

ORIGINAL RESEARCH

51. **Malnutrition among Patients with End-Stage Renal Disease in War 2024: The Role of Healthcare Access, Dialysis, Gender, and Economic Disparities**Iyas Abdelhadi Ahmed Abdelhadi¹¹ University of Khartoum, Faculty of Medicine, Sudan

Background: Chronic kidney disease (CKD) involves a decline in kidney function for at least three months, often requiring renal replacement therapy at the end stage. End-stage renal disease (ESRD) patients on haemodialysis are at risk of malnutrition, leading to poor clinical outcomes. This complex and multifaceted issue, influenced by socioeconomic and clinical care, is expected to worsen due to the ongoing war and high displacement rates. This study aimed to provide evidence on the prevalence of and factors contributing to malnutrition among haemodialysis patients in northern Sudan.

Methods: This cross-sectional study recruited 141 patients from four public haemodialysis centres in the northern state through cluster sampling. Socioeconomic and clinical data were collected via interviews with patients, caregivers, and healthcare providers. Nutritional status was assessed using Subjective Global Assessment, and healthcare access was evaluated using the Penchansky and Thomas model. Descriptive, bivariate, and multivariate analyses were performed using SPSS v21, with statistical significance set at $P < 0.05$.

Results: Most patients were males (68.1%), and the mean age was 52 \pm 14.5 years. Hypertensive renal damage was the most common aetiology of ESRD (36.9%), followed by hereditary kidney diseases (20.6%). Approximately one-fourth of patients were hospitalized in the last 6 months, primarily due to electrolyte disturbances. Mild to moderate malnutrition was observed in 44% of patients, and severe malnutrition in 4.3%. Female gender ($OR=2.292$, 95% CI= 1.037-5.066) and dialysis duration over 5 years ($OR=2.945$, 95% CI= 1.155-7.505) predicted malnutrition. Better healthcare access correlated with improved nutritional status ($p<0.05$). Lower income, urban residence, hypertension, and cardiopathy were linked to higher SGA scores.

Conclusion: The study reveals a high prevalence of malnutrition in haemodialysis patients, with a significant contribution of iatrogenic factors, symptomatic burden, healthcare access, and socio-economic disparities. We recommend regular nutritional monitoring and an integrated healthcare approach addressing clinical factors, symptoms management, and socio-economic support.

Table 1. Bivariate Analysis for the Clinical and Socioeconomic Determinants of Malnutrition Among Patients with ESKD on Hemodialysis at Northern state, Sudan 2024

Knowledge About OTC drugs: -	Count	Column Valid %
All OTC (over the counter) drugs are safe and effective	Yes	183 46.7%
	No	209 53.3%
OTC drugs are used usually for treating diseases like	I don't know	68 17.3%
	Chronic Illnesses	44 11.2%
	Minor Illnesses and Injuries	280 71.4%
OTC drugs can cause side effects	Never	62 15.8%
	Mostly	76 19.4%
	Sometimes	254 64.8%
All OTC drugs, when taken along with a prescribed drug, are safe	Yes	176 44.9%
	No	216 55.1%
If suspected side-effect(s) are seen, then one should	Continue taking the drug regardless of the side effect(s)	12 3.1%
	Take low dose until side effect(s) subside	29 7.4%
	Report to a doctor or pharmacist	226 57.7%
	Immediately stop using the drug	125 31.9%

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