

Current Practice of Assessing and Monitoring Muscle Strength, Muscle Mass and Muscle Function during Nutritional Care by Dietitians in Ireland

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Introduction

Measurement of muscle strength, mass, and function is crucial in nutrition assessment as it provides valuable insights into an individual's overall health status, including their nutritional adequacy, metabolic function, and physical well-being^{1, 2}. A recent Swiss study evaluating dietetic practice identified a gap in the use of these measures for nutritional assessment and monitoring³. This study aimed to replicate the Swiss study to provide important information on the clinical practice of registered dietitians in Ireland, in relation to the assessment of muscle health.

Methods

A cross-sectional quantitative, descriptive, 29 -item online survey was adapted from the Swiss study¹ for use within the Irish context and distributed through professional dietetic networks. The data were analysed descriptively. Relationships between different demographic variables and the application of muscle parameters/integration into nutrition assessment were examined using contingency tables with Fisher’s exact test and contingency coefficient.

Figure 1. Process of Survey Development



Results

Table 1. Primary Professional Environment of Participants (N 66)

Professional environment	n (%)
Acute Hospital	37 (56.1%)
Social Care	1 (1.5%)
Primary Care	9 (13.6%)
Health and Wellbeing	1 (1.5%)
Residential Care	2 (3.0%)
Community	8 (12.1%)
Other	8 (12.1%)

- All 66 respondents unanimously agreed on the importance of musculature in assessing nutritional status. The median response regarding the relevance of muscle health parameters for nutritional care was 89% (n=59), rated on a scale ranging from 0% (not relevant) to 100% (highly relevant).
- Among nine parameters for assessing muscle health, handgrip strength received the highest rating (n=63, 95.4%), followed by the timed up and go test (n=59, 89.4%), the 400m walking test (n=56, 84.9%), and body weight (BW) (n=52, 78.8%) in terms of their importance for measuring nutritional status.
- The statement receiving the highest agreement regarding the practical value of using muscle parameters was "increases the added value of nutritional care" (n=65, 98.5%).
- 97% (n=64) indicated that they would be interested in acquiring more information/practical skills on the measurement of muscle health.

Table 2. Response Frequencies to Integration of Muscle Health Measurements in Assessment Practices (N 66)

Measurement of Muscle Health	n (%)
BIA	10 (15.2%)
MRI,CT,DXA	1 (1.5%)
Handgrip Strength	43 (65.2%)
TUG, Chair Stand Test or SPPD	7 (10.6%)
Walking Test	2 (3%)
Other	20 (30.3%)

- 78.8% (n=52) reported integrating at least one muscle health measurement into their nutritional assessment, with handgrip strength being the most implemented measure at 65.2% (n=43). “Others” (n=20) measure reported include, Nutritional Focussed Physical Examination (NFPE) (n=5) and mid-upper arm circumference (MUAC) (n=8).
- When considering the frequency of application for muscle health measures, BW was integrated most frequently, (n=56, 86.4%) more than once per week, followed by BMI (n=56, 84.8%). In contrast, handgrip strength was less commonly integrated, with only 25.8% (n=17) reporting its use more than once per week.
- The barriers reported to the assessment of muscle health included:
 - “Lack of practical training/application experience” (65.2%),
 - “Lack of device availability” (62.1%),
 - “Insufficient time for application” (51.5%) and;
 - “Lack of knowledge/understanding of the methods/parameters” (48.5%) (n=65).

Conclusion

While recognising the significance of muscle health assessment in evaluating nutritional status, dietitians in Ireland often do not incorporate it as a routine practice in clinical settings. Key barriers hindering its application include the absence of practical training and experience, limited availability of necessary devices, time constraints, and inadequate understanding of assessment methods and parameters. Addressing these barriers through enhanced education and training initiatives could substantially augment the integration of muscle health assessment among registered dietitians in Ireland.

References

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