

ADHERENCE TO NHBPEP GUIDELINES IN CHILDREN.

Sopina Nambiar, Mohammad S. Saberi. Department of Pediatrics, Saint John Hospital and Medical Center. Detroit, MI.

High blood pressure in childhood is a risk factor for hypertension (HTN) in adulthood. Recognition of high BP in children and appropriate intervention may prevent HTN in adulthood. National High Blood Pressure Education Program (NHBPEP) Working Group has published tables of normal and high BP in children 1-17 years of age and guidelines for management of high BP at well visits in this population. The purpose of this study was to evaluate the adherence to these guidelines in an urban General Pediatric Clinic.

In this retrospective study, the medical records of 693 children and adolescents between the ages of 3-17 years, who presented for well visits between January and September of 2007 were reviewed. In 7 patients (1%) BP was not recorded. Of the remaining 686 patients, 172 (25%) had high BP (defined as SBP and / or DBP of $\geq 90^{\text{th}}$ percentile for age, sex and height) and these are included in this study. Mean age was 8.4 ± 4.2 years. Male / female ratio was 1.1 and 148 (86%) were African American. BMI percentile was 69.8 ± 25.7 and 34 (19.8%) of patients with high BP were obese. Other major comorbid conditions included asthma in 20 (12%), ADHD in 9 (5%), and seizure disorder in 3 (1%). Family history of diabetes mellitus (14%), HTN (11%), CVD (8%), hyperlipidemia (4%) and renal disease (4%) was noted in the records. SBP was elevated in 43 (25%), DBP in 150 (87%) and both in 22 (12%) patients. Of elevated systolic and diastolic readings, 51% and 61% respectively were in prehypertensive range (90^{th} to 95^{th} percentile for age, sex, height) and the remaining were in HTN ($\geq 95^{\text{th}}$ percentile) range. In this later group, 44% of SBP and 38% of DBP were in the range for stage 1 HTN (95^{th} - 99^{th} + 5 mmHg for age, sex, height), 5% of SBP and 1% of DBP were in stage 2 HTN ($\geq 99^{\text{th}}$ + 5 mmHg for age, sex, height).

In conclusion casual elevated BP readings is common in well visits in children and often unrecognized. Lack of knowledge and / or difficulty in access to BP tables contributes to under-recognition. The authors have developed a nomogram on CDC growth charts, which shows the 95^{th} percentile BP for different height percentiles. As physicians routinely plot weight and height of children at every well visit, having BP percentile in the same chart may alert the practitioner of the high BP readings and to seek or follow the NHBPEP guidelines.