

Is being malnourished according to the ESPEN definition for malnutrition associated with clinically relevant outcome measures in geriatric outpatients?

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Rationale

A body of evidence is supporting the association between (the risk of) malnutrition, physical performance, muscle strength and cognitive status in geriatric outpatients. Associations between the newly proposed ESPEN definition for malnutrition and clinically relevant outcome measures have not been confirmed yet.

Aim

To examine the association between being malnourished according to the new ESPEN definition for malnutrition and clinically relevant outcome measures in geriatric outpatients.

Methods

The ESPEN definition includes 2 options to diagnose malnutrition:

- Option 1: BMI <18.5 kg/m²
- Option 2: Weight loss (unintentional) >10% indefinite of time, or >5% over the last 3 months combined with either
 - BMI <20 kg/m² if <70 years of age or <22 kg/m² if >70 years of age or
 - FFMI <15 and <17 kg/m² in women and men, respectively.

Methods

Clinically relevant outcome measures included HGS (kg), SPPB-score (points), TUG (seconds), falls (yes/no) and low MMSE-score (≤24 points). Linear regression was used to analyse associations between malnutrition and HGS, SPPB and TUG; logistic regression for falls and a low MMSE-score. All analyses were adjusted for age and gender (model 1).

Results

A total of 185 geriatric outpatients (60% women) with a mean age of 82 years (±7.3) were included. Being malnourished according to the ESPEN definition (8.2%) was associated with a lower HGS (-3.38 kg, p=0.031), lower SPPB-score (-1.8 point, p=0.025), and higher TUG-time (+1.35 seconds, p=0.020) (table 1). No significant associations were found with falls and low MMSE-score.

Conclusion

This study is the first to confirm the association between malnutrition, defined by the new ESPEN definition, and clinically relevant outcome measures for physical performance in geriatric outpatients.

Table 1. Association between malnourished according to the ESPEN definition and HGS, SPPB and TUG

	HGS (kg) n=168		SPPB score (points) n=165		TUG (sec) n=152	
	β	95% CI	β	95% CI	β	95% CI
Crude model	-4.035	-8.896; 0.826	-1.682	-3.467; -0.103	1.320	1.017; 1.714
Model 1 (age+gender)	-3.378	-6.439; -0.317	-1.814	-3.398; -0.230	1.353	1.049; 1.745

ESPEN; European Society for Clinical Nutrition and Metabolism, BMI; body mass index, FFMI; fat free mass index, HGS; handgrip strength, SPPB; Short Physical Performance Battery, TUG; Timed Up and Go test, MMSE; Mini-Mental State Examination, CI; confidence interval, OR; odds ratio