Introduction

- Malnutrition is a common and serious issue in health care that is linked to multiple patient outcomes.
- Levels of malnutrition in the Australian Rehabilitation setting is estimated to be as high as 30-50%.
- It is unclear if routinely administered nutrition screening and assessment tools are suitable for this setting.

Methods

- Included studies provided evidence of testing validity or reliability of a malnutrition screening or assessment tool in the rehabilitation setting.
- Studies were excluded if they were in a non-English language, were aimed at patients under 18 years of age and if they were not an original research article.
- Relevant studies were identified via online search of the Ovid Medline, PubMed and CINAHAL databases.
- Search keywords were rehabilitation, nutrition assessment, nutrition status, malnutrition, screening, assessment, instrument, tool, sensitivity, specificity, and validity.
- All tools were examined for their validity, reliability, and positive and negative predictive factors using the American Dietetic Association (ADA) Evidence Analysis Manual guidelines. An overall grade of the strength of evidence was assigned through a ranking of 1 to 5 for each tool, where 1 is good strength and 5 is not assignable.

Results

- Of the 46 papers that progressed to full article review, 20 papers remained for critical analysis. This identified eleven nutrition screening and eight nutrition assessment tools with potential use in the inpatient rehabilitation setting.
- Tables 1 and 2 summarise the validation findings of the tools highlighted.

Discussion

- Few studies tested tool validity and reliability and there was an overall poor quality of evidence.
- Key quality issues included lack of validation against an appropriate reference tool, small sample sizes, and lack of blinding of researchers to the results of the reference tool (if used).
- The MNA-SF and the MNA two-tiered were the screening tools with the highest sensitivity and specificity when compared to a reference tool. All other tools were not tested against a reference tool and/or were not analysed for their validity or reliability.
- The MNA-SF was largely validated against the MNA, using studies of good quality across a broad range of nationalities, indicating the tool for use in a multicultural setting. However there was inconsistency in reported sensitivity and specificity, therefore further testing is required to confirm validity.
- Similar to the screening tool, the assessment tool has the most acceptable level of sensitivity and specificity was the MNA and this is supported by multiple studies across various settings and cultures, indicating its flexibility in application.

Discussion cont.

- A one-off study of strong design may provide a high level of evidence. However assessment of the remaining tools indicated that even if the study was deemed high quality, the sensitivity and specificity were inadequate or the findings had not been replicated, indicating that further work is necessary before these instruments can be recommended with confidence.

Conclusions

- Due to the limited studies available and the general lower quality of the evidence, it is still unclear as to which tools are the best for nutritional screening and assessment in the rehabilitation setting.
- The MNA-SF has strong indications as a potential screening tool in rehabilitation.
- Other screening tools with potential but requiring further evidence are the MNA two-tiered, MUST and SNAQES+.
- The MNA and PG-SGA were the only assessment tools providing evidence of validity testing. These tools should be considered for further evaluation, particularly due to indicated high sensitivity and positive predictive value when used in this setting.

References