

The prevalence of chronic kidney disease and its association with cardiovascular risk factors among teachers in South Africa: A Partnership for Cohort Research and Training (PaCT) pilot study

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Background: There is a need to determine the feasibility of conducting studies of chronic diseases among large cohorts of African patients. One aim of the South African feasibility study was to determine the prevalence of chronic kidney disease (CKD) and its association with cardiovascular disease (CVD) risk factors among schoolteachers.

Methods: In a cross-sectional survey of 489 teachers, we captured data on demographics, CVD risk factors, anthropometry and blood pressure. Serum glucose, creatinine, cholesterol, and urine protein/creatinine ratio was measured. Glomerular filtration rate was estimated using the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) and the Modification of Diet in Renal Disease study equations.

Results: The mean (6standard deviation) age of the participants was 46.368.5 years, with 70.3% being female and 74.6% of mixed ethnicity. The crude prevalence of CKD using the CKD-EPI equation was 6.1% while the age-adjusted prevalence was 6.4% (95% confidence interval 3.2–9.7%). CKD was associated with the presence of diabetes and higher diastolic blood pressures.

Conclusions: In our study population of relatively young, working individuals CKD was common, clinically silent and associated with cardiovascular risk factors. The long-term complications of CKD are serious and expensive to manage and this, therefore, constitutes an important public health problem for South Africa.