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Perceptions of Health and Safety Conditions
for
Farmworker Women

by

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SUMMARY

In response to continuing concerns about the health and safety of migrant farmworkers, an interview survey was administered to 153 Mexican and Mexican American migrant farmworker women regarding their health and safety and that of their families. The survey was developed for the purpose of investigating the perceived health/safety needs/problems of farmworker women and the environment, in which they live and work. The survey was conducted at the U.S. Department of Labor rest stop in Hope Arkansas in July of 1997. There was a positive correlation between farmworker women's perception of their health status and their education, place of birth, and amount of farm work done in the previous year. Younger farm worker women with higher levels of education with higher work levels were more likely to have a perception of higher health status. Additional findings included that farmworker women made or shared in family decision making. Proper field sanitation standards are not being reinforced. Telephones are not always available in the labor camps for emergencies and poison control phone numbers are not always posted. The most frequently reported personal health problems for farmworker women were joint or muscle pain and back pain. They also reported low rates of illegal substance abuse. The nature of the farm work done by female migrant workers was identified (hoeing and picking). Low rates of farm work related injuries for women were reported. The study concludes with specific recommendations for interventions and further studies.

INTRODUCTION

There are an estimated 4.2 million migrant and seasonal farmworkers in the nation who live in health compromising situations, and are statistically at high risk for occupational injury (1-3). Farmworkers live for the most part in deplorable conditions, which are frequently unsanitary, and sometimes do not afford protection from the elements. They perform hard manual labor for low wages, have a poor level of nutrition, and suffer from the highest rates of infectious disease of any population in the United States (3,4). They are usually members of racial minorities, are frequently illiterate, and often do not speak English. These factors coupled with their poverty and mobility, which is an unavoidable condition of their employment, compromises their ability to use safe work habits (e.g. the inability to read warning labels on pesticide and agricultural chemical containers). General knowledge of accident prevention and the application of first aid are low (3). This situation is often made worse by their inability to access health services after an injury or exposure to chemicals.

Agriculture is consistently ranked one of the three most dangerous occupations in the nation, contending for first place each year with mining and construction (3). Farmworkers are a unique class in American industry by virtue of the range of hazards they face in their profession, and the dearth of industrial regulatory protection to guard their health (5). For them occupational health also includes environmental health issues, such as pesticide exposure and safe drinking water. Their work involves hand labor and the use of heavy machinery. They may perform long hours of stoop labor on ground crops, or they may work on ladders in orchards, stretching while carrying heavy loads. They are exposed to strong sunlight, extreme heat, rain and intense cold. They frequently come into contact with plants, soil, dust, pesticides, organic contaminants, and various agricultural chemicals and fertilizers. Field sanitation hazards are numerous and basic amenities such as potable drinking water, and toilet and hand washing facilities are not available for all farmworkers. In those circumstances where these basic amenities are required they often are not provided. Farmworkers often work for a piece rate and are urged to work quickly rather than safely (2,3). Housing is another area of occupational health concern for farmworkers. Labor camp housing is often located in or near the fields, and provided to farmworkers in conjunction with their employment. The housing is often substandard to the point that it poses a health risk in and of itself. Proximity of farmworker housing to the fields increases the likelihood of exposure to pesticides (2,3).

In the absence of available housing many farmworkers must camp near the fields (3). Lack of access to safe water drives them to drink and bathe in irrigation runoff ditches that are often contaminated with pesticides, chemical fertilizers and organic wastes. As a result of these working conditions and occupational related living conditions farmworkers experience high rates of occupational injuries including contact dermatitis, musculo-skeletal injuries, injuries from falls, punctures, eye injuries, parasitic infection, respiratory distress and disease, allergic reactions, as well as heavy equipment accidents and motor vehicle accidents (2,3). The Environmental Protection Agency (EPA) estimates that at least 300,000 farmworkers suffer acute injury from pesticide exposures annually. The number of long-term disabilities and chronic conditions among migrant and seasonal farmworkers resulting from farm labor is not well known. With an

awareness of and adherence to safe work procedures, many of the workplace accidents farmworkers and their families experience are preventable. However, farmworkers are often unaware of actions they can take to protect their health or of agencies they can contact for recourse if they are subjected to an unsafe working environment (3).

A comprehensive review of the literature on occupational health problems among migrant and seasonal farmworkers concluded that few population-based studies have been done to assess the frequency of occupational health problems and work related accidents in this population. In more specific areas they concluded that no musculoskeletal studies have been done in this population with a high exposure rate to risks associated with back strain (e.g. heavy lifting and carrying). They also found few studies on the health of the children of farmworkers (6).

There are 106 Migrant Health Centers supported under Section 329 of the Public Health Service Act. The centers have approximately 400 service sites across the nation, and serve approximately 500,000 migrant and seasonal farmworkers each year. Health care providers in migrant health centers frequently operate in circumstances of geographic and professional isolation. The centers are most adept at designing services to make them accessible and comprehensible to farmworkers, and in conducting outreach to take health education and prevention information to farmworkers (3). This makes health center staff, outreach workers and peer educators a logical target audience for farmworker occupational safety and health prevention education training. Information that will help stem the spread of occupational hazards and accidents would be of great value to the farming community.

The current national knowledge base about the farmworker population is strikingly limited. Based on the literature surveyed above, the National Center for Farmworker Health decided to conduct a needs assessment of migrant and seasonal farmworker women to determine the aspects of health and safety needs that can be addressed. The purpose of the needs assessment was to obtain a clear understanding of what farmworker women (migrant and seasonal) perceive to be their greatest health and safety needs/problems. It was also to identify areas for intervention in education, training, prevention, treatment, and advocacy. While we wanted to focus on occupational health needs, we were confronted with the undeniable reality that for migrant farmworkers, their basic conditions of life (housing, health access, transportation, and education) all flow from the occupational realities of migrant farmwork. Thus, the term "occupational" applied to this population takes on a broader meaning, and includes concerns that in the other populations would be considered general health. With this in mind, the attempt was made to design research questions that would acknowledge this reality (while maintaining a strong emphasis on the areas normally associated with occupational health.) Specifically, we wished to find how migrant women perceived their health status, to explore their work and living environment and to assess both.

METHODS

The study was able to identify a number of variables, often dichotomous, regarding the farmworker population. Farmworkers can be either migrant, moving on a regular basis, or are

seasonal, staying in one place and entering the farm labor force for specific local crops. There are women and men, married and single, those with children and those without. Many farmworkers are American citizens, others come to the US on special work visas (HZAVISA), and some cross the border illegally to work in the fields. The languages they speak include English, Spanish, Creole, French, Hmong, and Vietnamese. This study was limited to an identified subset of farmworker women; Mexican and Mexican/American women of child bearing age.

Variables within agriculture

There are numerous variables regarding the farm work itself. Both the crop and time of year are important considerations in addressing farmworker health and safety. Additionally, there may be industries within agriculture, which are not involved in harvesting, but are engaged in processing, such as poultry processing and the logging industry. The fishing industry involves a kind of harvesting with its own particular dangers; we are unclear of the role of migrant workers in this industry.

Deciding the study population

An initial focus group was held in El Paso, Texas in February, 1996 and preliminary interviews were conducted in two areas: El Paso, Texas, and Hammond, Louisiana in July, 1996. Interviews, to pre-test the survey instrument were held in clinics in Crystal City, Texas and Hammond, Louisiana in April and May, 1997.

Based on the results of the focus groups, pretest consideration and the literature search, it was decided to limit the study to an identified subset of farmworkers (Mexican/Mexican-American women of childbearing age). It was felt that there would be significant challenges conducting research in this population. Investigators were also struck by the lack of data on this population. One of the constant problems in farmworker research is the difficulty in being able to locate large numbers of farmworkers in order to draw a scientific sample. For a number of years the US Department of Labor has provided an overnight rest stop in Hope, Arkansas for migrant farmworkers in transit to and from work areas. Based on their reports of the numbers of migrants who pass through it was believed that sufficient numbers of Mexican/Mexican-American women of childbearing age to meet the needs of the study would be found.

The study

The study was designed to investigate the perceived health/safety needs/problems of farmworker women. The survey instrument was developed and translated into Spanish and pre-tested with a group of migrant farmworkers in Crystal City, Texas and Hammond, Louisiana. Prior to establishing the semi-structured interview instrument, a focus group was held in El Paso, Texas at a farmworker shelter, the Centro de Trabajadores Agrícolas Fronterizos. The focus group consisted of 7 men and 1 woman, all over age 55. Each participant signed a release form and received ten dollars for their participation. Two bilingual professionals facilitated the group, one

a nurse doctorate candidate, and the other, a Master's level educator. The discussion was conducted in Spanish, taped and later translated to English. The most common health problem cited was sleep deprivation. Other health problems mentioned were lower back pain, arthritis and asthma. Transportation to jobs was indicated as the greatest occupational risk. Significant in this group was the acknowledgement of depression and worry related to being separated from their families. The workers were concerned about the well being of family members (several acute illnesses were mentioned) and their ability to send money home. They reported intense loneliness at being separated, and a sense of despair about the lack of control they felt over circumstances in their lives.

Concern was expressed for pregnant and childbearing age women who work in the fields because of the lack of toilets and water for hand washing. Access to health care is hindered by lack of transportation, disinterest on the part of the contractors and communication barriers when no translator is available. With regard to what happens to children while parents are working in the field, this group expressed great concern that the younger adults are not as careful about supervising or caring for their children. It was reported that children play unsupervised in the fields, around trucks (often sleeping under them to escape the intense heat) and experience symptoms of rashes and vomiting. It was expressed that conditions for farmworkers are much worse now than in years past. They felt that contractors now care only for production, and not about the workers. There are no supervisors or inspectors to assure compliance with regulations. Those who had worked in California said farmworkers receive better treatment because the regulations are enforced there.

A second focus group was organized with the assistance of the Southeast Louisiana Area Health Education Center (AHEC). This group met in Hammond, Louisiana and was comprised of seven men. A bilingual outreach worker known to them facilitated it. Each member of the group signed a release form and received ten dollars for their time. Among this group, the greatest concern was the increased use of contractors as agents between themselves and the owners. There was strong sentiment that the owners are more honest, compassionate and considerate of the workers than are the contractors. Stories were told of contractors not paying the workers or only paying a fraction of the amount promised. The focus group members reported widespread consumption of beer during work hours for hydration and because it "calms" the worker. It was also reported that some contractors even provide beer for the workers. Access to health care services, especially for women and children, was cited as a concern. Members of this focus group have settled out of the migrant stream, usually living in housing provided by the owner/contractor.

Information gained from these two disparate groups reinforces the diversity within the migrant/seasonal farmworker population underscoring the difficulty in making generalizations. As expected, the group feedback guided the research process by raising issues unanticipated or undocumented in other research efforts. Of particular interest to the research team was the emotional impact on workers being separated from their families and how this might increase the likelihood of risk-taking behaviors and on-the-job injuries.

Based on the pre-test, the survey instrument was revised and put in final form in both Spanish and English. The interviews were conducted, in July 1997, at the US Department of Labor overnight rest stop in Hope, Arkansas. The interview team of six women was bi-lingual and prepared to administer the survey form in an interview format in Spanish or English. Volunteers were sought out at the rest stop and the interviewing took place in the health clinic of the rest stop. An incentive payment of \$10.00 was paid to each woman completing the interview. The interviewing team member asked each woman in which language she would prefer to be interviewed. Over 90% of the women elected to be interviewed in Spanish. Initially, it was intended to randomize the women contacted into the sample. Due to unseasonable rains in the Midwest there were insufficient numbers of eligible migrant farmworker women to do that. A sample of 153 Mexican/Mexican-American women of childbearing age who were available and agreed was interviewed. The survey forms were coded into an Excel file for analysis. Of the 153 interview forms 151, were complete enough to be used in the analysis.

RESULTS

Demographics

Table 1

Of the women interviewed most were born in Mexico. The majority responded that Spanish was their first language (speaking, reading, and writing) and English their second language. The women ranged from less than 20 to over 40 years of age. Their education levels varied from 4th grade or less to some college.

Demographic Characteristics by Place of Birth

Table 2

An increase in age correlated with a higher probability of being born in Mexico. Higher levels of education were associated with being born in the United States.

Work

Ninety nine percent indicated that their permanent residence was in Texas and they identified Michigan (43%), Indiana (19%), and Ohio (13%) as the last state they had worked. They identified the same states: Michigan (42%), Indiana (22%), and Ohio (15%), as where they planned to go next for work. They indicated that they worked in farm work about four months a year (mean = 4.275) away from their permanent home and about three and one half months a year (mean = 3.571) at home. This finding indicates that they could be classified as both migrant and seasonal farmworkers.

Family Role

In describing their role in the family 99 to 100% said they did farm work, cared for children, cooked, did laundry and shopped. Most did the bill paying (91%), and 28% indicated that, in addition to farm work, they had jobs not related to farm work during the past year. The mean number of years they had been involved in farm work was 11.64. In identifying the type of farmwork they did about 1/3 said picking and 1/3 said hoeing. Also mentioned were tasseling, warehouse work, packing, bundling onions, cleaning cotton, planting, cleaning fields, and sorting. They stated that they were primarily paid for the work directly (85%), but some were paid through their spouse (15%). During the busy season, they estimated that they worked almost 10 hours per day (mean = 9.685) and over six days per week (mean = 6.17).

Decision Making

Table 3

The study looked at knowledge levels and who makes family decisions in the areas of health and safety as a means of assessing women's roles in the family. In general, women reported that knowledge of an area and decision making related to it was done equally with their spouse. However, there is considerable variation. There is a relationship between knowledge and decision making in a particular area. Women are more likely to be knowledgeable about health problems and first aid and to make the related decisions. Men are more likely to be knowledgeable about finances, safe use of pesticides/insecticides, and work safety and to make the related decisions.

Field Sanitation


Table 4

The women were asked about the provision of drinking water, portable toilets, and a place to wash you hands. Over half said that clean drinking water and portable toilets were available most of the time and less than half (said a place to wash your hands was available most of the time. Half reported that there was an emergency phone in their last work site. More than half knew what number to dial in an emergency. Less than one third said the phone number for the poison control center was posted in their last work site.

Women's Health and Injuries

Table 5

Most women described their health as good or better. In describing health problems they had during the last year the three most reported were: joint or muscle pain (54%), back pain (41%), and changes in vision (22%). In the area of mental health, during the migrant season, over one half said they never felt depressed, less than one half said they did not feel stress or frustration and most said they never feel that life is out of control. Most women thought that sun exposure was bad for their skin (74%) and most of them took measures to protect their skin (83%). The most common precautions were covering up with clothing, hat (79%) and use of sunscreen



(19%). Low substance abuse rates were reported for family members. They reported that family members never used marijuana, other illegal drugs, and chewed tobacco, but did smoke cigarettes and drank alcohol. They felt (87%) that alcohol and drug abuse contributed to farm work related injuries.

Most women (52%) consider some of the farm work they do as dangerous. They regard hoes as dangerous, as well as aspects of the work environment (e.g. pesticide and sun exposure). Only 3% of the women interviewed indicated that they had been injured doing farm work during the last year. Most women (91%) felt that most work injuries could be prevented.

Correlation with Women's Perception of Health Status

Table 6

In correlating farm worker women's perception of health status with the dependent variables of the study three variables were found to be significant. The older the women the more likely it is that she has a lower perception of her health status. The more formal education a farm worker women has the higher her perceived health status. The greater the estimated work during the year the higher her perceived health status.

DISCUSSION

This particular sample of farmworker women had a higher level of education than expected. These findings appear to be correlated with age; younger farmworker women are better educated than those of the previous generation. The finding that only 13% had attended the fourth grade or less and 42% attended the 5th to the 8th grade appears to differ from the finding of another study that found that 30% had completed fewer than five years of school (7). This may reflect a real change over time (16 years), a difference in measurement, or may be specific to our sample of women of child bearing age.

Our findings that farmworker women made or shared in family decision making in the area of health and first aid suggest the pivotal role of farmworker women in interventions designed to improve the health of farmworker families.

On the average this group occupied almost eight months a year in farm labor, divided fairly equally between their permanent and temporary residences. In describing their role in the family these women do not appear to function differently from their non-farmworker contemporaries. The role differentiation between farmworker women and men provide insights for targeting health and safety information (e.g. health information should be targeted to women and work safety information to men).

This study found a continuing need to enforce proper field sanitation standards. This is critical to farmworker women in reducing the risks associated with pesticide poisoning, hepatitis, and dehydration. The dehydration issue is important in avoiding urinary tract infections, and in pregnancy the risk of fetal exposure to contaminants increases. The literature documents high

rates of internal parasites in migrant farmworker populations. However, the literature also says that infected adults are unlikely to note clinical symptom (12). This survey did not specifically ask farmworker women if internal parasites were a health problem for them and they did not state that it was.

The dangers of pesticide exposure and poisoning are well documented for farmworkers (10,13). However, this study found that only 31% of the last work sites had the poison control center telephone number posted in the labor camp. There is a need to be sure that telephones are available in the labor camps for emergencies and that poison control phone numbers are posted.

The women's reported health status is encouraging. Their most frequently reported problems were joint or muscle pain and back pain. This is consistent with a study (14) that found that of the farmworker visits to rural clinics for work injury 70% involved orthopedic injuries and 30% were from overexertion. However, the study did show that women's roles in farm work are more likely to be confined to hoeing and picking, putting them in a different risk situation than men. There are some studies (15) that suggest that migrant farmworker women may be at high risk for depression. Our focus group findings were similar. Our interview findings did not indicate any depression problems. In fact, the results of these questions were so positive that a more in depth follow up study to confirm the findings should be undertaken. In the area of substance abuse the finding of reported low rates of illegal substance abuse, in their families, suggests the need for follow-up studies for verification. In addition, follow-up studies to look at alcohol abuse seem to be indicated.

One of the most important findings of this study is the identification of the nature of the farm work done by female migrant workers. The work appears to be primarily hoeing and picking. While they are still subject to the environmental hazards of farmwork (pesticide and sun exposure), they are not subject to the major injury hazards associated with operating farm machinery. This is reflected in the low rate of injury reported in the study. In the area of sun exposure they are aware of the danger and most protect against it by the use of protective clothing and sunscreen.

The study found several areas where policy changes or interventions are appropriate:

Development of educational materials to reduce the risk of musculoskeletal injuries and related back and muscle joint pain

- Stricter enforcement of field sanitation standards. The development of educational materials specific to the need for and methods to insure comprehensive field sanitation.
- Insure that telephones are available in migrant labor camps for emergency calls and that the telephone number of the poison control center is posted along with other emergency telephone numbers.

Direct health education activities at improving seat belt usage and preventing riding in pickup truck beds.

This study found few health problems and even fewer farm work related injuries among farmworker women. However, these findings are specific to this group. Not enough is known about the health status of migrant farmworkers, it has not been properly measured, nor have their health needs been clearly identified (10,19). What is needed is a large-scale study of farmworker women that combines self-perception of health status with clinical studies to collaborate perceptions. The study should be conducted in a homebase area to allow sufficient numbers of potential subjects for structuring a randomized study and where a stable community and institutionalized provider exists with the potential for a longitudinal study. Such a study could build on our preliminary findings regarding the health and safety of migrant farmworker women and provide the basis for appropriate interventions. Specific areas for further exploration identified by this study include muscle-joint and back pain, and the nature of farmwork tasks of farmworker women. In addition, it would be important to attempt to verify our positive findings on the mental health questions given the variance with our findings in the focus groups and previous studies.

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Table 1
Demographic Characteristics

Place of Birth	Mexico 59.6%	United States 39.7%		
First Language	Spanish 91%			
Age Ranges	< 20 years 7%	20-29 years 28%	30-39 years 32%	>40 years 33%
Education Level	4 th grade or> 13% some college 1%	5 th to 8 th grade 42%	9 th to 11 th grade 23%	high school grad 20%

Table 2
Demographic Characteristics by Place of Birth

<u>Age Group</u>	Born in Mexico	Born in the United States
<20 Years of Age	2%	6%
20 to 29	13%	14%
30 to 39	21%	11%
>40	24%	10%
 <u>Education</u>		
Elementary School	3%	13%
Some high school	14%	17%
High school graduate	6%	16%
Some college	1%	2%

**Table 3
Decision Making Characteristics**

<u>Who Makes Decisions on:</u>	Female	Male	Equal	Other/Don't Know
Health Problems	38%	3%	46%	13%
Finances	30%	21%	44%	6%
Safe Use of Pesticides/Insecticides	11%	44%	38%	18%
First Aid	29%	12%	35%	24%
Work Safety	13%	22%	56%	9%

<u>Who Knows the Most About:</u>	Female	Male	Equal	Other/Don't Know
Health Problems	41%	9%	48%	2%
Finances	24%	17%	58%	2%
Safe Use of Pesticides/Insecticides	15%	44%	39%	18%
First Aid	27%	9%	49%	15%
Work Safety	15%	21%	58%	6%

Table 4
Field Sanitation

Availability in the Fields	Most of the Time	Sometimes	Never
Clean Drinking Water	55%	16%	29%
Portable Toilet	55%	21%	24%
Place to Wash Hands	44%	14%	42%

Availability in Camp

Telephone for Emergencies	Yes 51%	No 49%
Poison Control Center Number Posted	Yes 33%	No 67%
Know Where to Call for Emergency Help	Yes 71%	No 29%

**Table 5
Women's Health**

	Excellent	Very good	Good	Fair	Poor
Perceived Health Status	7%	9%	41%	40%	3%
Mental Health					
	Most of the time	Sometimes	Never		
Depressed	2%	43%	55%		
Life out of control	0%	19%	81%		
Stress and frustration	5%	49%	46%		
Substance Abuse in Family					
	Most of the Time	Sometimes	Never		
Marijuana	19%	28%	54%		
Other Illegal Drugs	0%	1%	99%		
Chewing Tobacco	0%	0%	100%		
Cigarettes	19%	28%	54%		
Alcohol	6%	49%	45%		

Table 6
Correlation with Women's Perception of Health Status

	health status	age	educated years	total year for work	hour per week	month of out home	month of in home
health status							
age	-0.191*						
educated year	0.185*	-0.505**					
total year for work	-0.165*	0.477**	-0.121				
hour per week	0.071	-0.108	0.184*	-0.129			
month of out home	-0.057	-0.110	-0.001	0.012	0.070		
month of in home	-0.004	0.024	-0.193	0.056	0.165	-0.255	

* : P < 0.05

** : P < 0.01

*** : P < 0.001

