Assessment of management of risk factors associated with chronic kidney disease in Khartoum locality renal centers

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Aim: The purpose of the study is to evaluate and assess the management of different risk factors that lead to progression of chronic kidney disease as well as the assessment of management of late stages of the illness.

Method: A total of 152 medical records were randomly selected from the seven adult renal Centers in Khartoum locality public hospitals. A data collection form was designed containing four parts. The first part was the demographic information and history of renal disease, including family history and past medical history. The measures of estimated Glomerular Filtration Rate (eGFR) calculated according to Cockruft Gault Equation and the stage of the CKD accordingly. The second part was the management, including criteria for referral, assessment in all stages, cardiovascular risk assessment and target values for blood pressure, blood glucose and blood lipids. Also it includes drugs used for management of different risk factors. The third part was a review of medication that may harm the kidneys. The fourth part focused on patient's education and awareness about nephrotoxic drugs.

Result: A total of 152 medical records were investigated. 61.2% were males, 38.8% were females. Mean age (45.73±SD 16.2). Mean weight (63.44, SD±10.89). Patients from Khartoum represent 45.5% and 54.5% from outer skirts. Most patients have duration of disease more than 12 month (48.3%). Most patients have no family history of CKD or other chronic disease (49.6%). The predominant risk factors were proteinuria (98%) followed by hypertension (83.6%), gout arthritis (35.1%) then diabetes mellitus (20.4%). Hematuria (19.2%), nephrotic (14.7%), recurrent UTI (12.6%), hyperlipedimia (9.9%) and stone (7.3%). (69.5%) of patients had gone into stage 5, while (19.9%) into stage 4 CKD. Only (5.3%) of patients in stage 2 and 3 CKD. Among the criteria for referring patients to nephrology Centers, (23.8%) of our patients had been referred because of proteinuria more than 100 mg/mmol and hemoglobin less than 10 g/dl. For long term management of cardiovascular disease, non-smokers had no exercise or dietary management (42.2%). While among smokers only (6%) had smoking and diet management. For cardiovascular risk assessment, the majority (56.6%) had not received lipid lowering therapy or anti-platelet therapy. (53.0%) are hypertensive non-diabetics BP<140/90. While (8.6%) of hypertensive diabetic patients had out of normal target blood pressure BP>130/80. As well as for diabetic nephropathy patients who had BP>125/75. For management of hypertension (22%) received Ca Channel Blockers. And (13%) had received CCB & ACE Inhibitors. For management of anemia most patients (53%) had received both folic acid and ferrous sulphate. The majority (80%) had undergone hemodialysis. For HD patients, (34.2%) had received iron and erythropoietin. Only (1.7%) had received hepatitis B vaccine. And (35%) had gout arthritis, while half of them received gout treatment. For management of diabetes mellitus in CKD, (50%) had received ACE Inhibitors, even when their blood pressure was normal. In the review of nephrotoxic drugs, the majority (81.5%) hadn't received drugs that impair their kidney functions. Generally, patients have no proper knowledge nor had received any precaution of nephrotoxic drugs and they represent (97%). That was clear after patients focused-discussion session which its results were clearly marked in the

patients records. For correlation between HD and CKD Stages was significant with a p-value less than 0.001 (correlation coefficient 0.69 which is > 0.5), i.e. patients with higher stages tend to have hemodialysis. While those with low stages had no hemodialysis.

Conclusion: assessment of cardiovascular risks is poor and need further intervention. Patients at early stages need more audit assessment and management. Especially those with hypertension, hyperlipidemia and diabetes mellitus. At late stages patients need more supervision, especially for anaemia and diabetic nephropathy. Eventually, life style management needs direct care and advice for patients with kidney illnesses.