

Main
Search PageTitles
Display

Go to ... [Help](#) | [Logoff](#)

If FULL TEXT is not available, would you like to locate this item?

[Search the UT Austin Library Catalog for this item](#)

If this item is an article, results of the search for this item in the library catalog will display in a separate browser window.

If this item is an ERIC document, follow the instructions listed above.

Use the ALT-TAB keys on your computer keyboard to switch between viewing the library catalog window and this search session.

Accession Number

04160133

Authors[Kowalski, Kimberly](#). [Hoffman, Carolyn J.](#) [McClure, Amy](#).**Title**

Nutritional patterns and needs of migrant farm workers in northwest Michigan.

SourceJournal of the American Dietetic Association. 99(2):221-224. 1999 Feb.
[References, Table]**Subject Headings**[Nutrition](#)[Migrant workers](#)[Farmworkers](#)[Disease](#)**Abstract**

A study identified the prevalence of nutrition-related diseases and conditions, nutritional adequacy of intake and food consumption patterns of migrant workers in northwest Michigan.

Full Text

** Copyright American Dietetic Association 1999 **

Migrant farm workers are critical links in the process of putting food on US tables. However, they are at a high risk for developing nutrition-related health problems because of the interaction between poverty and migratory lifestyle (1). Most **migrant workers** are of Hispanic origin and in poor health compared with non-Hispanics (eg, Mexican-Americans are 2 to 5 times more likely to have type 2

diabetes mellitus than whites) (2). Data from the Hispanic Health and Nutrition Examination Survey revealed that Hispanics in the United States continue to be at greater risk for health problems than the general population (3). Therefore, the purpose of this study was to identify the prevalence of nutrition-related diseases and conditions, nutritional adequacy of intake, and food consumption patterns of migrant workers in northwest Michigan.

SUBJECTS AND METHODS

A study of 150 migrant farm workers was completed at Northwest Michigan Health Services, Inc, Traverse City, Mich, a clinic that serves about 4,000 people in 8 county areas in Traverse City, Onekama, and Shelby, Mich. This study was approved by the Human Subjects Committee at Central Michigan University, Mt Pleasant. The study sample consisted of all men (n=54) and nonpregnant women (n=96) between 18 and 77 years old who visited the clinic during the harvesting season. Informed consent was obtained from subjects in English or Spanish as appropriate. Descriptive data included age, gender, height, weight, hematocrit level, total serum cholesterol level, and income. Venous blood samples were taken by a registered nurse, and whole blood was immediately assayed for hematocrit. Hematocrit was measured using the standard microcentrifuge technique. A Kodak DT-60 whole blood lipid analyzer (Johnson & Johnson Clinical Diagnostics, Rochester, NY) was used for analysis of total cholesterol values. The technician followed the operational procedures recommended by the manufacturer in performing the analyses. Laboratory values were recorded in the patient's medical record. Diagnoses were obtained from each patient's medical record as recorded by the physician or nurse practitioner. All data used in the study were obtained by reviewing patients' most recent medical record. The nutritionist completed nutrition assessments using 24-hour diet recalls with 3dimensional food models to identify portion sizes and a review of food group needs according to the Food Guide Pyramid (4). A statistical analysis software program (SAS Reference, version 6,1990, SAS Institute Inc, Cary NC) was used for data analysis.

RESULTS/DISCUSSION

(Table Omitted)

Captioned as: Table 1

Table 2

Table 1 includes a summary of the descriptive data. In addition, it is of interest to note that 47% (n=70) had a family size of 2 to 4 people and 37% (n=55) had 5 to 7 family members living in their household. Only 9% (n= 14) had a family household size of more than 8 members. Table 2 includes a summary of chronic diseases and food group intake. Mean energy intake was 1,398 kcal (range=800-1,495 kcal) for women and 1,894 kcal (range= 1,552-2,055 kcal) for men. More than 50% were diagnosed as obese, more than 33% had diabetes, and more than 22% had hypertension. Further analysis using Zz indicated a highly significant difference ($P<.039$) in anemia between genders; nearly 25% of women (n=24) had anemia. Nutritional intake inadequacies were prevalent among female migrant farm workers with nearly twice as many women as men consuming inadequate servings of fruits and vegetables. More than 50% of all women had inadequate intake of the milk group.

High prevalences of obesity, diabetes, and hypertension were found. Obesity is more common among those with low income (5) and is more prevalent among Hispanics than among whites (6). Our data indicated that 5 women consumed too little energy (<825 kcal per day), but there is also evidence of overconsumption of energy. Obesity was high for both genders, and underreporting of food intake is possible since a recent national mean of energy intake was 2,095 kcal per day (7). Although mean energy intake was not high, there was a high prevalence of obesity. Our results of 60% obesity were close to the findings of other researchers (1) who found 56.5% obesity among Hispanics. Hispanics have twice the mortality rate for diabetes as non-Hispanic whites (2). Bonilla (8) has stated that more than 1 million Hispanics, nearly 1 in 10 adults, have diabetes. Prevention and control of diabetes is vital. Also, the decline in cardiovascular mortality rates is much slower for Hispanic-Americans than for African-Americans and non-Hispanic whites (9).

Our data also indicated that nearly one third of the men had hypertension. Hypertension is twice as common in persons with diabetes as in those without diabetes (10). The Migrant Clinicians' Network reported that the disease categories of migrant and seasonal farm workers living in the United States "reflect agrarian third world conditions" (11, p 1). Clinic visits for medical examinations accounted for only 14% of all visits to migrant health clinics, 39% below the US average. Migrant farm workers, most of whom are Hispanic, have little access to medical care (11). Hispanics have less access to health care than any other racial group because few have any type of health insurance (12). Migrant clinics serve less than 20% of US migrant workers (11). Dever (11) examined data from nearly 7,000 medical encounters from 1986 through 1987 and found that diabetes was the most common disease in migrant workers.

In 1987, Runyan and Morgan (1) identified the major ancillary problems that influenced the nutritional status of the farm worker as poor housing and cooking facilities, poor prenatal care, and poor food choices. Our findings, unfortunately, agree that there is a need to improve food choices. Family members, especially women, need to be educated about sources of iron because many were diagnosed with iron-deficiency anemia. Looker and Johnson (13) reported that the percentage of women aged 20 to 49 years of all races in the United States who have iron deficiency was 11% and the percentage who are anemic was 5%. Our study included women to age 77 years, but these **migrant workers** had a much higher prevalence of anemia related to low intake of the meat group. The consequences of iron deficiency include impaired work performance, body temperature regulation, and intellectual performance; decreased resistance to infections; and increased susceptibility to lead poisoning (14).

Our data indicate a need to increase fruit and vegetable consumption; intake of traditional foods high in vitamin C such as salsa and chili peppers was taken into account and vitamin C intakes were still low. Data from the Hispanic Health and Nutrition Examination Survey revealed that Hispanics have low serum vitamin A levels (13). Lastly, given the low consumption of milk products and the new calcium guidelines (15), further research needs to be conducted to assess bone health.

Other researchers (16) found that **migrant workers** consumed inadequate amounts of vitamin A, iron, and calcium. Our findings indicated that more than half of all women had inadequate consumption of both the milk and milk products food group and the fruits/vegetables food group.

APPLICATIONS

Hispanics are the second largest and fastest growing minority group in the United States, and the prevalence of diabetes is reaching epidemic proportions (2). Our data indicate that educational efforts need to be intensified to decrease the growing gap in health status between Hispanics and the majority population. Registered dietitians must be encouraged to assist in reducing this disparity. The message can be conveyed through direct outreach services, television, radio, and print in Spanish. However, it is recognized that educational efforts are only part of a multicomponent effort needed to improve Hispanic health in the United States.

The authors share the following recommendations:

- * Educate **migrant workers** to select lowfat food choices.

- * Educate entire family where possible. As Yetley et al (17), pointed out, nutrition education should not be directed only to wives, because husbands are often the controllers of resources.
- * Encourage increased consumption of fruits and vegetables. In many migrant farm families, vegetables are usually served as part of a dish, not separately. Citrus fruit consumption can be increased if eaten as snacks. Recognize that many chilies are an excellent source of ascorbic acid.
- * Encourage use of a variety of sources of calcium, including yogurt, which is easily digested. Migrant workers often use few dairy products except cheese.
- * Reinforce the concept that dried beans (eg, pinto) are a good source of low-fat protein and iron, especially if consumed with tomatoes.
- * Encourage suitable physical activity for weight management.
- * Educate migrant workers to eat a variety of food groups in appropriate portions. Refer to the Mexican American Foods and Food Guide Pyramid (18).
- * Increase the number of trained bilingual and bicultural health care providers.

Unless changes are made, the health status of Hispanics can only become more serious and the plight of the migrant farm worker more devastating as the Hispanic population grows to an estimated 31 million by year 2000 (19). Dietitians need to intensify efforts to respond to the needs of migrant farm workers.

Reference:

References

Reference:

1. Runyan DH, Morgan PC. Nutrition and Migrant Health. Trends in Nutrition Services at Migrant Health Centers. Washington, DC: Georgetown University Child Development Center; 1987.
2. Select Committee on Aging, House of Representatives. Diabetes Mellitus (NII)DM9):An Unrelenting But Undeserving Threat to the Health of Hispanic

Communities. Washington, DC: US Government Printing Office; 1992. Publication No. 102-844.

3. Hispanic Health and Nutrition Examination Survey, 1982-84: findings on health status and health care needs. *Am J Pub Gic Health*. 1990; 80(suppl):1-70.

Reference:

4. The Food Guide Pyramid. Washington, DC: US Dept of Agriculture; 1992. Home and Garden Bulletin No. 252.

5. National Health and Nutrition Examination Survey III. Atlanta, Ga: Centers for Disease Control and Prevention, National Center for Health Statistics; 1992.

6. Holmes RE. Increased prevalence of diabetes mellitus in hypertensive minority

Reference:

group females: a special risk group. Paper presented at: National Conference on High Blood Pressure Control; Atlanta, Ga; April 21,1983.

Reference:

7. McDowell MA, Briefel RR, Alaimo K, Bischof AM, Coughman CR, Carroll MD, Loria CM, Johnson CL. Energy and macronutrient intakes of persons ages 2 months and over in the United States: third National Health and Nutrition Examination Survey, Phase 1,198891. *Advance Data*. Hyattsville, Md: LIS Health and Human Services; October 1994. DHHS publication No. 95-1250.

8. Bonilla H. War against diabetes especially critical to Hispanic communities. *Congress Rec*. May 5, 1994: H3063.

9. Carolis PG. Coronary artery disease in Hispanic Americans. *Postgraduate Med*. 1992;91 (4):179-193.

10. Michigan Department of Public Health. Minority Health in Michigan-Closing the Gap. Lansing, Mich: Task Force on Minority Health, Michigan Department of Public Health; 1988.

Reference:

11. Dever GE. Profile of a Population with Complex Health Problems. Austin, Tex: Migrant Clinicians Network; 1991.

12. Statistical Abstract of the United States.

Reference:

Washington DC: US Bureau of Census; 1992: 20.

Reference:

13. Looker AC, Johnson CL. Ethnic and racial differences in serum vitamin A levels. *Arc J Clin Nutr*. 1988;47:247-252.

14. Nutrition Monitoring in the United States. Hyattsville, Md: Dept of Health and Human Services. 1993; DHHS Publication No. (PHS)93-1255.

15. Whitney E, Rolfes S. Understanding Nutrition. Belmont, Calif: West Wadsworth; 1999.

Reference:

16. Shotland J, Loonin D, Haas E. Full Fields, Empty Cupboards: The Nutritional Status of Migrant Farmworkers in America. Washington, DC: Public Voice; 1989:50. A Report by Public Voice for Food and Health Policy.

17. Yetley EA, Yetley MJ, Aquirre B. Family role structure and food-related roles in Mexican-American families. *J Nutr Educ*. 1981; 13(1 suppl):96-101.

18. Achterberg C, McDonnell E, Bagby R. How to put the Food Guide Pyramid into practice. *J Am Diet Assoc*. 1994;94:1030-1035.

19. Testimony Report: Hispanic Access to Health Care: Significant Gaps Exist. Washington, DC: US General Accounting Office; 1991.

Author Affiliation:

C. J. Hoffman is an associate professor of community nutrition in the Department of Human Environmental Studies and K Kowalski is an intern in the Dietetic

Internship Program Central Michigan University, Mt Pleasant. At the time of the study, A. McClure was in the internship program at Virginia State University, Petersburg.

Address correspondence to Carolyn J Hoffman, MS, RD, Department of Human Environmental Studies, Wightman 205, Central Michigan University, Mt Pleasant, MI 48859.

END OF FULL TEXT

Entry Week

9910

Length of Full Text


0002005 words.


ISSN

0002-8223

Document Delivery

Full text online. Available from UMI. Clearing House Number: 11400.00.

 [Main Search Page](#)

 [Titles Display](#)