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The Prevalence of Hypertension Among University Students Using Both Old and New Guidelines: Comparative Study

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Hypertension (HT) is highly prevalent and associated with non-communicable diseases and increased mortality risk. New diagnostic criteria for HT have been published. Limited research has addressed the prevalence of HT among college students, and none since the change in diagnostic criteria. **PURPOSE:** To determine the prevalence of HT via The 7th Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (OLD) and the American College of Cardiology /American Heart Association Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults (NEW) and to examine differences in health outcomes by HT status using both. **METHODS:** Participants were 5945 college students who completed an assessment including: anthropometric measures, a predicted aerobic fitness test, blood pressure, lipids and glucose. Chi-square tests for independence examined differences between HT guidelines; differences in health outcome variables between HT categories were assessed with ANOVA. **RESULTS:** The mean age of participants was 21.30 ± 1.05 years, and the majority identified as men (60.5%). Men were found to have significantly higher systolic ($p < .001$, $\eta^2 = .10$) and diastolic ($p < .001$, $\eta^2 = .04$) blood pressure, so all analyses were separated by sex. HT guideline changes resulted in significant changes in HT categorization of both men, $\chi^2 = 7178$, $p < .001$, $\Phi_c = .816$ and women, $\chi^2 = 4670$, $p < .001$, $\Phi_c = .816$. Under the OLD guidelines, 292 (8.2%) men and 67 (2.8%) women were hypertensive. Using the NEW guidelines, 1455 (40.5%) men and 521 (22.3%) women were hypertensive. Regardless of the guidelines used, those classified as having HT had lower levels of fitness, and less favorable anthropometry and blood profiles (for all, $p < .001$). **CONCLUSION:** HT guideline changes had a significant increase on the prevalence of HT among college students. Under both guidelines HT was linked with a less favorable health profile. The increased prevalence of HT among college students indicates the need for targeted prevention programs focused on increasing physical activity and improving healthy eating in college students.