

**Abstract Submission No.: A-1365****A Comparative Analysis of the Global Leadership Initiative on Malnutrition and Subjective Global Assessment for Diagnosing Malnutrition among Predialysis and Dialysis Inpatients**

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**Objectives :** Malnutrition is a severe complication in chronic kidney disease (CKD) patients. In Indonesia, the prevalence of malnutrition in predialysis and dialysis patients is 70% and 16-54%, respectively. The 2020 KDOQI guidelines recommend subjective global assessment (SGA) to assess nutritional status and diagnose malnutrition in kidney disease patients. Although recommended, SGA has several biases in end-stage CKD patients. In 2018, the Global Leadership Initiative on Malnutrition (GLIM) created a new standard for diagnosing malnutrition. This study aimed to determine the prevalence of malnutrition in predialysis and dialysis inpatients and to evaluate the performance of GLIM criteria towards SGA in diagnosing malnutrition.

**Methods :** In total, 106 subjects aged 18-59 years were included in this cross-sectional study. This study was conducted in the Internal Medicine Wards of Dr. Cipto Mangunkusumo National Central General Hospital from January to December 2023. Malnutrition was diagnosed with GLIM and SGA. Diagnostic performance tests were performed by analyzing sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), Area Under the Curve (AUC), and Cohen's kappa coefficient.

**Results :** The subjects in this study consisted of 89.6% male, 10.4% female, 27.4% in early adulthood, and 72.6% in late adulthood. Malnutrition was diagnosed in 51.9% of the subjects by GLIM and 53.8% by SGA. In further detail, the prevalence of malnutrition by GLIM in predialysis and dialysis inpatients was 53.7% and 45.8%, respectively. The prevalence of malnutrition by SGA in predialysis and dialysis inpatients was 56.1% and 45.8%, respectively. GLIM showed good validity with 96.5% sensitivity, 100% specificity, 100% PPV, 96% NPV, and 0.98 AUC towards SGA. Cohen's kappa coefficient (k) showed "almost perfect agreement" ( $k = 0.96$ ).

**Conclusions :** This study indicates that GLIM accurately diagnoses malnutrition in predialysis and dialysis inpatients. GLIM has almost perfect agreement with SGA, so it can be used to diagnose malnutrition in hospital care settings.

Subject Characteristic and Prevalence of Malnutrition.png

Variables	Mean or Median	N (%)
<b>Sex</b>		
Male		95 (89.6)
Female		11 (10.4)
<b>Age</b>		
Early adulthood	24.9 (18-35)	29 (27.4)
Late adulthood	49 (36-59)	77 (72.6)
<b>BMI</b>		
Underweight	16.49 (12.9-18.4)	20 (18.9)
Normal	21.18 (18.6-22.9)	40 (37.7)
Overweight	23.72 (23-24.8)	22 (20.8)
Obesity	29.98 (25.5-36.9)	24 (22.6)
<b>Involuntal Weight Loss</b>		
Meet the phenotypic criteria	9.1 (2-30)	40 (37.7)
Not sure		25 (23.6)
No weight loss		41 (38.7)
<b>Reduced muscle mass</b>		
Severe		20 (18.9)
Moderate		9 (8.5)
No reduced muscle mass		77 (72.6)
<b>Energy Intake</b>		
Adequate	88.5 (0-50)	72 (67.9)
Inadequate	44.27 (51-113)	34 (32.1)
<b>Inflammation</b>		106 (100)
<b>Malnutrition Diagnosis</b>		
<b>GLIM</b>		
Normal		51 (48.1)
Malnutrition		55 (51.9)
<b>SGA</b>		
Normal		49 (46.2)
Malnutrition		57 (53.8)
<b>Malnutrition Diagnosis (Predialysis)</b>		
<b>GLIM</b>		
Normal		38 (46.3)
Malnutrition		44 (53.7)
<b>SGA</b>		
Normal		36 (43.9)
Malnutrition		46 (56.1)
<b>Malnutrition Diagnosis (Dialysis)</b>		
<b>GLIM</b>		
Normal		13 (54.2)
Malnutrition		11 (45.8)
<b>SGA</b>		
Normal		13 (54.2)
Malnutrition		11 (45.8)

Subject Characteristic and Prevalence of Malnutrition.png

Test	Result	Category
Sensitivity (%)	96.5%	Good
Specificity (%)	100%	Good
PPV (%)	100%	Good
NPV (%)	96%	Good
AUC	0.98	Excellent
Cohen's kappa coefficient (k)	0.96	Almost perfect agreement