

Dietary pattern, food group and risk of frailty: a systematic review and meta-analysis

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Introduction

- **Frailty is a state of increased vulnerability due to age-associated decline such that an adult no longer has the ability to react to daily events.**
- The risk of adverse outcome such as fall, disability and mortality in frailty people is higher than in robust adults. The quality of life of a frail adult could significantly decrease.
- **Nutritional aspects seem to be strictly linked to frailty:** a poor nutritional status is in fact potentially linked to all five criteria which determine frailty according to the Fried phenotype

Questions and objectives

Which food or dietary pattern could help to face the onset of frailty?

With this work we explored the association between a wide range of dietary pattern and food groups and frailty condition, regardless the index used to define it.



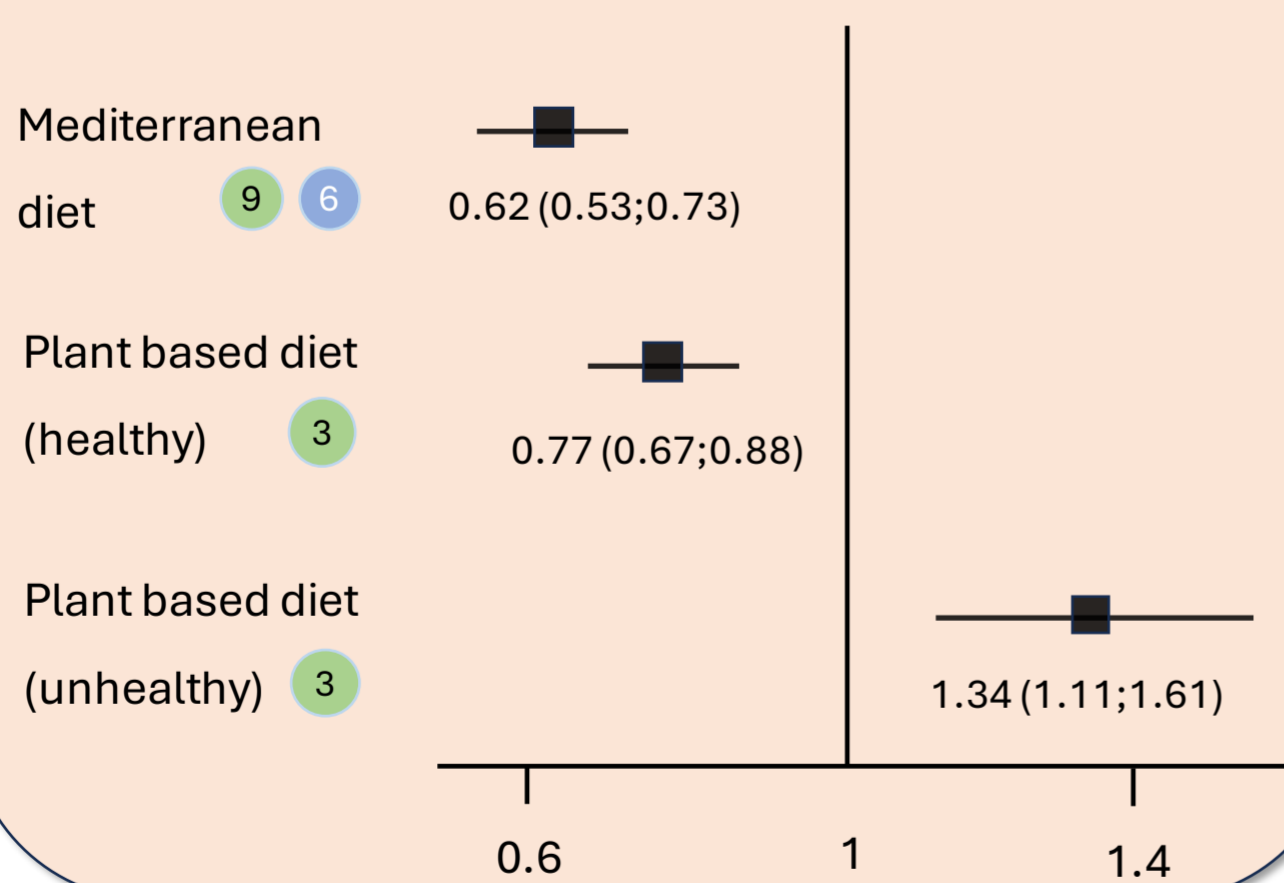
Methods

- **We performed a systematic search** on Pubmed and Web of Science (WOS) from inception up to February 2024 **to retrieve published articles examined the association between diet or food and frailty.**
- **Observational studies (cohort and cross-sectional) evaluating the relationship between any kind of dietary pattern/food group as exposure and frailty as outcome that provided OR/HR (and 95% CI) were included in meta-analysis.**
- We pooled association measures from each study considering highest food consumption/adherence to diet vs. lowest using random effect model when heterogeneity is high.

Results

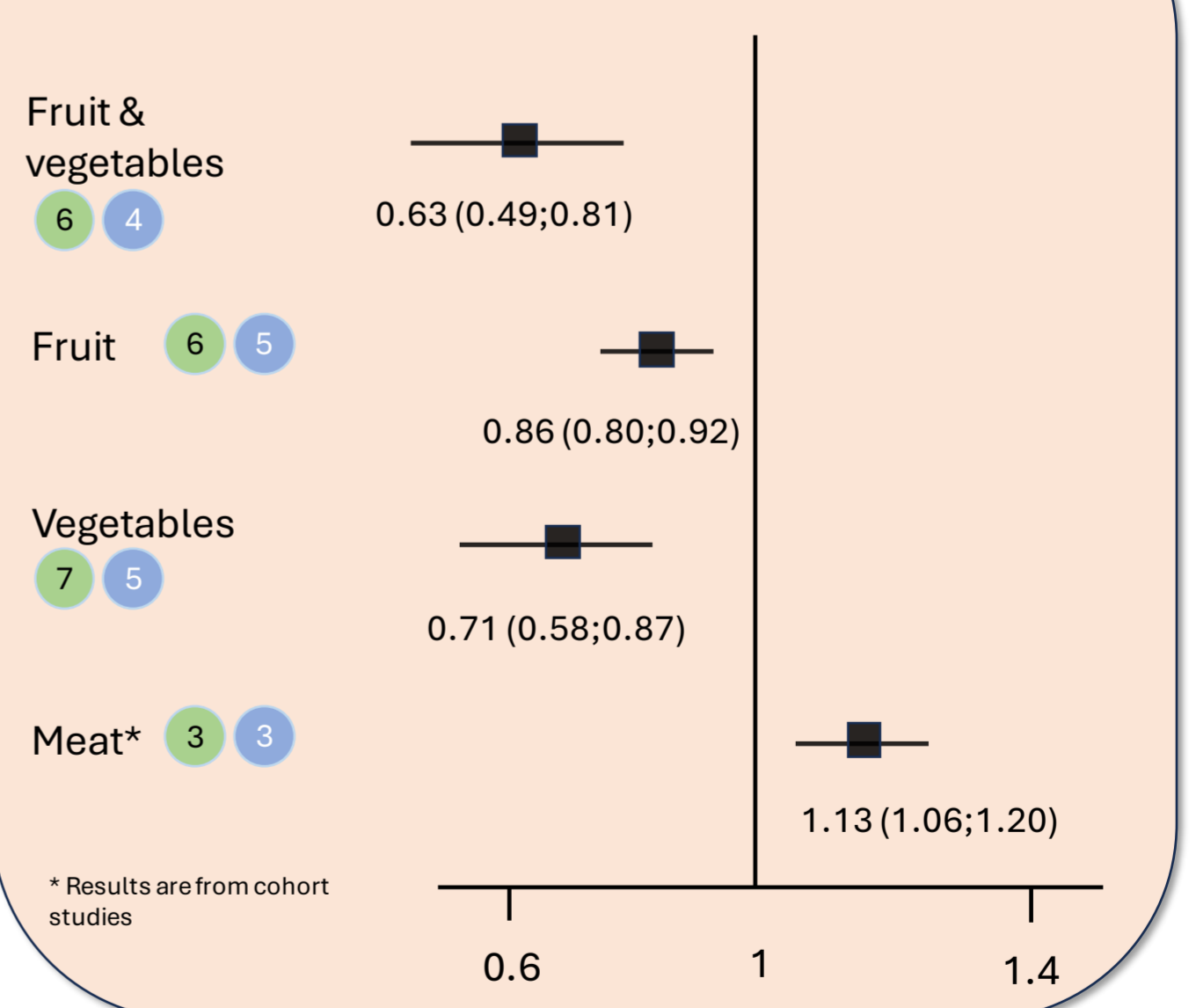
- Findings from the present meta-analysis showed that **higher consumption of fruit, vegetables and fruit and vegetables results in lower probability of frailty (14%, 29% and 37% respectively), while higher meat consumption could increase the probability of frailty (not considering all studies design jointly).**
- **Higher adherence to mediterranean diet and plant-based diet (healthy) could decrease the risk of frailty of 38% and 23% respectively.**

Dietary pattern: pooled effect size (highest vs. lowest adherence)



- Number of estimates from cohort studies involved in the overall effect size calculation
- Number of estimates from cross-sectional studies involved in the overall effect size calculation

Food group: pooled effect size (highest vs. lowest consumption)



Conclusion

Our findings suggest that higher consumption of healthy food such as fruit, vegetables or a higher adherence to healthy dietary pattern could be beneficial regarding the development of frailty among older adults.