BP VARIATION

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Age-Related Variation in Blood Pressure

A significant risk factor for cardiovascular and renal disease, stroke, and type 2 diabetes mellitus is an increase in blood pressure with age. Almost all populations have experienced age-related rises in blood pressure, with the exception of hunter-gatherers, farmers, and pastoralists. Here, among Tsimane forager-farmers, we looked for age-related increases in blood pressure. Additionally, we investigate whether modernization-related lifestyle changes are linked to higher blood pressure and a faster pace of aging-related blood pressure rise. (n=6468 observations over 8 years) On 2248 adults older than 20 years, we recorded blood pressure longitudinally. Although diagnosis of persistent hypertension based on several observations reduced prevalence to 2.9% for both, the prevalence of hypertension was 3.9% for women and 5.2% for men.  For women, systolic, diastolic, and pulse blood pressure rises were 2.86 (P 0.001), 0.95 (P 0.001), and 1.95 mmHg (P 0.001) per decade, whereas for men, the increases were 0.91 (P 0.001), 0.93 (P 0.001), and 0.02 mmHg (P=0.93), which are significantly lower rates than those reported elsewhere. The mean blood pressure was not significantly affected by lifestyle characteristics like smoking or Spanish proficiency, even though the younger group was physically less developed and still growing. We are collecting follow-up data from all of the initial 14 to 15-year-old participants as well as from a few chosen subgroups of the 16 to 19-year-old participants. Approximately 50% of the participants in these groups have had their 8-year follow-up measurements completed as of this writing. Follow-up measurements were taken at 5 years,18. The systolic and diastolic blood pressures of the initial sample of 14 to 15-year-old boys grew considerably (pThe mean blood pressure was not significantly affected by lifestyle characteristics like smoking or Spanish proficiency, even though the younger group was physically less developed and still growing. Between the original survey and the 5-year follow-up survey, we are getting follow-up measurements ( 0.0006), with no additional rise between the 5-year and 8-year surveys (table 1). While diastolic blood pressure increased between each survey (p 0.05), the systolic blood pressure of females did not change between the initial and 5-year follow-up surveys, but increased (p 0.004) between the latter two. Height and weight grew significantly (p 0.009) in both males and females between the initial and 5-year follow-up questionnaires, with male increases being larger. No extra growth in height occurred between the 5-year and the 8-year follow-up, but weight both in men and women. Between repeated measurements of both systolic and diastolic blood pressure, there were highly significant relationships (table 2). Using wt/ht2 as an indicator of relative weight, the change in systolic blood pressure across time was positively linked with the change in relative weight.