A higher protein intake at breakfast does not compromise total daily protein intake in older adults

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A higher protein intake at breakfast does not compromise total daily protein intake in older adults

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Background
A protein intake of 25-30 gram per meal is suggested to maximally stimulate muscle protein synthesis in older adults in order to prevent sarcopenia. Since protein is known for its satiating effects, we explored the association between the amount of protein intake at breakfast and total daily protein intake in older adults.

Methods
Study sample: 506 community dwelling older adults (age ≥ 55 years) participating in lifestyle interventions in the Amsterdam Nutritional Assessment Center.

Measurement of protein intake: by a 3-day dietary record at baseline. Both total daily protein intake and protein intake per eating moment was calculated.

Statistical analysis: Multiple linear regression analysis
- Main determinant (X): protein intake at breakfast in grams (g)
- Main outcome (Y): total daily protein intake (in g, and g/kg body weight)
- Adjusted for: energy intake (kcal/d), sex, age and BMI
- Interaction tested for: sex, age and BMI but not significant (p>0.80)

Results
Baseline characteristics: Mean age was 67.6±(SD)7.3 years, 42% was female, and mean BMI was 30.0±5.6 kg/m².

Protein intake: Total daily protein intake was 81±24 g which equals 0.96±0.3 g/kg and 17.6±3.7 percent of total energy intake. Protein intake at breakfast was 14±7 g. Distribution of protein intake is displayed in Figure 1.

Regression analysis: A 10 g higher protein intake at breakfast was associated with a 6.7 g (SE=1.0; P<0.001) which equals a 0.06 g/kg (SE=0.01; P<0.001) higher total daily protein intake after adjustment for energy intake, sex, age and BMI.

Discussion
A higher protein intake at breakfast does lead to a significantly higher total daily intake, but a small compensating effect seems to be present: a higher intake at breakfast leads to a small but significant negative effect on the protein intake during the rest of the day.

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