Mediterranean Diet and Decreased Development of Cognitive Impairment

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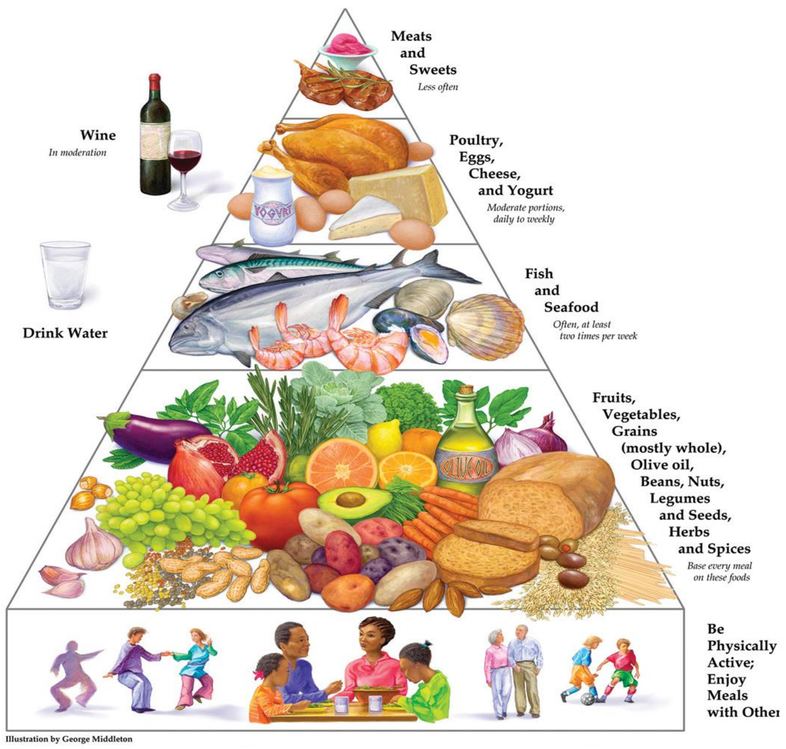
Question

In older adults, does following a Mediterranean diet decrease the risk of developing cognitive impairment?

Evidence-Based Answer

- Yes, following a Mediterranean diet may reduce the risk of developing mild cognitive impairment by up to 66%
- Strict adherence to this diet is associated with up to 65% reduced odds of developing dementia.

Mediterranean Diet Pyramid



Summarized Data Review

A 2016 systematic review of three longitudinal studies and one RCT (N=26,166) specifically evaluated the risk of developing cognitive impairment while following the Mediterranean diet.[1] Participants had a mean age of 64 to 77 years old with 51% to 68% of participants being female. Both cognitive healthy individuals and those with mild cognitive impairment were included. Adherence to the diet was assessed by the Mediterranean diet questionnaire with a higher score correlating to greater dietary adherence. The first longitudinal study showed that for every unit increase of adherence to the Mediterranean diet over a 14 year time period, there was an 8% reduction in risk of mild cognitive impairment (hazard ratio [HR] 0.92; 95% CI, 0.85-0.99). A second longitudinal study was nearly significant for an association between adherence to the MD over a four year time period and cognitive impairment (odds ratio [OR] 0.87; 95% CI, 0.76-1.0). In the RCT, when compared to a low fat diet, adherence to a Mediterranean diet enriched with extra-virgin olive oil resulted in 66% reduced risk of mild cognitive impairment when followed for 6.5 years (OR 0.34; 95% CI, 0.12-0.97).

A 2017 longitudinal retrospective cohort study (N=1,865) examined the association between the use of the Mediterranean diet and dementia.[2] Participants (age >64) were randomly chosen from two Greek cities. This study aimed to determine the odds of developing dementia based on the measurement of specific domains of cognitive functioning in a population with a life-long Mediterranean overall lifestyle. Participants completed a one-time two-hour interview assessing adherence to the Mediterranean diet based on a self-reported food frequency questionnaire using the Mediterranean Dietary Score (score 0-55, higher score indicating diet compliance). Results were adjusted for age, sex, gender and number of clinical co-morbidities.

Summarized Data Review

The Mediterranean Diet Score results were divided into four quartiles of approximately 450 people each with least to greatest adherence. Score ranges in each group were 19-31 (1st quartile), 31-34 (2nd quartile), 34-37 (3rd quartile) and 37-46 (4th quartile). Participants diagnosed with dementia had a slightly lower Mediterranean Diet Score (less adherent to the diet) than those without dementia (32 versus 34 respectively, P<.001). The likelihood of dementia decreased by 8% with each quartile increase in score (OR 0.92; 95% CI, 0.87-0.97) and the fourth quartile had a 65% lower odds ratio for dementia than the 1st quartile group. When Alzheimer's patients were isolated from each quartile, greater adherence to the Mediterranean Diet conferred better cognitive function than less adherence (OR 0.91; 95% CI, 0.86 - 0.98).

References

1. Sara Danuta Petersson, et al. Mediterranean Diet, Cognitive Function, and Dementia: A Systematic Review of the Evidence, *Advances in Nutrition*, 2016; V7, I5; 889-904 [**STEP 1**]
2. Anastasiou CA, et al. Mediterranean diet and cognitive health: Initial results from the Hellenic Longitudinal Investigation of Ageing and Diet. PLoS One. 2017;12(8):e0182048. [**STEP 2**]