

Abstract

# The Effect of Protein and Protein Source on Appetite in Older Adults: Preliminary Findings from the FortiPhy Study<sup>†</sup>

Ezgi Ozen<sup>1,\*</sup>, Katherine Roberts-Thomson<sup>1</sup>, Rachel Smith<sup>1</sup>, Claire Sulmont-Rosse<sup>2</sup>, Lisa Methven<sup>1</sup>  
and Miriam Clegg<sup>1,3</sup>

<sup>1</sup> Hugh Sinclair Unit of Human Nutrition, Department of Food and Nutritional Sciences, Institute for Food, Nutrition and Health, University of Reading, Whiteknights, Reading RG6 6DZ, UK; katherinerthomson@gmail.com (K.R.-T.); r.smith7@reading.ac.uk (R.S.); l.methven@reading.ac.uk (L.M.); mclegg@ucc.ie (M.C.)

<sup>2</sup> Centre des Sciences du Goût et de l'Alimentation, CNRS, INRAE, Institut Agro, Université de Bourgogne, F-21000 Dijon, France; claire.sulmont-rosse@inrae.fr

<sup>3</sup> School of Food and Nutritional Sciences, University College Cork, T12 K8AF Cork, Ireland

\* Correspondence: ezgi.ozen@reading.ac.uk

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**Abstract:** Background and objectives: Reduced appetite is known to be an important determinant of malnutrition in older adults. To prevent malnutrition, fortification with high-energy/high-protein ingredients has been suggested to be a relevant approach. Protein is considered to be the most satiating macronutrient in the younger population, and it therefore may cause a decrease in overall energy intake. However, the effect of protein intake on satiety in older adults is unclear. Therefore, the objective of this study was to assess the effect of the meals fortified with protein from different sources on satiety and appetite. Methods: In this single-blind randomised crossover study, the effect of protein fortification on satiety and appetite was investigated in 10 healthy older adults (n = 7 women and n = 3 men) with a mean age of 76 (SD 3) years and a BMI of 23.7 (SD 2.6). Participants consumed one of the iso-energetic test meals of porridge (unfortified control, fortified with dairy protein, or fortified with plant protein), and four hours after were offered an ad libitum meal. Appetite was assessed using a 100mm visual analogue scale at baseline and every 30 mins throughout the test day and total daily energy intake was assessed by a weighed food diary. Differences in appetite and energy intake were assessed using repeated measures ANOVA. Results: No difference was found in energy intake at the ad libitum meal consuming the different porridge test meals fortified with animal and plant-based protein and unfortified control porridge (control 402 (SD 194), dairy protein: 286 (SD 105), plant protein: 353 (SD 156) kcal, respectively) or energy intake for the rest of the day. There were also no differences in subjective measures of hunger, fullness, wanting, and desire to eat food after consuming the different test meals. Discussion: Our data do not indicate that fortification with protein results in a significant decrease in energy intake in older adults. However, these findings are based on preliminary analysis and the fully powered dataset is required to draw a firm conclusion on the role of protein fortification on appetite in older adults.



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