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Musculoskeletal Complaints in a Population of Migrant Farmworkers in Rural Delaware

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Introduction

Studies have shown that migrant farmworkers frequently have musculoskeletal complaints. Farmworkers are occupationally exposed to risk factors associated with musculoskeletal disease including lifting and carrying heavy loads, working at an excessively fast pace, and working in uncomfortable postures for extended time periods.(1) Some of the musculoskeletal problems that are seen in the farmworker population are traumatic injuries, joint irritation, joint degeneration, strains and sprains, and cumulative trauma disorders.(1,2) Other work has shown that many migrant farmworkers either do not receive prompt care or do not receive care at all for their musculoskeletal injuries.(3)

The main goal of this project is to assess the prevalence of musculoskeletal complaints in a sample of migrant and seasonal workers in rural Delaware. Other objectives of the study include:

1) obtaining the frequency of pain in the sample,
2) gathering information on the distribution of job tasks,
3) studying associations between pain and specific job tasks,
4) and determining the amount of disability caused by the musculoskeletal symptoms.

This information is significant in understanding the prevalence of musculoskeletal symptoms in a farmworker population and relating the complaints to the workers' occupational hazards.

METHODS

Information was gathered by interviewer-administered questionnaires in English and Spanish. The questionnaires had been pretested and were given once the volunteer had been explained the

nature of the research in question. The questionnaire had a section for background information, covering demographic information, work history, and current job descriptions. The remainder of the questionnaire was designed to ascertain the one month prevalence of musculoskeletal pain, whether the pain was or was not job related, whether or not the subject sought out medical treatment for the pain in question, and how the pain affected the subject's ability to work. The workers were asked if they had musculoskeletal pain in the previous month that bothered them on most days in the following regions of the body: neck, upper back, shoulders, elbows, wrists/hands, lower back, hips, knees, and ankles/feet.

All workers at camps whose health management came under the auspices of the Delmarva Rural Ministries, Inc. Dover, Delaware clinic were eligible for the study. The volunteers were interviewed at their campsites or workplace during lunch breaks, dinner breaks, or after work. The workers were not compensated for their participation in the study. The population that was interviewed was a convenience sample of 30 migrant and seasonal farmworkers out of 160-180 people that were at the 5 camps to which we had access. The information was collected over a two week period in early July, 1994.

After completion, the questionnaires were checked for completeness and entered into the EPI INFO Version 5 database and statistics system. The descriptive information collected in the study was analyzed using the statistical package on the EPI INFO system and appropriate statistical tests were administered.

RESULTS

A total of 30 farmworkers (93.3% Latino, 3.3% Black, 3.3% White) from 5 migrant camps participated. Nonresponse was approximately 25%. 43.3% were born in Puerto Rico, 23.3% were born in the continental United States, and 33.3% were born in Mexico. The mean age was 29.13 years (Standard Deviation = 9.96, Range = 16 to 56), the mean height was 66.03 inches (Standard Deviation = 3.38), the mean weight was 159.83 pounds (Standard Deviation =

28.26), and 80% of the sample was male.

60% of the migrant workers surveyed had done farm work for one to five years. 26.7% of the sample had worked on farms for six years or more. In the past year (July 1993 to July 1994), the mean number of months spent working on farms was 3.73 and the median was 3, with 83.3% of the sample having worked on farms between 1 and 5 months in the last year.

The sample population performed a variety of job tasks in the month before they participated in the study. 63.3% of the sample had performed two or more of the following jobs in that month and 23.3% worked three or more of the job tasks in the same time period. 66.7% of the sample worked in the packing house, 63.3% did fieldwork, 23.3% loaded trucks, 20% operated farm machinery, 13.3% worked in orchards, 6.7% worked on quality control and washed trucks, and 3.3% worked in a nursery with obvious overlap. The most common jobs for any one individual to have worked in the month before they were surveyed were: 20% of the workers had done fieldwork and packing in the last month, 20% had done packing alone in the last month, and 16.7% had done fieldwork alone in the last month.

The subjects worked long hours with the mean being 10.4 hours per day and the median = 11. 83.3% of the subjects studied worked 10-13 hours daily. The mean number of days worked per week was 6.33 and the median was 3. 43.3% of those questioned worked six days per week and 46.7% of the sample worked seven days per week.

All of the volunteers reported that they took rest breaks. 86.7% of the sample took two or three rest breaks per day with the mean number of breaks per day equalling 3.0. 18 of the 30 workers took two breaks a day, usually at lunch time and in the mid-afternoon. Two women were outliers in this statistic, reporting 10 and 14 breaks per day due to insufficient work in the last month. One-third of the workers stated that their breaks were 15 minutes or less while the remaining two-thirds reported that their breaks lasted between 15 minutes and one hour. Only two out of the 30 volunteers reported that they took breaks due to musculoskeletal pain.

A total of 21 people complained of having some sort of musculoskeletal pain in the last month and some complained of multiple pains. Five people complained of having pain in three regions of the body, one person had pain in two regions, and 15 people had pain in only one region. Nine of the workers did not have any pain. 40% of the sample reported that they had lower back pain, 23.3% reported knee pain, 13.3% reported ankle/foot pain, 10% reported wrist/hand pain, 6.7% reported shoulder pain, 6.7% reported elbow pain, 6.7% reported hip pain, 3.3% of the sample reported neck pain, and no one reported upper back pain.

Collapsing the categories into upper extremity, back, and lower extremity pain 16.7% of the sample suffered from upper extremity pain, 40% suffered from back pain, and 40% suffered from lower extremity pain.

14.3% of the 21 people that reported having musculoskeletal pain stated that the pain did interfere with their ability to work; these were three people: one with lower back pain, one with knee pain, and one with ankle/foot pain. 23.8% of those with pain changed their job task due to the pain. This group of five people consisted of one worker with neck pain, two with shoulder pain, one with lower back pain, and one with knee pain.

Knee pain seemed to be associated with field work (Odds ratio = 4.62, Fisher exact 2-tailed P-value = .2146) and operating farm machinery (Odds ratio = 5.00, Fisher exact 2-tailed P-value = .1201). Packing, on the other hand, may be protective against knee pain (Odds ratio = 0.26, Fisher exact 2-tailed P- value = .1813).

Also, lower back pain seemed to be associated with field work (Odds ratio = 2.40, Fisher exact 2-tailed P-value = .4425) and with orchard work (Odds ratio = 5.67, Fisher exact 2-tailed P-value = .2742).

When comparing pain and age, the expected increase in pain with age was not seen. In fact, 7 out of 8 of the workers in the 16-20 year age grouping reported pain. 2 out of 5 had pain in the 21-25 year age group, 1 out of 4 had pain in the 26-30 and 31-35 age groups, 1 out of 5 of the 36-40 age group had pain, and 2 out of 4 people reported pain in the 41 and over group.

Despite the fact that 21 people complained of some sort of musculoskeletal pain, not one of the subjects had seen a physician or stayed overnight in a hospital during the past month for any of the musculoskeletal symptoms they reported.

Discussion

The small size of the sample was the major limitation of the study, making it difficult to extract statistically significant information. The small number was a result of the language barrier between those collecting data and the predominately Spanish speaking working population. Also, with the subjects working for the most part between 10-13 hours per day, finding them and having them agree to participate in the survey was sometimes difficult. However, the one month prevalence rate of 70% of the sample reporting musculoskeletal pain does give an indication of the state of health faced by the migrant workers.

It is important to note that a large percentage of the group complained of lower back pain which is considered the most common musculoskeletal complaint.(4) In addition, the number of people complaining of lower extremity pain was notable. Data from the Burea of Labor Statistics, U.S. Department of Labor indicate that injuries to the back and lower extremities of agricultural workers are common.(1)

With the workers performing so many different job tasks in a one month period it was beyond the scope of our study to pinpoint if any of the jobs led consistently to any of the specific pain complaints. The associations between knee pain and field work and knee pain and operating farm machinery need to be looked at more closely. It is probably easier to make the connection between field work and knee pain considering the hours the workers spend on their feet, kneeling, or squatting in the field. The relationship between knee pain and operating machinery needs to be investigated in depth with the vibration of the farm machinery perhaps causing musculoskeletal symptoms in the operator.

The fact that none of the workers missed work despite feeling pain, although some admitted that pain interfered with their

ability to work and that they sometimes changed jobs due to their to pain is characteristic for this group of laborers. Many stated that they could not afford to take time off work to seek out care, which is what often leads to continued and increased physical impairment.

Also with 21 out of the 30 volunteers complaining of pain and 90% of the sample working six or seven days a week, it is clear that many of the subjects are willing to work full weeks despite having musculoskeletal complaints.

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