A systematic review and meta-analysis of the criterion validity of nutrition assessment tools for diagnosing protein-energy malnutrition in the older community setting

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Criterion validity of nutrition assessment tools for diagnosing malnutrition in home-dwelling older adults

A systematic review and meta-analysis

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Background & Methods

Malnutrition is a significant barrier to healthy and independent ageing in older adults who live in their own homes, and accurate diagnosis is a key step in managing the condition.

The current study seeks to determine the criterion (concurrent and predictive) validity and reliability of nutrition assessment tools in making a diagnosis of protein-energy malnutrition (PEM) in the general older adult community.

A systematic review was undertaken accessing published studies from six databases. Meta-analysis was performed using Review Manger, and evidence appraised using the Cochrane Risk of Bias tool and GRADE.

Findings

1. Of 6,412 records, eight papers were included. No studies evaluated the reliability of any nutrition assessment tool.
2. Two studies evaluated the concurrent validity of the MNA and SGA. The quality of the body of evidence (GRADE assessment) for the concurrent validity of the MNA and SGA in this setting is “very low”.
3. There is “moderate” confidence that the MNA can predict two-fold risk of death in malnourished older adults (RR: 1.92 [95%CI: 1.55-2.39], *P*<0.00001, n=2,013 participants, n=4 studies, I^2=0%).
4. There is “very low” confidence that the MNA can detect a substantial increased risk of physical dysfunction in malnourished older adults (SMD: 1.92 [95%CI: 0.24-1.80], *P*=0.01, n=4,046 participants, n=3 studies, I^2=0%).
5. No studies evaluated the concurrent or predictive validity of the Scored PG-SGA in this setting. No studies evaluated the predictive validity of the SGA in this setting.

Conclusions

There is insufficient evidence to recommend a particular nutrition assessment tool for diagnosing PEM in older adults in the community; however, nutrition assessment should continue to be undertaken to ensure malnourished patients are managed and supported.

High quality diagnostic accuracy and reliability studies are needed for all nutrition assessment tools used in older community samples, including measurement of health outcomes subsequent to nutrition assessment by the SGA and PG-SGA.

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