

Abstract

Switching towards More Plant-Based Diets in Older Adults: Implications for Protein Intake and Protein Quality Based on a Simulation Study [†]

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Abstract: Rationale: An adequate amount of good-quality protein (P) is essential to remain fit and healthy at an older age. Animal-based proteins (ABPs) are of high quality and provide nearly 60% of the P intake in older adults. It is unclear if an adequate P intake can be achieved when ABPs are replaced by vegetarian (Veg) or plant-based (Plant) alternatives. Methods: A simulation study was performed based on dietary intake data from the Dutch National food consumption (DNFC) 2019–2021 (n = 607, age ≥ 65 years). In five scenarios, animal protein intake was replaced by vegetable protein. The scenario diets included vegetarian, flexitarian (two levels), pescatarian and vegan. Protein quality was measured by the Meal Protein Quality Score (MPQS), a score that ranges from 0–100 and takes into account protein digestibility, body-weight based amino acid requirements, and time window of complementation. Results: Total P and MPQS remained stable over all non-vegan plant-based scenarios, but showed a large decrease in the vegan scenario. Conclusions: shifting to a fully vegan diet severely compromises total protein intake and protein quality in older adults, whereas shifting to a vegetarian or flexitarian diet does not.

Keywords: protein quality; plant-based nutrition; older adults



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