The association between elevated BMI/obesity and blood pressure in children is well established, however the extent to which ethnicity modifies this association is less certain and has never been investigated in all major U.S. ethnic groups within the same study. We performed hypertension and obesity screening in 4,330 school children (age 13.2 ± 1.5 yrs) from 4/02-11/02 in Houston-area schools. Data on age, gender, ethnicity, ht, wt was collected for each student, and BP was measured 3 times while seated using oscillometric monitors. Hypertension was defined as average SBP and/or DBP > Task Force 95th percentile, and obesity was defined as BMI (wt/ht2) ≥ 95th percentile based current BMI percentile tables. Ethnic distribution was 49% White, 24% Hisp, 18% AA, and 7% Asian, and 2% Other. The overall prevalence of hypertension was 19.4%, which varied significantly by ethnicity (25% Hisp, 18% White, 17% AA, 14% Asian; p<0.0001). The overall prevalence of obesity was 19.2%, which also varied significantly by ethnicity (30% Hisp, 20% AA, 15% White, 10% Asian; p<0.0001). A progressive relationship between hypertension prevalence and BMI percentile was present across the entire percentile range (Figure). Overall, SBP correlated significantly with BMI (r=0.37, p<0.0001). The correlation was highest in Hisp (r=0.41), intermediate in White (r=0.36), and lowest in AA (r=0.28). The correlation between SBP and BMI was significantly weaker in AA children as compared to Hisp (p=0.002) and White (p=0.03) children. While the use of a single set of oscillometric measurements likely contributed to a higher prevalence of hypertension than would have resulted from repeated, auscultatory measurements, these results do confirm high prevalences of hypertension and obesity in children that are strongly related. Furthermore, the relatively higher correlation between SBP and BMI among Hisp children and lower correlation among AA children suggests that hypertension is induced primarily by overweight among Hisp children and by other factors among AA children.

Key Words: Child, Obesity, Epidemiology

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PERSISTING PREVALENCE OF SYSTOLIC HYPERTENSION IN A DIABETIC POPULATION CONFIRMED BY COMPUTER REVIEW

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Hypertension is a major contributor to both macro- and microvascular disease in patients with diabetes. As a result, many guidelines, including JNCVI, suggest aggressive blood pressure (BP) management in these patients, with a goal of <130/85 mm Hg. We have previously described (ASH 2001) a high prevalence of systolic hypertension among veterans with diabetes in the VANCHCS. To assess the impact of efforts to improve BP, including traditional CME, and patient-specific computerized reminders, we have repeated the analysis. We performed a review of