offered that service as part of the recruiting strategy. No one was referred to psychiatry, because there was no access to psychiatrists in any of the areas due to lack of funding, transportation, and nonavailability of Spanish-speaking psychiatrists in the area.

The subjects from the clinic which offered referral to counseling saw patients who requested counseling. In some cases, farm workers were positive on the PHQ, but in the clinic interview it was clear that the questions did not make sense or fit with their cultural beliefs.

Follow-up use and evaluation of the tool in the three clinics showed that the audiotape method was easily administered by the medical assistant, took about 15 min, and were useful for selected patients. Comments included "listening to the tape gave me additional ideas for phrasing my questions in Spanish" and "I plan on using it...as we work towards doing more mental health outreach." One clinic used the audiotape project as an outreach method for mental health.

DISCUSSION

This study developed a reliable audiotaped evaluation tool for selected mental health problems. The audio tool provides a method for identifying depression, anxiety, alcohol abuse, and domestic violence among immigrant farm workers with

[6]Note these were not the same six people on the audio tool and the interview: three overlapped positive diagnosis on both.

varying language and literacy levels. It did not identify drug abuse, bipolar or personality disorders. It had the highest sensitivity but lowest specificity for major depression. This is most likely because of the dichotomous answer scale (yes/no) of the audio tool compared with the 4-point scale (*not at all, several days, more than half the days, nearly everyday*) used during the interview.

The interview classified people as depressed if they had symptoms more than half of the days for five or more of the questions, with at least one of the five symptoms little interest or pleasure in doing things and feeling down, depressed, or hopeless. The audio tool classified them as depressed if they answered "yes" for five or more of the questions. The audio tool had to be dichotomous to be remembered after listening to the question. If it was a 4-point scale it would have involved a higher literacy level for a person to mark the answer sheet.

The audio tool was highly specific for anxiety, alcohol abuse, and domestic violence. That is, respondents who scored that they did not have anxiety, alcohol abuse, and domestic violence most likely did not. However, those who scored positive for anxiety or depression may not have a clinical diagnosis of those disorders but could have an adjustment disorder that would still benefit from counseling or peer groups. The audio tool was usable in a migrant camp or seasonal worker housing setting. According to our study, major depression is as common among agricultural workers as in the general population and is treatable. Major depression was treatable with medication because medical clinics provided care to migrant camp occupants that could be continued and then transferred to Mexico.

The limitations of this methodology are that the comparison instruments to the audio tool are themselves not 100% accurate, sensitive, or specific. In addition, the accuracy, specificity, and sensitivity for the comparison instruments are not known for the migrant and seasonal population in this study. The use of the tape was found to be limited to people who understood Spanish well enough to answer a question spoken slowly but only spoken once and were able to circle answers next to the corresponding number. That is, people who were anumeric or had no knowledge of the concept of one-to-one correspondence were excluded.

An argument against using the audio tool is that these Hispanic immigrants cannot get care for diagnosed mental health issues; in our study, all the camps had some access through farm worker clinics to care by either medical or mental health providers. One of the medical clinics had suggested depression be studied in this population and they led the recruitment. However, Mexican immigrants may not live in an area served by clinic outreach. To be effective in the treatment and care of mental health, the audio tool result must be given to a medical or mental health provider for verification and treatment.

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