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THE VALIDATION OF GLIM CRITERIA FOR DIAGNOSIS OF MALNUTRITION IN ADULT PATIENTS WITH OBESITY POST SLEEVE GASTRECTOMY

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Background and Objective:

Global Leadership Initiative on Malnutrition (GLIM) is a new tool recently developed for diagnosing malnutrition in a different clinical setting.

The study's main aim is to explore the validity of GLIM criteria in assessing nutrition status and malnutrition post-SG.

Methods:

- A cross-sectional study was conducted on adult post-SG patients who were followed up at the outpatient surgical clinic at King saud univesity hospotal , The first step was assessing the nutrition status using the Nutrition Risk Screening Tool 2002 (NRS-2002) to diagnose malnutrition based on GLIM criteria and then by GLIM and SGA, Agreement between tools was calculated using Kappa (κ) statistics and Receiver Operation Characteristics (ROC) analysis determined the Sensitivity (Se), Specificity(Sp), and Area Under the Curve (AUC) to investigate the tool's accuracy.
- Additionally, a dietary assessment tool was used; multiple pass 24-hour diet recall was collected twice, once during weekdays and once during weekends, followed by ESHA food processor software analysis to analyse their diet's macronutrient, Vitamin D, and Vitamin B12 content. (Se), (Sp) and (κ) values were measured to evaluate the performance of the nutritional assessment tools, GLIM, SGA, and NRS2002.

Results:

- A total of 47 patients post-SG, 18 males (38.3%) and 29 females (61.7%) with an average age of 35 years (IQR 22 years) were recruited for the study.
- In patients who were followed up for six months or longer following surgery, the GLIM and SGA criteria for malnutrition prevalence were 48.9% and 42.6%, respectively.
- The GLIM criteria demonstrated a failure rate of 0.553 (95% CI, 0.38 – 0.72) with a sensitivity and specificity of 55.0% and 55.6%, respectively. The tools' agreement was poor (κ = 0.104).

Conclusion:

- GLIM criteria for malnutrition diagnosis presented unsatisfying criterion validity and seemed unacceptable for assessing nutritional status among post-SG patients.
- This could be due to the criteria of GLIM, where weight loss and BMI reduction are considered success factors with patients post-SG.

Figure 1: Receiver-operating characteristic (ROC) curve plot of the true positive rate (sensitivity) rate against the false positive rate (1-specificity) at GLIM criteria compared with SGA.

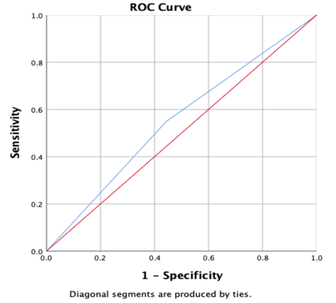


Table 2a: Anthropometric status post-sleeve gastrectomy according to GLIM criteria

Variable	GLIM			
	All n=47	**Well-nourished (n=24)**	**Malnutrition (n=23)**	*P* value
Weight	82.28 ± 19.03	84.95 (32.5)	70.70 (25.1)	0.012
BMI	31.29 ± 5.98	32.45(10.55)	27.60(8.10)	0.042
Muscle mass	49.87 ± 11.67	51.94 ±10.72	47.72 ±12.45	0.221
Fat mass	28.92 ± 14.86	33.55 ± 14.89	24.09 ± 13.49	0.027
FFMI	20.11 ± 3.67	20.56 (3.15)	19.96 (4.41)	0.476
Fat percentage	3.40 ± 10.39	39.25(16.85)	28.20 (17.8)	0.225
ASMMI	9.39± 3.28	9.01 (2.73)	8.94 (2.74)	0.125