Hospital Universitario Clínico San Carlos
SaludMadrid
Comunidad de Madrid

13th EUGMS
INTERNATIONAL CONGRESS OF THE EUROPEAN UNION GERIATRIC MEDICINE SOCIETY
DEVELOPING PREVENTIVE ACTIONS IN GERIATRICS

AGREEMENT BETWEEN ESPEN CRITERIA AND MNA IN THE DIAGNOSIS OF MALNUTRITION IN ELDERLY PATIENTS WITH HIP FRACTURE

Lourdes Evangelista Cabrera[1], Lucía Fernández Arana[1], Victoria Garay Airaghi[1], Esther Lueje Alonso[1], Pilar Matía Martín[2], Federico Cuesta Triana[1]

[1] Department of Geriatrics, Hospital Clínico San Carlos, Madrid, Spain.
[2] Department of Endocrinology and Nutrition, Hospital Clínico San Carlos, Madrid, Spain.

CONFLICT OF INTEREST DISCLOSURE

We have no potential conflicts of interest to report

INTRODUCTION

- Recently, new malnutrition diagnosis criteria have been proposed by ESPEN[1] (European Society of Clinical Nutrition and Metabolism) in patients with positive nutritional screening.

- Validation is still advocated.

1 Cederholm T, Bosaeus I, Barazzoni R, Bauer J, Van Gossum A, Klek S, et al. Diagnostic criteria for malnutrition - An ESPEN Consensus Statement. Clin Nutr 2015 Jun;34(3):335-40.

DIAGNOSIS OF MALNUTRITION

- According to **ESPEN**, the diagnosis of malnutrition is considered a two step process:

1. **Risk screening** by a validated instrument (MNA-SF)

2. a) BMI < 18.5 kg/m²

   or

   b) 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.

OBJECTIVES

- Describe the agreement of two methods of nutritional assessment: Mini Nutritional Assessment (MNA)[1] and the new ESPEN criteria among hip fracture hospitalized patients.

Guigoz Y, Vellas B, Garry P. Assessing the nutritional status of the older person: The Mini Nutritional Assessment as part of the geriatric evaluation, Nutrition Reviews., 1996;54(1):S59-S65.

METHODS

n=213

Ortho Geriatric Ward

Admission → **48h**

- MNA-SF → MNA
- BMI (Weight/height^2 kg/m^2)
- FFMI (monofrequency Akern® bioimpedance)
- Demographic data

- The agreement was determined by Kappa statistic.
- SPSS (Version 23.0) was used for all statistical analyses .

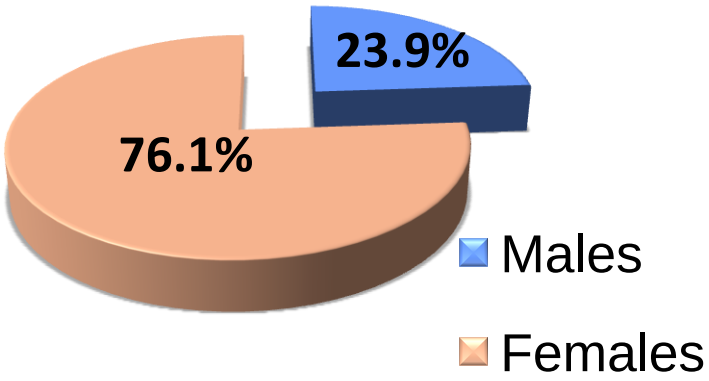
RESULTS

RESULTS

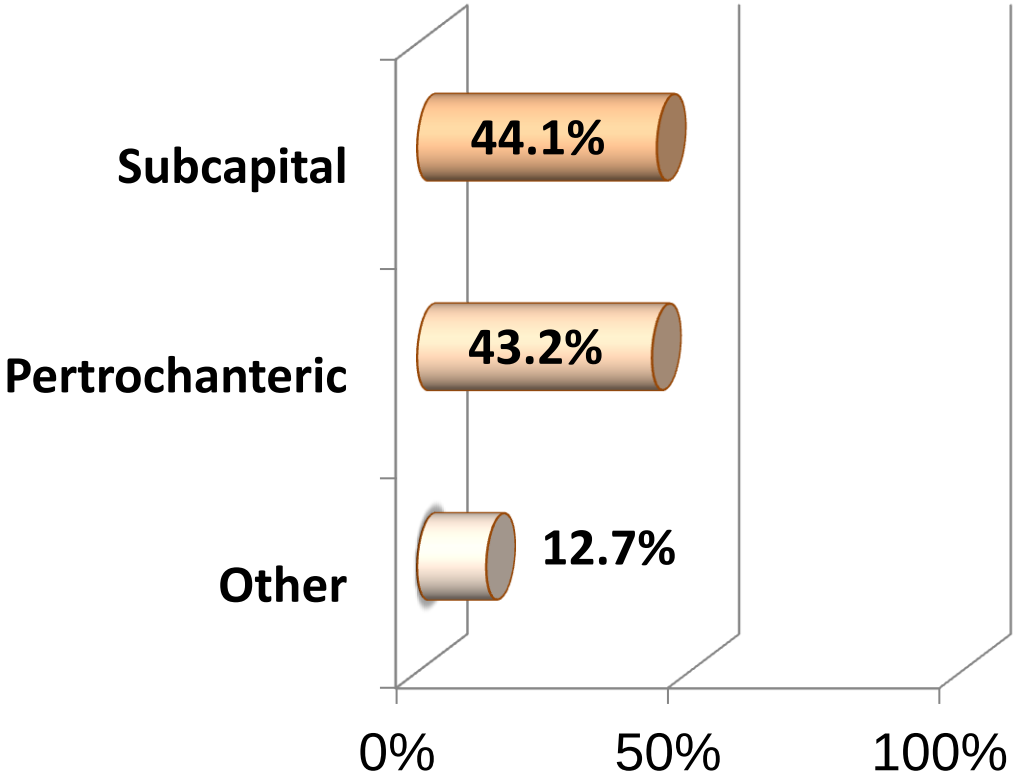
213 patients

Age: 85.4 (SD 6.87)

Gender



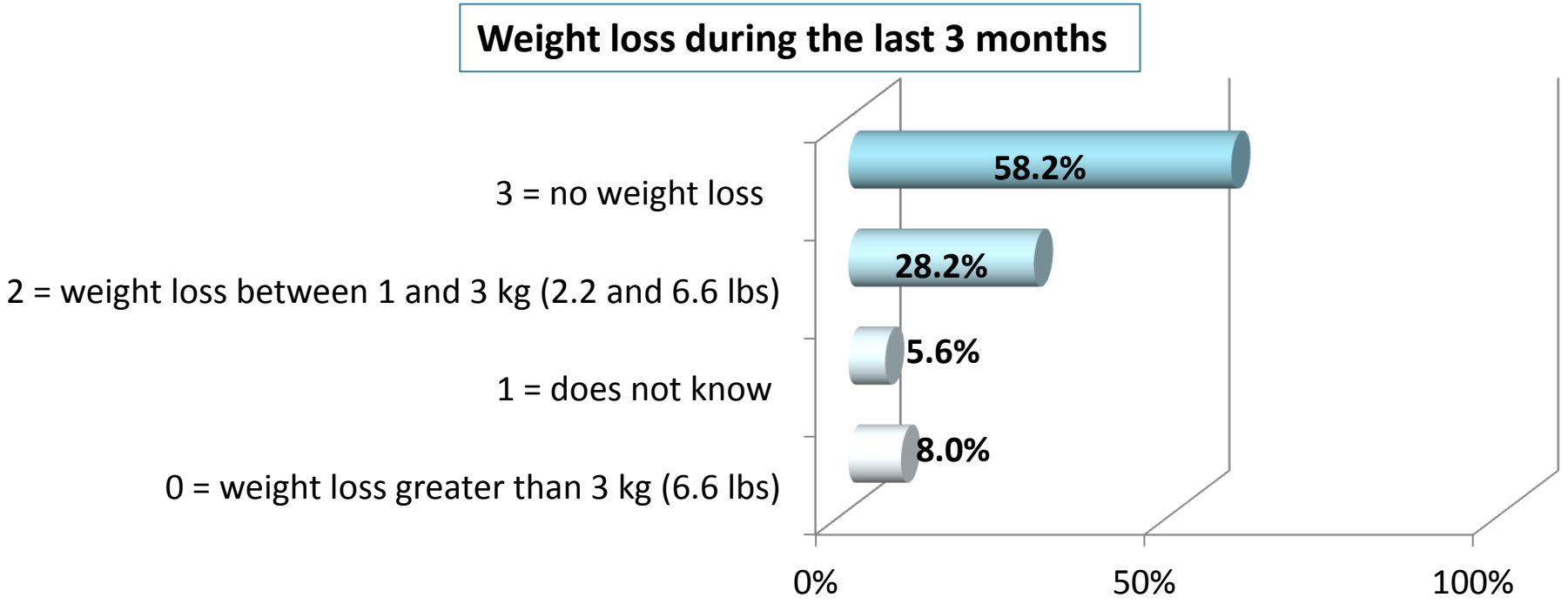
Types of Hip Fractures



RESULTS: MNA (screening)

BMI 26.8 kg/m^2(SD 4.78)

Risk of malnutrition: 42.7% (91)



RESULTS: MNA (screening)

Details of the MNA items score

Has food intake declined over the past 3 months due to loss of appetite, digestive problems, chewing or swallowing difficulties?	
0 = severe decrease in food intake	13 (6.1%)
1 = moderate decrease in food intake	60 (28.2%)
2 = no decrease in food intake	**140 (65.7%)**
Weight loss during the last 3 months	
0 = weight loss greater than 3 kg (6.6 lbs)	17 (8.0%)
1 = does not know	12 (5.6%)
2 = weight loss between 1 and 3 kg (2.2 and 6.6 lbs)	60 (28.2%)
3 = no weight loss	**124 (58.2%)**

RESULTS: MNA (screening)

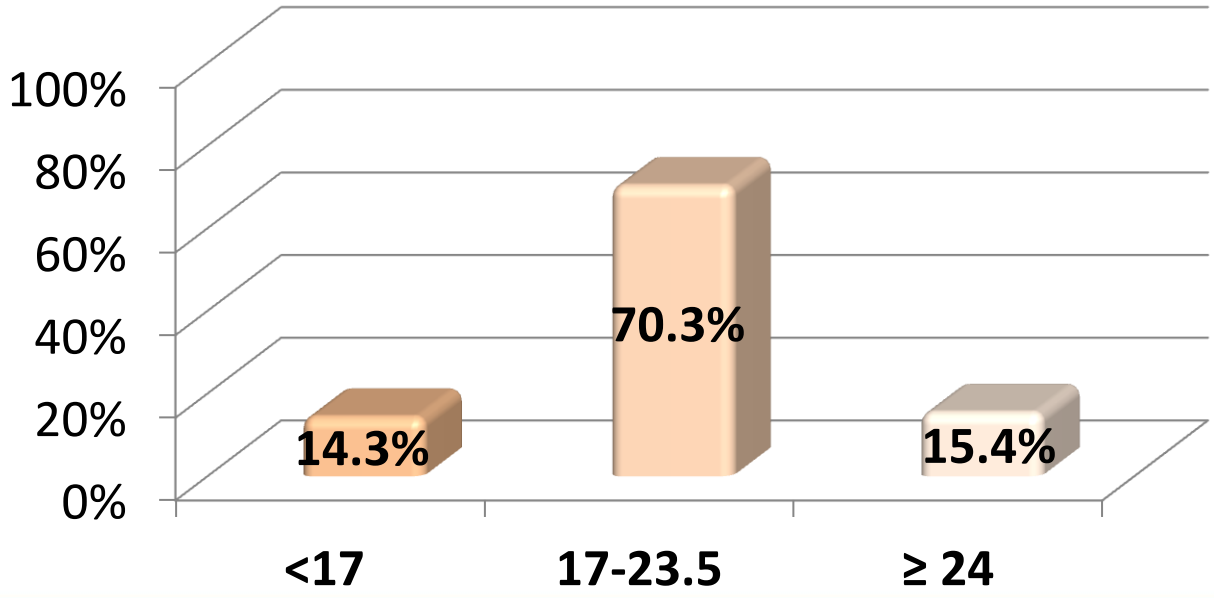
Details of the MNA items score

Mobility	
0 = bed or chair bound	2 (0.9%)
1 = able to get out of bed / chair but does not go out	78 (36.6%)
2 = goes out	**133 (62.4%)**
Has suffered psychological stress or acute disease in the past 3 months?	
0 = yes	31 (14.6%)
2 = no	**182 (85.4%)**
Neuropsychological problems	
0 = severe dementia or depression	12 (5.6%)
1 = mild dementia	38 (17.8%)
2 = no psychological problems	**163 (76.5%)**
Body Mass Index (BMI) (weight in kg) / (height in m) 2	
0 = BMI less than 19	9 (4.2%)
1 = BMI 19 to less than 21	18 (8.5%)
2 = BMI 21 to less than 23	26 (12.2%)
3 = BMI 23 or greater	**160 (75.1%)**

RESULTS

- 24 - 30 points — Normal nutritional status
- 17 - 23.5 points — At risk of malnutrition
- **< 17 points** — **Malnourished**

Full MNA n=91



RESULTS: ESPEN criteria.

1 n=91

BMI	%	n
< 18.5 kg/m²	**6.6%**	**6**
≥18.5 kg/m²	93.4%	85

2 **Weight loss (unintentional)**

BMI<20 kg/m² if < 70 years of age, or <22 kg/m² if ≥ 70 years of age

12 (14.1%)
10 lost (uncertain weight loss)

FFMI < 15 and 17 kg/m² in women and men, respectively.

16 (18.8%)
16 lost (uncertain weight loss and lack of BIA)

RESULTS

Diagnosis Method		Prevalence of Malnutrition
MNA	**(Score <17)**	**14.3% (n=13)**
	(Score < 24)	84.6% (n=77)
ESPEN		**30.8% (n=28)**

RESULTS

		Malnutrition according to ESPEN	
		No	Yes
MNA	≥17	44 (57.1%)	20 (26.0%)
	<17	5 (6.5%)	8 (10.4%)

- Considering a MNA score<17, the kappa statistic for malnutrition diagnosis was 0.207 (p=0.038).

RESULTS

		Malnutrition according to ESPEN	
		No	Yes
MNA	≥24	8 (10.4%)	3 (3.9%)
	<24	41 (53.2%)	25 (32.5%)

- When a MNA score<24 was used, the kappa statistic for malnutrition diagnosis was 0.043 (p=0.498).

CONCLUSIONS

- The two methods evaluating the nutritional status show a poor or very poor agreement in aged patients admitted to an Orthopaedic Ward.

- To test the value of each method is mandatory to assess their relationship with disability and clinical events (mortality, length of stay, functionality and complications).

CONCLUSIONS

- This study provides a first overview of the applicability of the newly proposed consensus definitions of malnutrition in hip fracture patients.

THANK YOU