

Cardio-Vascular risk factor analysis: Prevalence of Hypertension in different ethnic groups in New York City and Ottawa in Canada

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Citation

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Abstract

INTRODUCTION

A random blood pressure checking of patients from New York and from Canada was studied in order to learn more about the diversity in hypertension episodes in different ethnic populations. In a previous study (1,2) it was concluded that the susceptibility of getting hypertension was greater in the African American ethnic group compared to the same age group in the white non-Hispanic or Hispanic population. Due to the small number of the study population, we were unable to prove significance in these findings. However, we are planning to continue the study with a larger number of participants. The Canadian component of the study population included uniquely non-Hispanic whites.

METHOD

In our clinics in New York City and Ottawa, Canada, we invited participants to join this interesting program. All participants belonged to the age group of 18-60 (Table 1 & A short medical history, information on recent medication, as well as the family history of hypertension was noted. Blood cholesterol and triglyceride levels were measured.

{image:1}

{image:2}

Overall occurrence of hypertension in all age groups was 31.3%

Statistical evaluation of the results from New York City (age group 18-40): Chi-square statistics in a multinomial experiment can be applied to confirm or reject the Null Hypothesis. Null hypothesis states that there is no difference in hypertensive episodes due to ethnicity in the same age group.

$H_0 = P_1 = P_2 = P_3$; P_1 for non-Hispanic Whites, p_2 for African Americans and p_3 for Hispanics at the level of significance (α) = 0.05. Mathematically, O = represents observed percentage values and E = Expected common values which was 12.85%. Using the formula for the Chi-square equation results in: $\text{Chi-square} = \text{summation of } (O - E)^2 / E$

The value at 2 degree of freedom for Whites, African Americans and Hispanics was 21.93. The value should be 5.99 in order to confirm the NULL HYPOTHESIS. Therefore, the null hypothesis was rejected. The conclusion was that there was a difference of hypertensive episodes related to ethnicity in the same age groups.

RESULT

The prevalence of hypertension in the New York City population (age group 18-40) varied remarkably from ethnicity to ethnicity. The overall value of hypertensive episodes was 12.85%. On the other hand, a Canadian study in the same age group demonstrated overall episodes of hypertension of 31.3%. The statistical analysis of the Null hypothesis test showed that there was a difference in hypertensive episodes in the same age groups due to ethnicity. It was also obvious that the Canadian population was more susceptible to hypertension than their counterpart of U.S. population.

DISCUSSION

In order to confirm these findings larger numbers of participants are required. To achieve this goal the project will continue.

References

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