

Does protein supplementation impact appetite and energy intake in older adults? A systematic review & Meta-analysis

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Abstract

Background: Protein supplementation is an attractive strategy for prevention of sarcopenia in older adults, but can be counterproductive due to adverse effects on appetite.

Objective: The aim of this systematic review and meta-analysis was to determine the effects of protein supplementation on appetite and/or energy intake (EI) in healthy older adults.

Design: MEDLINE, The Cochrane Library, CINAHL, and Web of Science were searched up to March 2019 for publications that reviewed acute and longitudinal studies in healthy adults over 60 years of age, and reported effects of protein supplementation compared to control and/or pre-intervention (for longitudinal studies) on appetite, appetite-related peptides and/or EI. Random effects models meta-analysis was performed on EI, while other outcomes were qualitatively reviewed.

Results: 25 eligible studies (11 acute, 14 longitudinal) were included, involving 1388 participants (456 male, 932 female). The 8 acute studies presented mixed results for appetite ratings with protein supplementation compared to control (n=3 suppression, n=3 no effect, n=2 mixed results) and similarly, longitudinal studies (n=2) reported suppression. For acute studies reporting EI (n= 10 conditions), there was a small reduction in EI at an ad libitum test meal following a protein preload compared to control (Mean Difference (MD): -162.67KJ, 95% confidence interval (CI) -301.02 to -24.31, P=0.02), however when energy content of the supplement was accounted for, there was an increase in total EI following protein supplementation compared to control (MD: 474.69 KJ, 95% CI 360.21-589.16, P<0.00001). Longitudinal studies reporting EI (n=14), showed a mean of 404.49KJ increase in daily EI with protein supplementation compared to pre-intervention (MD: 404.49 KJ95% CI 122.74-686.23, P=0.005).

Biography:

Sana Ben-Harchache, is a Scientist & Clinical Researcher in Nutrition School of Public Health, Physiotherapy and Sport Science, and done her masters at Institute of Food and Health, University College Dublin, Belfield, Dublin, Ireland.

Speaker Publications:

1. "The Impact of Protein Supplementation on Appetite and Energy Intake in Healthy Older Adults: A Systematic Review with Meta-Analysis."
2. "Functional interaction with filamin A and intracellular Ca²⁺ enhance the surface membrane expression of a small-conductance Ca²⁺-activated K⁺ (SK₂) channel."

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