



# There Is No Magic Pill to Prevent Frailty—You Still Have to Eat Your Vegetables

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Frailty among older adults is not a normal part of aging, but is common and can lead to an increased incidence of fractures, hospitalizations, and deaths, among other problems.<sup>1</sup> The Mediterranean diet has been shown to reduce incident frailty, with a pooled odds ratio of 0.44 for individuals who are most adherent to the diet.<sup>2</sup> It is tempting to think one could take supplements, such as omega-3 fatty acid and vitamin D<sub>3</sub>, and receive similar benefits for frailty prevention, but studies to date assessing the effect of dietary supplements on frailty have shown no benefit.<sup>2,3</sup> Orkaby and colleagues<sup>4</sup> assessed the association of vitamin D<sub>3</sub> and omega-3 fatty acid supplements with change in frailty among 25 057 community-dwelling older adults without cancer or cardiovascular disease during 5 years. Frailty was measured using the Rockwood frailty index, with a sensitivity analysis done on a subpopulation using the Fried physical phenotype. This well-done ancillary study of a randomized clinical trial with a 2 × 2 factorial design aligned with prior research finding no significant difference in frailty incidence or change with vitamin D<sub>3</sub> or omega-3 fatty acid supplementation compared with placebo.<sup>4</sup> Their study population was large and diverse, but rates of frailty were lower than in the general population, alluding to their sample being healthier than the general population. In addition, participants in this study did not have insufficient levels of vitamin D<sub>3</sub>, and almost half of them ate more than 1.5 servings of fish per week, and so were getting at least some omega-3 fatty acid.

A strength of this study was the use of the Frailty Index by Rockwood and colleagues to measure frailty. The Frailty Index is a validated tool to assess deficits in health on a score between 0 (absence of deficit) and 1 (presence of deficit).<sup>5</sup> The sensitivity analysis conducted by Orkaby and colleagues<sup>4</sup> found no significant changes to their results when substituting the Fried physical phenotype definition of frailty. The Frailty Index is an easy-to-use tool to define overall health and a valuable addition to the study of interventions to prevent, slow, and reverse frailty.

If supplements such as vitamin D<sub>3</sub> and omega-3 fatty acids do not reduce the risk of frailty, and adherence to the Mediterranean diet lowers the incidence of frailty,<sup>2,6</sup> it is unclear why more adults do not follow the Mediterranean diet. The Mediterranean diet encourages high consumption of plant-based foods, including fruits, vegetables, olive oil, whole grains, and nuts. Chen et al<sup>7</sup> surveyed more than 20 000 people in 49 states in the US older than 45 years and found that less than half reported high adherence to the Mediterranean diet, and on average, people scored 4.36 of 9 on Mediterranean diet adherence. Having a lower household income was associated with lower adherence to the Mediterranean diet. A positive finding in this study was that African American individuals and older adults, who are underrepresented populations at risk for frailty due to a marked burden of chronic illness, tended to have higher adherence to the Mediterranean diet.

However, the Mediterranean diet developed in places such as Sicily, Italy, and was considered the “poor man’s diet.” Many people in Mediterranean regions grow tomatoes, beans, legumes, and other staples of the Mediterranean diet. In the US, fewer people have a garden, and it may be harder to find Mediterranean diet foods in lower economic status neighborhoods. However, many Mediterranean diet staples are low cost and readily available in all neighborhoods, including dried beans and lentils, less-expensive greens (eg, Bok choy), and flavorful vegetables (eg, onions, garlic, cabbage, and squash). Much progress could be made toward Mediterranean diet adherence if people in the US knew how to grow, shop for, and prepare these foods.

Education on the Mediterranean diet is well within the purview of the public health system, but could also become a priority within our health care systems. Health care clinicians, including physicians, currently receive very little nutrition training and may feel ill equipped to counsel patients

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extensively on how to shop for and cook Mediterranean diet foods. Clinicians may not follow the diet themselves or realize how accessible it is. Increasing Mediterranean diet education may result in improved health of the population, which would be well worth the investment. In addition, Medicare and other insurance reimbursement could be greatly expanded so that virtually everyone would have access to a nutrition professional to guide them in changing their diet to the Mediterranean diet.

As noted by Orkaby et al,<sup>4</sup> regular exercise and the Mediterranean diet may be useful for all older adults. Current research does not support the supplementation of vitamin D<sub>3</sub> and omega-3 fatty acid for older adults, but shifting our attention to an active, engaged lifestyle and the Mediterranean diet might improve longevity; reduce heart disease, dementia, and diabetes; and perhaps most important to older adults, reduce frailty and loss of independence.

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#### ARTICLE INFORMATION

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