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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[1] and malnutrition[2]. This study aims to report the preintervention (baseline) functional status and dietary intake of older adults recruited to the POWER study.

Community-dwelling adults (≥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 ≥1[3] (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® dynamometer) and five times sit-tostand) were obtained during pre-intervention home visits. Dietary intake was analysed using Nutritics™ 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 ± 1.3. Median BMI was 28.7 (range 17.1-36.2) kg/m^2. One participant was underweight (BMI 17.1 kg/m^2), five were overweight (BMI ≥24.9 kg/m^2) and six were living with obesity (BMI ≥30 kg/m^2). 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 ± 0.23 g/kgBW/day, with only two participants consuming ≥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 ± 8 seconds (>15 seconds for five rises[4]) and handgrip strength was 15 ± 6 kg (<16 kg for females[4]) and 21 ± 12 kg (<27 for males[4]) 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[5]. 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.

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References

1. dos Santos L, Cyrino ES, Antunes M *et al.* (2017) *J Cachexia Sarcopenia Muscle* **8**, 245–250.
2. Crichton M, Craven D, Mackay H *et al.* (2018) *Age Ageing* **48**, 38–48.
3. Dodds RM, Murray JC, Robinson SM *et al.* (2020) *Eur Geriatr Med* **11**, 433–441.
4. Cruz-Jentoft AJ, Bahat G, Bauer J *et al.* (2019) *Age Ageing* **48**, 16–31.
5. Bauer J, Biolo G, Cederholm T *et al.* (2013) *J Am Med Dir Assoc* **14**, 542–559.