

## Webinar on UROLOGY AND RENAL HEALTH

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### Prevalence of early stage chronic kidney disease in diabetic and hypertensive patients in a tertiary care hospital, northern Ethiopia: a Point-of-Care screening in resource limited setting

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**Background:** Diabetes and hypertension are primary risk factors for chronic kidney disease (CKD). Therapeutic interventions are most likely to be effective if they are implemented early in the course of the disease process. Due to unavailability of screening strategies, there is no previous study on the prevalence of early stage CKD in high risk populations in resource limited setting, including northern Ethiopia. This study aims to assess the prevalence of early stage CKD and associated factors among diabetic and hypertensive patients using a point of care screening in a tertiary care hospital, Northern Ethiopia.

**Method:** A hospital-based cross-sectional study design was employed to consecutively sample hypertensive and diabetes mellitus adult (aged >18years) patients visiting Ayder comprehensive specialized Hospital from February 1- 30 March, 2020. Data was collected by interview and from CKD screening test results. Each patient provided a urine sample for albuminuria and a blood sample for creatinine level. Estimated glomerular filtration rate (GFR) was calculated using CKD epidemiology collaboration (CKD-EPI) equation. A bivariate and multivariable logistic regression model was used to assess associated risk factors. P-value <0.05 and 95% confidence interval were considered statistically significant.

**Results:** A total of 512 (243 hypertensive and 259 diabetic) patients were included in the study. Two-third of these patients (n=343) had microalbuminuria and 17% (n=85) had macroalbuminuria. About 15% (n = 78) of the study participants had an estimated GFR of <60ml/min/1.73m<sup>2</sup>. Being diabetic was 3.8 times (P-value: <0.001; 95% CI: 1.83, 7.82), and being both diabetic and hypertensive was 5.4 times (p-value: 0.001; 95% CI: 2.09, 14.10) at higher risk of developing early stage CKD than that of only hypertensive patients.

**Conclusion and recommendation:** A significant proportion of diabetic and hypertensive patients attending follow up in northern Ethiopia developed early stage CKD. Being diabetic and combination of both diabetes and hypertension were independent predictors for developing early stage CKD. More diagnostic resources and implementation of regular point -of -care screening for CKD among high risk patients are of paramount importance for early detection and treatment to halt the progression of the disease.

**Key words:** Point of care screening, early chronic kidney disease, albumin to creatinine ratio, albuminuria, glomerular filtration rate, diabetes mellitus, hypertension, Ethiopia.