

Prevalence of Chronic Kidney Disease and Its Associated Factors among Type-2 Diabetes Mellitus Patients at Kuantan Primary Health Clinics

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Abstract

INTRODUCTION: Chronic kidney disease (CKD) in type-2 diabetes mellitus (T2DM) patients leads to end-stage renal failure and cardiovascular complications. This study aims to determine the prevalence of CKD and its associated factors at primary health clinics in Kuantan. **MATERIALS AND METHODS:** 304 T2DM patients' records aged 18 years and above were retrospectively selected by systematic random sampling in four health clinics, analyzed using descriptive statistics and multiple logistic regression. CKD is defined as positive proteinuria, or microalbuminuria in at least two of three consecutive urine specimens or calculated eGFR $<60\text{ml}/\text{min}/1.73\text{ m}^2$ for more than three months. **RESULTS:** The mean age was 59.1 ± 8.89 years, 69.1% (n=210) Malay and 57.6% (n=175) females. The prevalence of CKD among T2DM was 55.3% (n=168) (95% CI=54.8 to 55.9%). Out of 168 T2DM with CKD, 87.5% (n=147) had diabetes for \geq five years, 90.5% (n=152) had at least two comorbidities, and 54.2% (n=91) were on insulin. Glycaemic (HbA1c $<7\%$) and blood pressure ($<130/80$) among T2DM with CKD achieved targets were 28% (n=64) and 38.1% (n=47) respectively. Multivariable analysis showed higher odds of having CKD among T2DM with poor blood pressure (AOR=2.634, p-value=0.001) and glycaemic control (AOR=4.178, pvalue= <0.001) compared to those with good control and among those with retinopathy (mild NPDR AOR=7.472, p-value= <0.001 ; moderate NPDR AOR=13.594, p-value= <0.001) compared to no retinopathy. **CONCLUSION:** CKD present in half of T2DM. It's associated with poor blood pressure, glycaemic control and retinopathy. Early detection of retinopathy and CKD, and aggressive diabetic intervention are vital to curbing CKD progression.

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