Assessment of BMI and Hypertension in a Hispanic and Non Hispanic White Population in Miami, Florida

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INTRODUCTION

• Hispanics are the largest and fastest growing minority in the US, increasing from 12.5% of the US population in 2000 to 15.8% in 2009.1

• Hispanics as a whole have the lowest rate of educational attainment2 and the rate of poverty among Hispanics in 2008 was above that of the nation’s as a whole3, though lower than that of blacks. These factors may translate into a greater risk of disease.

• Nationally, 65.3% of Hispanics are Mexican, 9.62% Puerto Rican, 3.5% Cuban, and 21.8% of other origin4.

• In 2005, 67.4% of Miami-Dade residents were Hispanic. Of these, 57% were Cuban, 39.2% South or Central American; only 3.8% were Mexican5.

• Florida Heart Research Institute (FHR) has been offering free cardiovascular screenings since 1998; 71.5% of those screened were Hispanics.

BACKGROUND

The growing global prevalence of obesity is increasingly recognized as an important risk for the development of hypertension (HTN). The association between overweight, obesity and HTN has been well documented in multiple populations but has not been reported in an ethnically diverse Hispanic population. We therefore examined the relationship between overweight, obesity and HTN in the unique Caribbean/Latin American Hispanic (H) population of Miami, and compared it with the local Non Hispanic White (NHW) population.

METHODS

• Between 1997 and 2009, the Florida Heart Research Institute performed free, voluntary cardiovascular risk screenings for 4234 H (1522 men and 2712 women) and 1864 NHW (808 men and 1056 women). Hispanics were largely Caribbean and South American in origin; less than 1% was Mexican.

• A self-reported medical history was used to determine presence of coronary heart disease and medication use, based on a written questionnaire administered in Spanish and English. Demographics were similarly gathered.

• Two sitting blood pressure measurements performed with a mercury sphygmomanometer were averaged.

• Weight and height were measured and used to calculate body mass index (BMI).

• Hypertension: Hypertension SBP ≥140 or DBP ≥90 or taking antihypertensive medications

• BMI: Not overweight ≤24.9 Overweight 25-29 Obese ≥30

• Linear regression using the continuous BMI and systolic and diastolic BP measures produced the beta and p results (those on HTN medications were removed from the linear analysis).

• Multiple regression analysis with p<.05 was considered significant.

• The same pattern was shown in both groups stratified by gender: Hispanic men 17.2%, 26.8%, 40.2% p<.001; NHW men 27.5%, 31.2%, 44.9%, p<.001; Hispanic women 15.5%, 23.2%, 38.5%, p<.001; NHW women 17.7%, 32.2%, 36.9%, p<.001

• BMI levels were strongly associated with hypertension in both H and NHW men and women.

• As BMI increased from ‘not overweight’ to ‘overweight’ to ‘obese’, the percentage of those with HTN increased significantly for both H (15.5%, 24.7%, 38.9%; p<.001) and NHW’s (20.8%, 31.7%, 40.8%; p<.001).

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DEFINITION OF RISK FACTORS

• Hypertension: Hypertension SBP ≥140 or DBP ≥90 or taking antihypertensive medications

• BMI

BMI

Not overweight ≤24.9

Overweight 25-29

Obese ≥30

• Systolic Blood Pressure

• Diastolic Blood Pressure

DEMOGRAPHIC CHARACTERISTICS

HISPANIC DISTRIBUTION IN MIAMI-DADE COUNTY

HISPANIC DISTRIBUTION IN STUDY SAMPLE

REFERENCES


