Diet and Exercise Education for Adults with Hypertension in U.S. Primary Care
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Introduction/Objectives: Hypertension is widely prevalent yet remains uncontrolled in many. Diet and exercise constitute crucial lifestyle interventions for hypertension management and are routinely recommended by U.S. national guidelines. For many patients, primary care visits are key avenues to receive diet and exercise counseling, but these opportunities of education for health behavioral change are often missed. This study examines the prevalence and patterns of diet and exercise education for adults with hypertension in U.S. primary care.

Methods: A cross-sectional study of U.S. ambulatory medical visits was conducted with the National Ambulatory Medical Care Survey (2005-2012) and the National Hospital Ambulatory Medical Care Survey (2005-2011), two nationally representative studies of visits to physician offices and hospital outpatient departments administered annually by the Centers for Disease Control and Prevention. Available information included patient characteristics, reason for visit, continuity of care, vital signs, and medications. We identified non-injury or surgery related primary care visits from adult patients with documented hypertension diagnoses and blood pressure exceeding 140/90 mm Hg. Among these, we studied the weighted prevalence and odds ratios of providing (or ordering) diet and exercise education in various clinical and demographic groups.

Results: Approximately 44.7 million yearly visits (crude N: 14,920, 2005-2012) occurred among U.S. hypertensive adults with documented blood pressure at or above 140/90 mm Hg. Among these visits, education was provided (or ordered) in only 10.3 (95% confidence interval [CI]: 9.0-11.7) million visits on diet and 6.8 (5.8-7.8) million visits on exercise, a weighted prevalence of 23.1% (21.4%-24.8%) and 15.2% (13.6%-16.9%), respectively. These proportions declined over time from 28.0% (23.3%-33.3%) in 2005 to 12.5% (9.5%-16.3%) in 2012 on diet education and from 18.8% (14.5%-24.1%) in 2005 to 6.7% (4.9%-9.2%) in 2012 on exercise education. Diet education was less likely among the elderly (adjusted odds ratio: 0.86, 95% CI: 0.81-0.92 for a 10-year increase in age) but more likely among non-Hispanic black and Hispanic patients (1.36, 1.10-1.69; 1.34, 1.04-1.72 compared to non-Hispanic whites), those with chronic renal failure (1.82, 1.15-2.89), diabetes (1.80, 1.46-1.94), and hyperlipidemia (1.68, 1.46-1.94), and those currently taking hypertension medication (1.21, 1.04-1.41). Exercise education was less likely among the elderly (0.88, 0.81-0.95 for a 10-year increase in age), indifferent across major race/ethnicity groups, but more likely among those with diabetes (1.59, 1.37-1.86), hyperlipidemia (1.58, 1.32-1.89), or currently taking hypertension medication (1.33, 1.10-1.61).

Discussion/Implications: Among U.S. hypertensive adults with blood pressure over 140/90 mm Hg, diet education occurs in less than a quarter of primary care visits and exercise education less than one in every six visits. These fractions are consistently low across broad clinical and demographic groups and have distressingly been declining over time. A substantial increase in diet and exercise education represents opportunities in primary care to improve hypertension management.