

# PERSISTENT HYPERTENSION IS ASSOCIATED WITH LOW HDL IN YOUNG ADULTS: AN EVIDENCE FROM TAIWAN FIVE YEARS POPULATION BASED COHORT STUDY

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## ABSTRACT

**Background:** Hypertension (HT) is one of major risk factor for cardiovascular disease (CVD) and its combination with other risk factors, i.e. dyslipidemia, could worsen the health. The burden of CVD is now shifting to younger age, and its development is even in the earlier life period. Young adults with rare health check and lack of awareness in CVD risk factor may result in suboptimal management. This study aimed to investigate the association of persistent HT and low HDL level in 5 years follow up among young adults aged 15-25 years.

**Subjects and Methods:** This study was done using Tw3SHH, a Taiwan population based cohort study (2002 to 2007), among young adults 15-25 years of age. HT was defined as the SBP>120mmHg and/or DBP>80 mmHg and/or respondent was told of having HT by medical personnel. HT development was classified based on their HT status in 2002 and 2007: “Non-HT (no HT both in 2002 and 2007)”, “Improved HT (HT in 2002 and no HT in 2007)”, “Worsened HT (no HT in 2002 and HT in 2007)”, and “Persistent HT (HT both in 2002 and 2007)”. HDL was grouped based on NCEP-ATP III, and the low HDL defined as HDL<40mg/dl. Exercise, fatty food consumption and smoking status were based in self-reported questions. The data were analyzed by a multiple logistic regression model to estimate the association of persistent HT and low HDL level in 5-years. Covariates were sex, age, smoking habit, exercise habit, fatty food consumption, and HbA1C.

**Results:** About 9.35% of 727 study subjects had persistent HT. Compared to non-HT group, persistent HT group had higher risk of having low HDL level (crude OR= 3.70; CI 95%= 1.90 to 7.2; p=<0.001; adjusted OR= 2.44; CI 95%= 1.18 to 5.03; p= 0.015). This association persisted (crude OR= 4.90; CI 95% 2.29 to 10.49; p=<0.001; adjusted OR= 2.89; CI 95%= 1.34 to 6.24; p= 0.007) in subgroup analysis among study subjects without low baseline HDL.

**Conclusion:** Persistent HT is associated with low HDL level in 5 years follow up among young adults 15-25 years of age. Although universal screening in lipid profile among children and youth is still controversial, awareness to this condition should be raised.

**Keywords:** cardiovascular, hypertension, dyslipidemia, HDL, young adult

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