

Determinants of Diabetic Nephropathy among Diabetic patients at St. Paul's Hospital Millennium Medical College: A case-control study

Abstract

Background: Diabetic nephropathy is one of the impending complications of Diabetes Mellitus that might lead to end-stage renal disease and death. Though there are burgeoning reports on diabetic nephropathy elsewhere in the world, studies regarding the determinants of the condition within the Ethiopian context are scarce and inconsistent across different settings. The study aimed to assess determinants of diabetic nephropathy at Saint Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia, in 2019.

Methods: Unmatched case-control study design with a 1:2 ratio employed to identify determinants of Diabetic Nephropathy. All diabetic patients who developed diabetic nephropathy were considered as cases and all diabetic patients who were free of proteinuria were controls. The total sample size calculated by Epi info 7 software was 261, 87 cases, and 174 controls. A simple random sampling technique was applied. Samples from cases and controls were interviewed by lottery method as they came to the clinics during data collection. Simple binary logistic regression was used first to identify possible factors for further analysis then factors with p-value <0.25 were entered to multiple binary logistic regression to identify significant associations of variables with a p-value of <0.05 .

Result: Among 261 study participants, 87 cases, and 174 controls, the median age was 60 and 46.5 respectively. On multiple binary logistic regression; duration of diabetes >10 years, (AOR=3.107, 95% CI= 1.215-7.947), drinking alcohol (AOR=2.896, 95% CI= 1.531-5.480), no adherence to regular physical exercise (AOR=4.378, 95% CI= 2.297-8.344) and presence of systolic hypertension (AOR=2.995, 95% CI= 1.547-5.795) were significantly associated with diabetic nephropathy.

Conclusion: Duration of diabetes, drinking alcohol, non-adherence to regular physical exercise, and systolic hypertension were the significant factors of diabetic nephropathy. Health education campaigns on controlling blood glucose level, blood pressure, cessation of behavioral factors like alcohol drinking, and performing regular physical exercise shall be designed on regular basis.

Keywords: Case-control, Determinants, Diabetic nephropathy, Addis Ababa, Ethiopia