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## **Prevalence of Chronic Kidney Disease Among Hypertensions with High-, Moderate-, and Low-Risk Levels on Cardiovascular Risk Profile**

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**Objectives:** Hypertension is a known risk of chronic kidney disease (CKD), and cardiovascular diseases (CVD). Persons with hypertension had multiplex and share common CVD risk factors as increasing risk for CKD. Thus, we hypothesized that hypertensions with high-, moderate-, and low-risk on CVD risk profile had differences prevalence of CKD. We examined the association of CVD risk levels with CKD in hypertensions.

**Methods:** Among 2,150 hypertensions from 15 primary care units in Southern Thailand, 1,540 cases are eligible. Risk for developing CVD was estimated based on the Framingham Heart Study-General Cardiovascular Risk Profile. CVD risk point score was ranged from  $\leq -2$  to  $\geq 21$  with estimated % of  $<1$  to  $>30\%$ . Risk level are stratified into low- (score  $\leq -2$  to 9), moderate- (score 10-17) and high- (score  $\geq 18$ ) risk groups. Estimated glomerular filtration rate (eGFR) was calculated based on CKD-EPI equation, which an eGFR  $<60$  ml/min/1.73m<sup>2</sup> is determined CKD.

**Results:** There were 65 (4.2%), 747 (48.5%), and 728 (47.3) of hypertensions at low-, moderate-, and high-risk levels. Overall CKD prevalence was 18.4%. The high-risk group had highest prevalence of CKD as compared with the moderate-, and low-risk groups (26.0% vs. 12.4% vs. 1.5%,  $p < 0.0001$ ). In the multivariate, sex and sociodemographic-adjusted model revealed the increment risk of CKD was associated with the increasing CVD risk score (Wald = 67.21; OR = 1.15 [95%CI 1.11-1.19], per 1 score increased). Increment risk of CKD was found in the high-risk (OR 22.44 [95%CI 3.09-162.89],  $p = 0.002$ ), and moderate-risk (OR 9.10 [95%CI 1.25-66.39],  $p = 0.029$ ) compared with low-risk group.

**Conclusions:** Our results demonstrated that a comprehensive risk assessment on CVD risk profile and risk levels is usefully to detected hypertension who are at highly risk for CKD. Since hypertension, CKD, and CVD had shared common risk factors, a comprehensive risk reduction protocol is needed to implement.