

A Cross-Sectional Analysis of Dietary Intake and Nutritional Status of Patients on Haemodialysis Maintenance Therapy in a Country of Sub-Saharan Africa

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Abstract

Malnutrition is common among dialysis patients, but there is insufficient literature on the problem from resource-poor settings of the sub-Saharan region. We conducted a cross-sectional investigation of dietary intake and nutritional status of haemodialysis (HD) patients to inform the current status of this population group in the region. HD patients aged ≥ 18 years, with dialysis vintage of ≥ 3 months, at one nephrology unit in Tanzania were assessed for their habitual diet and nutrient intake. Anthropometric measures and biochemistry tests were also performed. The diet was predominantly starchy food based, accompanied by a limited selection of vegetables. Fruits and animal protein were also minimally consumed (1 portion/day each). Fruit consumption was higher in females than males (median (25th, 75th) = 2 (1, 2.3) versus 0.5 (0, 1.7) portions, $p = 0.008$). More than 70% of participants had suboptimal measures for protein and energy intake, dietary iron, serum albumin, muscle mass, and hand grip strength (HGS). Inadequacies in protein and energy intake and dialysis clearance (URR) increased with the increase in body weight/BMI and other specific components (MAMC and FMI). Consumption of red meats correlated significantly and positively with serum creatinine ($r = 0.46$, $p = 0.01$), potassium ($r = 0.39$, $p = 0.03$), and HGS ($r = 0.43$, $p = 0.02$) and was approaching significance for a correlation with serum iron ($r = 0.32$, $p = 0.07$). C-RP correlated negatively with albumin concentration ($r = -0.32$, $p = 0.02$), and participants with C-RP within acceptable ranges had significantly higher levels of haemoglobin ($p = 0.03$, effect size = -0.28). URR correlated negatively with haemoglobin concentration ($r = -0.36$, $p = 0.02$). Patients will benefit from improved nutritional services that deliver individually tailored and culturally practical dietary advice to enable them to make informed food choices whilst optimizing disease management.

Biography

Nyangi has a BSc and MSc in Human nutrition from Sokoine University in Tanzania. In 2015, she was awarded a Commonwealth scholarship to study for a PhD in the Department of Nutritional Sciences at the

University of Surrey. Her PhD research focused on understanding the role of nutrition, body composition and inflammatory responses to anaemia management therapy among haemodialysis patients.