



Nutrition Society Congress 2024, 2–5 July 2024

## POWER Study: Functional characteristics and dietary intake of adults aged 70+ at risk of sarcopenia with supportive home care

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The POWER study (NCT05688956) is a 12-week randomised controlled trial (ongoing) investigating the effectiveness of a novel protein-based oral nutritional supplement combined with an online resistance training programme for community-dwelling adults aged 70+ who require home care and are at risk of sarcopenia. Older adults reliant on home care are an understudied cohort acknowledged as vulnerable to sarcopenia<sup>(1)</sup> and malnutrition<sup>(2)</sup>. This study aims to report the preintervention (baseline) functional status and dietary intake of older adults recruited to the POWER study.

Community-dwelling adults ( $\geq 70$  y) living in Ireland receiving supportive home care and at risk of sarcopenia. Sarcopenia was screened for using the Strength, Assistance walking, Rising from a chair, Climbing stairs, and Falls (SARC-F) questionnaire with a cut-off score of  $\geq 1$ <sup>(3)</sup> (out of 10). Participants were recruited into the POWER study between July 2023 and January 2024. Data on participant demographic, nutritional status (anthropometric measures and 24-hour multiple-pass dietary recall) and muscle strength (handgrip strength (Jamar<sup>®</sup> dynamometer) and five times sit-to-stand) were obtained during pre-intervention home visits. Dietary intake was analysed using Nutritics<sup>™</sup> software (version 5.96). Intakes of protein and kilocalories were calculated as grams per kilogram body weight (g/kgBW) and as kilocalorie per kilogram body weight (kcal/kgBW) respectively. Statistical analysis was performed using RStudio (2023.06.2).

Seventeen adults aged 70+ were recruited over a 7-month period (12F, 5M; age range 71–87 years). Ten participants were receiving informal home care (i.e., from a relative) with seven receiving professional home care. All participants had a SARC-F score over 4, with a mean score of  $5 \pm 1.3$ . Median BMI was 28.7 (range 17.1–36.2) kg/m<sup>2</sup>. One participant was underweight (BMI 17.1 kg/m<sup>2</sup>), five were overweight (BMI  $\geq 24.9$  kg/m<sup>2</sup>) and six were living with obesity (BMI  $\geq 30$  kg/m<sup>2</sup>). Using the Mini-Nutritional Assessment-Full Form (MNA-FF), nine participants were at risk of malnutrition (MNA-FF 17–23.5), and one was malnourished (MNA-FF = 16.5). Mean intake of protein was  $0.84 \pm 0.23$  g/kgBW/day, with only two participants consuming  $\geq 1.0$  g/kgBW/day. Mean daily energy intake was 1,488 kcal or 17.0 kcal/kgBW. Time taken for five times sit-to-stand was  $21 \pm 8$  seconds ( $>15$  seconds for five rises<sup>(4)</sup>) and handgrip strength was  $15 \pm 6$  kg ( $<16$  kg for females<sup>(4)</sup>) and  $21 \pm 12$  kg ( $<27$  for males<sup>(4)</sup>) for females and males, respectively.

Analysis of the pre-intervention data from the POWER study indicates that older adults at risk of sarcopenia are not meeting recommended daily protein intakes of 1–1.2 g/kgBW<sup>(5)</sup>. Participants also demonstrated poor muscle strength. This highlights the need for a multi-component approach to support dietary intake and muscle strength in older adults reliant on home care.

### Acknowledgments

CF is the recipient of a postgraduate studentship sponsored by Nutricia (Ireland) Limited.

### References

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