46th ESPEN Congress
on Clinical Nutrition & Metabolism
Milan, Italy • 7-10 September 2024
CLINICAL NUTRITION : "THE" TRANSVERSAL SCIENCE

Internal use

EXAMINING MALNUTRITION RISK IN OBESITY: A SCOPING REVIEW OF SCREENING METHODS

N. MWALA[1], J. BORKENT[1,2], C. VAN DRONKELAAR[3] and M. VAN DE SCHUEREN[1,2]

1 HAN University of Applied Sciences, Nijmegen, The Netherlands
2 Wageningen University and Research, Wageningen, The Netherlands
3 Amsterdam University Medical Center, Amsterdam, The Netherlands

P727

Background

- Disease-related malnutrition remains highly prevalent, even in an era where half of the population is overweight or obese (hereinafter referred to as 'obesity').
- This prompts a critical examination of how previous studies have captured malnutrition within this population.
- Therefore, this scoping review aimed to explore the screening methods used to identify malnutrition risk in individuals with obesity in previous research, while also examining how malnutrition in this population was defined.

Methods

LITERATURE SEARCH

Guidelines:
-The scoping review was conducted following the **Joanna Briggs Institute guidelines** and **PRISMA-Scr checklist**.
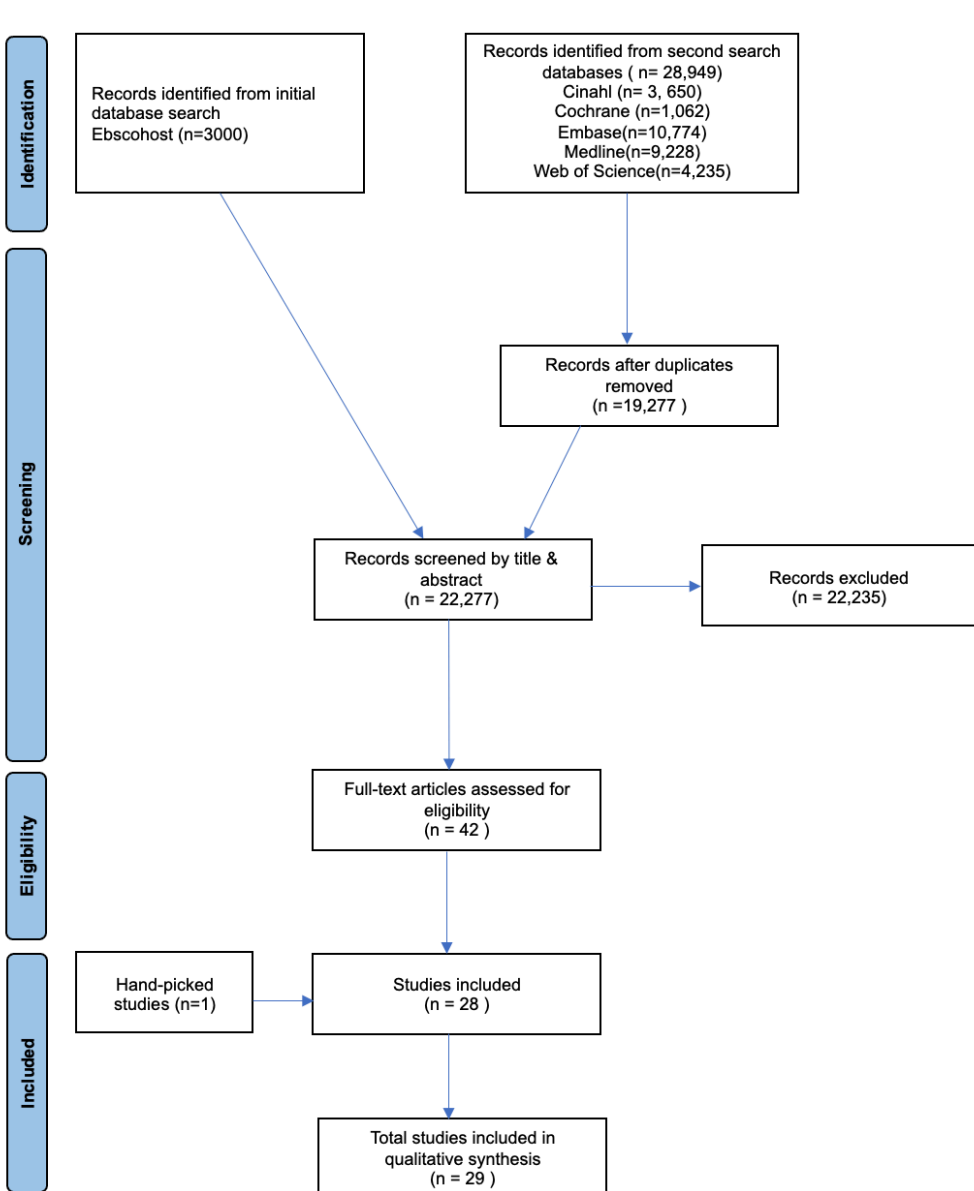
Search Strategy:
-A comprehensive search across **five** databases **(Ebscohost, Cinahl, Cochrane, Embase, Medline, Web of Science)** was employed.

-The AI tool **ASReview** facilitated the screening of literature.

Results

Figure 1: PRISMA Flow Diagram

KEY FINDINGS

Search Results:
-Out of **31,949** search results, **29** articles involving a collective of **249,290** participants were included.

Identified Methods:
-**Three** main methods: **blood markers, screening tools, and physical assessments** were used in the studies.

-**Lack of Specific Cut-offs**:
Most methods **lacked validation** for the obese population.

-**Tailored Tools**:
Two studies proposed screening tools tailored for obesity

Table 1: Characteristics of Studies Identifying Malnutrition in Obesity

First author, year of publication	Country of study	Population and sample size (n)	Setting	Age	Method/Tool Definition of malnutrition	Special Remarks
Agarwal, 2019[23]	Australia & New Zealand	Acute care patients/ Australasian Nutrition Care Day Survey (3 122)	Hospital	≥18 years	-SGA - International Classification of Diseases and Related Health Problems, version 10, Australian Modification (ICD-10-AM) definition of BMI < 18.5 kg/m2 or unintentional loss of weight >5 percent with evidence of suboptimal intake resulting in subcutaneous fat and/or muscle wasting	N/A
Bell, 2021[8]	Australia	Hip fracture inpatients (127)	Hospital	48-97 years	ICD10-AM protein energy malnutrition (PEM) criteria ICD-10-AM definition of BMI < 18.5 kg/m2 or unintentional loss of weight >5 percent with evidence of suboptimal intake resulting in subcutaneous fat and/or muscle wasting	'…the ICD10-AM protein energy malnutrition codes include criteria in addition to the BMI in an attempt to identify such patients with healthy, overweight or obese malnutrition. These criteria have recently been demonstrated as having the strongest concurrent and predictive validity in acute hip fracture inpatients'
Billeter, 2015[24]	Germany	Bariatric surgery patients with T2DM (20)	Hospital	18-70 years	-Serum concentrations of albumin, vitamins and trace elements and hemoglobin	N/A
Chiang, 2023[25]	USA	Breast reconstruction surgery patients (10 865)	Hospital	IQR 45-60 years	-Preoperative albumin levels; hypoalbuminemia defined as <3.5g/dL	N/A
Chien, 2021[26]	Taiwan	Asymptomatic general population (5 300)	Hospital	49.6 ± 11.4 years	-Serum albumin concentration; malnourished <45g/L, -Prognostic nutritional index (PNI) and lymphocyte count; malnourished <55 -GLIM sensitivity analyses	N/A
de Oliviera, 2023[27]	Brazil	Overweight patients (643)	Hospital	≥20 years	-NRS-2002 & MNA-SF	N/A
Donini, 2014[21]	Italy	Underweight and overweight patients (396)	Hospital	60.6 ± 17.0 years (men) 62.6 ± 18.0 years (women)	- Just A Nutritional Screening (JaNuS)	The precision and reliability of any screening tool assessing risk of undernutrition, when applied to obese patients, is likely to show these patients as having an acceptable nutritional status. Therefore, obese subjects, by definition, do not seem to be at nutritional risk and clinical conditions, such as concomitant sarcopenia, unintentional weight loss and

Summary/ Highlights

- Current methods and criteria for assessing malnutrition risk in individuals with obesity are insufficient.
- There is a critical need to re-evaluate existing tools, incorporating obese-specific cut-offs for weight loss and muscle mass.
- Improved screening tools are necessary for accurate malnutrition risk assessment in obese populations.

46th ESPEN Congress
on Clinical Nutrition & Metabolism
Milan, Italy • 7-10 September 2024
CLINICAL NUTRITION : "THE" TRANSVERSAL SCIENCE

ESPEN
The European Society for Clinical Nutrition and Metabolism

References

SCAN ME!

Contact information

- natasha.mwala@han.nl
- jos.borkent@han.nl
- d.c.vandronkelaar@amsterdamumc.nl
- marian.devanderschueren@han.nl