

Abstract

Nutritional Adequacy and Protein Intake in Older Adults at Risk of Undernutrition with Subjective Memory Decline Enrolled in the Protein-Enriched Mediterranean Diet, with or without Exercise (PROMED-EX) Trial [†]

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Abstract: Older adults are vulnerable to undernutrition, resulting in weight loss and adverse health outcomes, including a loss of independence and a lower quality of life. Adequate protein intake is particularly important for the maintenance of muscle health during ageing. The UK population reference intake for protein (0.75 g/kg/day) may not be sufficient to counteract the reduced responsiveness of older skeletal muscle to anabolic stimulus. Research suggests that 1.2 g/kg/day of protein may be optimal, considering distribution (25–30 g/meal) and leucine-rich sources typically found in animal protein, especially for those at high nutritional risk. PROMED-EX is a randomised controlled trial testing a PROtein-enriched MEDiterranean Diet, with or without Exercise on nutritional status and memory, in older adults (60+) at risk of undernutrition, with subjective memory decline. The current aim is to determine the baseline nutritional adequacy of adults enrolled in PROMED-EX. Participants completed 4-day food diaries at baseline. Diaries were analysed for energy and nutrients using Nutritics. Nutritional adequacy was determined by comparing sex- and age-specific UK dietary reference values (DRVs). Protein intake was also compared to higher recommended DRVs for older adults. Fifty participants (60% female; age 67 ± 6.0 years; BMI: 23.5 ± 2.8 kg/m²) were included. Insufficient energy intake in men (1803.4 ± 510.7 kcal/d) and women (1776.2 ± 508.7 kcal/d) in the sample, with 22.0% meeting the energy DRVs. The risk of nutrient inadequacy was highest for fibre and vitamin D, with almost all failing to meet the DRVs. Less than 50% met nutritional adequacy for vitamin A, iodine, iron, magnesium, potassium, and selenium. Over 35% had suboptimal intakes for selected B vitamins (niacin, folate) and calcium. Most (82%) of the sample achieved the UK protein target of 0.75 g/kg/day, with only 34% meeting the higher 1.2 g/kg/day target. The mean protein intake was less than optimal for breakfast (12.3 ± 7.0 g) and lunch (17.1 ± 8.8 g), accounting for 17.3% and 24.1% total daily protein intake, and highest at dinner time (48.2%) at 34.3 ± 18.3 g. The primary protein contributors were ‘cereals’ (15.7%), followed by ‘dairy’ (14.9%), ‘processed meat’ (10.9%), ‘poultry’ (10.8%), and ‘red meat’ (10.5%). Increasing protein intakes at breakfast and lunch alongside leucine-rich sources could help achieve the optimal protein intake. The nutrient-dense PROMED-EX intervention may be beneficial for this at-risk population with suboptimal nutrient intakes.

Keywords: undernutrition; subjective cognitive decline; dietary reference values; older adults; protein

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