

## Direction of the Evidence

### Which diet is likely to reduce risk for cardiovascular and cancer mortality, and incidence of Parkinson's disease and Alzheimer's disease?

By Ron Feise, DC

**Sofi F, Cesari F, Abbate R, Gensini GF, Casini A. Adherence to Mediterranean diet and health status: meta-analysis. *Brit Med J* 2008;337:a1344. doi: 10.1136/bmj.a1344.**

**SYNOPSIS:** This was a meta-analysis of prospective cohort studies to analyze the relation between adherence to a Mediterranean diet, mortality, and incidence of chronic diseases in a primary prevention setting. English and non-English publications in PubMed, Embase, Web of Science, and the Cochrane Central Register of Controlled Trials were searched. There were 12 studies, with a total of 1,574,299 subjects followed for a period of time ranging from 3 to 18 years.

The analysis showed a beneficial role for greater adherence to a Mediterranean diet on reduced risk of overall mortality (9%), mortality from cardiovascular diseases (9%), incidence of or mortality from cancer (6%), and incidence of Parkinson's disease and Alzheimer's disease (13%).

#### RESEARCH

**QUALITY:** Overall, this study had good methodological rigor.

*Quality details:* The study used the following: 1) appropriate design; 2) a clearly fo-

cused question; 3) appropriate inclusion criteria; 4) a clearly described and thorough search of the literature; 5) multiple reviewers selecting and appraising the studies; 6) a thorough assessment of the studies; and 7) a description of the data extraction process.

**CONCLUSION:** Greater adherence to a Mediterranean diet is associated with an improvement in health status as evidenced by a reduction in mortality, cardiovascular mortality, incidence of or mortality from cancer, and incidence of Parkinson's disease and Alzheimer's disease.

**COMMENTS:** *This is the first report that has systematically assessed through meta-analysis the possible association between adherence to a Mediterranean diet, mortality, and the occurrence of chronic diseases in the general population. These results are clinically relevant for public health, particularly for encouraging a Mediterranean-like dietary pattern for primary prevention of major chronic diseases.*

*Previous research supports these findings. The Mediterranean dietary pattern has been associated with a decrease in overall mortality in a number of studies.<sup>1-4</sup> The Medi-*

*terranean food pattern has a role in prevention of cardiovascular disease.<sup>5,6</sup> Additionally, several research teams report an inverse association between a Mediterranean diet and the metabolic syndrome and diabetes.<sup>7,8</sup>*

#### Traditional Mediterranean Diet

*The typical traditional Mediterranean diet includes (1) the use of olive oil for cooking and dressings; (2) increased consumption of vegetables, nuts, and fish products; (3) consumption of white meat instead of red or processed meat; (4) preparation of homemade sauce by simmering tomato, garlic, onion, and aromatic herbs with olive oil to dress vegetables, pasta, rice, and other dishes; and (5) for alcohol drinkers, following a moderate pattern of red wine consumption.*

**Warning.** Practitioners should not automatically use information from research studies (especially abstracts) to make decisions about patient care, because health care literature suffers from inconsistent quality and frequently distorts research findings. Before relying on the findings of a research study, a practitioner

## Direction of Evidence

should perform a critical appraisal to determine whether the conclusion is supported by the study's data. He or she should also locate and examine previous relevant research in order to integrate the current findings and form a conclusion based upon the preponderance

of quality evidence. Even conclusions from multiple studies do not provide a definitive answer. Rather, they indicate the *direction* of the evidence. ■

*This review is an excerpt from Direction of the Evidence, published by the Insti-*

*tute of Evidence-Based Chiropractic, whose aim is the integration of science into chiropractic practice in order to improve patient outcomes.*

*Dr. Feise can be reached at*

*[www.chiroevidence.com](http://www.chiroevidence.com).*

## References

1. Mitrou PN, Kipnis V, Thiébaud AC, Reedy J, Subar AF, Wirfält E, Flood A, Mouw T, Hollenbeck AR, Leitzmann MF, Schatzkin A. Mediterranean dietary pattern and prediction of all-cause mortality in a U.S. population: results from the NIH-AARP Diet and Health Study. *Arch Intern Med* 2007;167:2461-8.
2. Lagiou P, Trichopoulos D, Sandin S, Lagiou A, Mucci L, Wolk A, Weiderpass E, Adami HO. Mediterranean dietary pattern and mortality among young women: a cohort study in Sweden. *Br J Nutr* 2006;96:384-392.
3. Trichopoulou A, Costacou T, Bamia C, Trichopoulos D. Adherence to a Mediterranean diet and survival in a Greek population. *N Engl J Med* 2003;348:2599-2608.
4. Lasheras C, Fernandez S, Patterson AM. Mediterranean diet and age with respect to overall survival in institutionalized, nonsmoking elderly people. *Am J Clin Nutr* 2000;71:987-992.
5. Martínez-González MA, Sánchez-Villegas A. The emerging role of Mediterranean diets in cardiovascular epidemiology: MUFA, olive oil, red wine or the whole pattern? *Eur J Epidemiol* 2004;19:9-13.
6. Estruch R, Martínez-González MA, Corella D, Salas-Salvadó J, Ruiz-Gutiérrez V, Covas MI, Fiol M, Gómez-Gracia E, López-Sabater MC, Vinyoles E, Arós F, Conde M, Lahoz C, Lapetra J, Sáez G, Ros E; PREDIMED Study Investigators. Effects of a Mediterranean-style diet on cardiovascular risk factors: a randomized trial. *Ann Intern Med* 2006;145:1-11.
7. Martínez-González MA, de la Fuente-Arrillaga C, Nunez-Cordoba JM, Basterra-Gortari FJ, Beunza JJ, Vazquez Z, Benito S, Tortosa A, Bes-Rastrollo M. Adherence to Mediterranean diet and risk of developing diabetes: prospective cohort study. *Br Med J* 2008;336:1348-51.
8. Tortosa A, Bes-Rastrollo M, Sanchez-Villegas A, Basterra-Gortari FJ, Nuñez-Cordoba JM, Martinez-Gonzalez MA. Mediterranean diet inversely associated with the incidence of metabolic syndrome: the SUN prospective cohort. *Diabetes Care* 2007;30:2957-9.