

Sojib Bin Zaman, 2016 **Chronic Kidney disease as important diabetes mellitus complication in the Northeast of Thailand**. Master of Science Program in International Health, Charité- Universitätsmedizin Berlin, Germany and Khon Kaen University, Thailand

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Abstract

The prevalence of chronic kidney disease (CKD) amidst Thai adult T2DM patients is quite high. Uncontrolled DM and long-term hyperglycemia can play a role to initiate this renal vascular complication. Glycated hemoglobin (HbA1c) is a well-known valid biomarker to estimate glycemic control. High concentration of HbA1c indicates poor or sub-optimal control of DM. However, it is not clear whether HbA1c with other conventional indicators can act as a reliable determinant to predict CKD. The intention of this study was examining the association of HbA1c and other associated risk factors for developing CKD. It also attempted to evaluate different methods to report CKD. A diabetic registry was used to collect 4042 participants from a district hospital in the Northeast of Thailand. CKD was reported by using estimated glomerular filtration rate ($\text{eGFR} < 60 \text{ ml/min/1.73m}^2$). Using STATA, multiple logistic regression analysis was performed to report adjusted odds ratio and 95% confidence intervals. This investigation used CKD-EPI formula to indicate CKD.

More than one-fifth of T2DM patients (887, 21.9%), were at risk to develop kidney disease. The majority of the participants were in poor glycemic state (82%), and 43% of them were overweight. HbA1c was found not to be a reliable indicator for CKD. Age, hypertension, micro albuminuria, and triglyceride were considered to be the implied risk factors besides HbA1c. Also, BMI seemed to decrease in the course of developing CKD. It appears to be a presence of lack of generally accepted indicators for detecting CKD in T2DM patients. The lower values of HbA1c and BMI for high-risk CKD patients might be explained by the fact that CKD patients usually develop anemia and their nutritional status also can declines. More investigations are necessary to infer the actual clinical stage of CKD at which HbA1c values get unpredictable. Therefore, both the contemporary guidelines of HbA1c and BMI need to be modified in consideration of CKD patients.