

Study of Hypertension Among Migrant Farmworkers in Middle Georgia

MEN'S

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Study of Hypertension Among Migrant Farmworkers in Middle Georgia

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Introduction & Background

A study of the prevalence of hypertension among migrant farmworkers in Middle Georgia was conducted in the Summer of 1994 with the intent of determining how the Hispanic population compared to the non-Hispanic, indigenous population. The significance lay in the fact that the agricultural industry is labor-intensive and is a vital component of the area's economic base. Thus, a healthy workforce, composed primarily of Migrant Hispanics, not only strengthens the local economy but also prevents an unnecessary drain on local health care resources.

Studies such as this one undertaken in the past have yielded mixed conclusions regarding rates of hypertension among Hispanics when compared to non-Hispanics. For example, a review recently published in the American Journal of Epidemiology concluded that there were no significant differences in rates of hypertension between Hispanics and Caucasians when matched according to age, sex, educational level, city of residence, and time of survey.¹ Other studies, however, agree that there are unusually high rates of hypertension in Hispanics, with greater degrees of end organ damage (Cardiac and Renal).² Yet another study published recently in the American Journal of Hypertension conclud-

ed that while rates of hypertension are lower in Mexican-Americans than in Caucasians and African-Americans, Mexican-Americans have much poorer control over keeping their blood pressure within normal limits.³ And finally, a report published in the Cleveland Clinic Journal of Medicine indicates that the rates of hypertension among Hispanic Americans increase with the process of acculturation.⁴

Methods

The Middle Georgia Hypertension study utilized a case control design in which the medical records of 217 migrant Hispanic patients seen between 1988 and 1994 (the case population) in a local Family Practitioner's practice were solicited for review. Most of the Hispanics were from one of four states in Central Mexico: Aguas Calientes, Guanajuato, Jalisco, and Michoachan. The control population was compromised mainly of Caucasians and African-Americans with minor representation from Arabic and East Indian descent. Individuals selected for the study ranged in age from 20 to 59. The latest guidelines set forth by the American Medical Association were used in determining the criteria for hypertension.⁵ To aid in the analysis, a Fisher Exact Test and Chi-Square (χ^2) Analysis were employed to test the differ-

ence between cases and controls. Odds ratios and confidence intervals were then calculated.

Results

In the Middle Georgia Study, initial results were calculated in terms of the percentage of hypertensives present in each group (classified by age and sex). The results are graphically illustrated in Figures 1 & 2 and show that with the exception of females aged 50-59, Hispanics consistently

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- 1 Winkleby MA: "Health-Related Risk Factors in a Sample of Hispanics and Whites Matched on Sociodemographic Characteristics. The Stanford Five-City Project," *The American Journal of Epidemiology*; June 1993; 137 (12); 1365-75.
- 2 Francis HK: "Hypertension, Cardiac Disease, and Complications in Minority Patients," *American Journal of Medicine*; July 1991; 91 (1A); 295-365.
- 3 Haffner SM: "Eight-Year Incidence of Hypertension in Mexican-Americans and non-Hispanic Whites. The San Antonio Heart Study"; *American Journal of Hypertension*; March 1992; 5(3); 147-53.
- 4 Cangiano JL: "Hypertension in Hispanic Americans"; *Cleveland Clinic Journal of Medicine*; Sept-Oct 1994; 61(5); 345-50.
- 5 Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure; *The Fifth Report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure (JNC V)*; *Archives of Internal Medicine*; 1993; 153: 154-183.

Figure 1.
Percent Hypertension for Males by Age and Ethnicity, 1988-1994

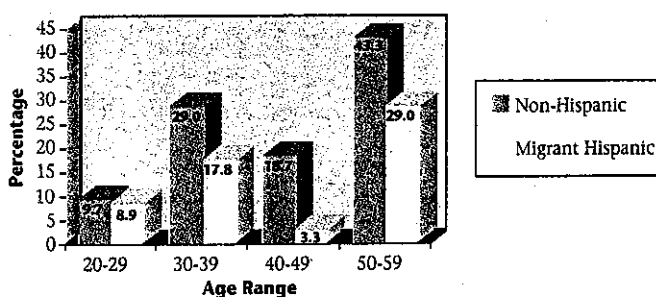
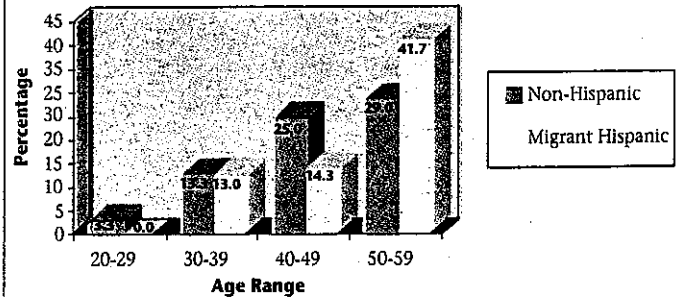


Figure 2.
Percent Hypertension for Females by Age and Ethnicity, 1988-1994



HYPERTENSION

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registered lower rates of hypertension than did their counterparts. Factors to be considered, however, which may account for the differences, include the possibility that the Hispanic population in the study perhaps represents a heartier subpopulation which is inherently physically suited for the rigors of agricultural work. Added to this is the cardiovascular benefit derived from the daily routine of the Hispanic worker. On the other hand, it is probable that the non-Hispanic population in the study represents a less hearty subpopulation which, like other populations in parts of Southeastern US, suffers from higher rates of hypertension than does the average American.⁶

Odds ratios were then calculated, as shown in Figure 3, and indicate, for each category, a favorable advantage for Hispanics. However, when confidence intervals were calculated only these categories listed as "Total" and "Male Total" yielded results which were significant at the 0.05 level using Chi-Square. The categories listed as "Male ages 20-39" and "Male ages 40-59" narrowly miss meeting the criteria for showing statistically significant differences between Case and Control populations.

Thus, when adjusted to for age and sex, rates of hypertension in Hispanics versus non-Hispanics did not vary significantly.

Conclusions

Without evidence showing statistical significance by age-specific groupings, the

significant differences shown between the two populations (total male and male total only) apparently reflect a difference in age composition, with a younger population being a healthier one. However, if a disparity truly exists, further investigation is warranted to determine if there are factors (i.e., lifestyles, diet) which might be adopted by non-Hispanic populations.

⁶ Statistical Abstract of the United States 1993; US Department of Commerce, Economics, and Statistics Administration; Bureau of the Census; p. 95.

Figure 3.
Hypertension: Case vs. Controls
Odds Ratios and Confidence Intervals

Population	OR	95 CI
Total (Male and Female)	.55	.32 - .93*
Male Total	.42	.20 - .87*
Male ages 20-39	.36	.12 - 1.02
Male ages 40-59	.34	.10 - 1.03
Female Total	.72	.28 - 1.79
Female ages 20-39	.78	.13 - 4.05
Female ages 40-59	.99	.31 - 3.10

*Significant at the 0.05 level using χ^2

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Information: Primary Health Care Association

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Information: National Center for

Farmworker Health

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