

Exploring the need for fortified foods, supplements, and extra protein in the diet of free-living healthy older adults in Ireland

C.B. McAteer^{1,2}, G.M. McGovern^{1,3}, O.A. Curtis-Davis^{1,4}, O.C. Lyons^{1,3} and M.A.T. Flynn^{1,3}

¹Food Safety Authority of Ireland, Dublin, Ireland,

²University College Dublin, Dublin, Ireland,

³Ulster University, Coleraine, Northern Ireland and

⁴Technological University Dublin, Dublin, Ireland.

This abstract was awarded the student prize for best oral presentation.

Ageing increases the need for some nutrients, especially protein and B vitamins, at a time when energy requirements and food intakes decline. A recent scientific report examining the nutritional vulnerability of older adults (≥ 65 years) in Ireland highlights the need to ensure high-quality protein foods are consumed at 2 meals/day in amounts that stimulate muscle synthesis (0.4 g/kg body weight (bw))⁽¹⁾ and adequate micronutrient intakes⁽²⁾. This study aims to explore the need for extra food sources of protein, fortified foods and/or supplements by free-living healthy older adults in Ireland. Data on older adults were obtained from secondary analysis of the National Adult Nutrition Survey ($n=226$)⁽³⁾. Using commonly consumed foods ($\geq 5\%$ of consumers) and typical patterns of consumption, 4-day meal patterns were developed ensuring protein food sources at 2 main meals. These patterns aligned with healthy eating guidelines⁽¹⁾ and were developed within energy requirements of males and females ($n=24$) representing height at the 5th, 50th, 95th percentiles in the survey sample, at two physical activity levels (1.2 and 1.4) and at two age points (70 and 80 years). Ideal body weights (BMI 22.5 kg/m² for males, 21.5 kg/m² for females) were calculated from actual height data. The nutritional composition of these meal patterns, excluding fortified foods and supplements, were assessed using Nutritics software and calculating the protein intake g/kg bw at 2 main meals. This analysis was repeated substituting all milk and breakfast cereals with fortified alternatives marketed in Ireland and the inclusion of a daily 15 μg vitamin D supplement. Meal patterns before and after inclusion of fortified foods and a vitamin D supplement were compared using SPSS (version 25). Protein requirements at 2 meals ranged from 19.4 to 29.4 g/meal, which was challenging to meet using protein food sources typically consumed. This was addressed by the addition of an extra dairy portion at the lighter main meal, resulting in a recommendation of 4 rather than 3 dairy foods/day. Inclusion of fortified foods significantly increased the proportion of older adults achieving the Population Reference Intake (PRI) for folate (12–100%), vitamin B6 (58–92%) and iron (25–58%) and marginally increased nutrients (vitamin B₁₂ and riboflavin) that were already above the PRI but had minimal effect on zinc intake. High-fibre cereals were less likely to be fortified with vitamins B6 and B₁₂. While fortified foods significantly increased mean vitamin D intakes (4.33–7.62 μg , $P < 0.001$), intakes remained inadequate, but this was resolved with the inclusion of a daily 15 μg vitamin D supplement. In conclusion, an extra portion of dairy foods at the lighter main meal provides protein at optimal levels for muscle synthesis. Inclusion of fortified foods and a daily 15 μg vitamin D supplement resolves nutritional shortfalls.

References

1. FSAI (2021) https://www.fsai.ie/DietaryGuidelines_OlderAdults_Ireland/
2. EFSA (2017) https://www.efsa.europa.eu/sites/default/files/2017_09_DRVs_summary_report.pdf
3. IUNA (2008–2010) National Adult Nutrition Survey (NANS).