**ASSOCIATION BETWEEN 2017 HIGH BLOOD PRESSURE CLINICAL PRACTICE GUIDELINE NEWLY-DEFINED HYPERTENSION AND CHANGE IN BLOOD PRESSURE ON CARDIOVASCULAR DISEASE AMONG YOUNG ADULTS**

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**Background:** There is a relative lack of evidence of whether 2017 High Blood Pressure Clinical Practice Guideline’s newly-defined hypertension, as well as the change in blood pressure, is associated with cardiovascular disease (CVD) among young adults. We aimed to determine the effect of hypertension and blood pressure change on CVD among young adults using the Korean National Health Insurance Service database.

**Methods:** The study population consisted of 2,488,101 men and women aged 20 to 39 years who underwent health examinations during the first (2002-2003) and second (2004-2005) periods. Patients were categorized into normal (systolic blood pressure <120 and diastolic blood pressure <80 mmHg), elevated blood pressure (120-129 and <80 mmHg), stage 1 (130-139 or 80-89 mmHg), and stage 2 hypertension (≥140 or ≥90 mmHg) for each period. The adjusted hazard ratios (aHRs) and 95% confidence intervals (CIs) were determined for CVD from 2006 to 2015 according blood pressure categories and change in blood pressure using multivariate Cox proportional hazards regression.

**Results:** Compared to normal blood pressure participants, those with stage 1 hypertension had elevated risk for CVD among men (aHR 1.25, 95% CI 1.21-1.28) and women (aHR 1.27, 95% CI 1.21-1.34). Participants with increased blood pressure among initial normal blood pressure participants had elevated risk for CVD (aHR 1.16, 95% CI 1.10-1.22 for men and aHR 1.14, 95% CI 1.06-1.23 for women). Compared to those who remained in stage 1 hypertension, those who reduced blood pressure to normal levels had decreased risk of CVD for men (aHR 0.82, 95% CI 0.79-0.86) and women (aHR 0.80, 95% CI 0.73-0.87).

**Conclusions:** Stage 1 hypertension was associated with increased risk of CVD among young adults. Reduction in blood pressure to normal levels was associated with reduced risk of CVD among hypertensive young adults.