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Fruit-Rich Mediterranean Diet with Antioxidants May Cut Age-Related Macular Degeneration Risk by More than a Third

Study is first to show that caffeine could be protective against AMD

CHICAGO – Oct. 16, 2016 – People who closely follow the Mediterranean diet – especially by eating fruit – may be more than a third less likely to develop age-related macular degeneration, a leading cause of blindness, according to a study presented today at [AAO 2016, the 120th annual meeting of the American Academy of Ophthalmology](#). The study is the first to identify that caffeine may be especially protective against AMD.

Many studies have confirmed the health benefits of the Mediterranean diet, which emphasizes eating fruits, vegetables, whole grains, legumes, nuts, healthy fats and fish, and limiting red meat and butter. The diet has been shown to improve heart health and reduced risk of cancer, but there has been little research on whether its benefits can extend to eye disease. To determine this, researchers studied a Portuguese population to see whether adherence to the diet impacted people's risk of [AMD](#). Their findings revealed a significant reduction in risk in those who ate a Mediterranean diet most frequently, and particularly among those who consumed more fruit and caffeine.

Researchers at the University of Coimbra in Portugal studied 883 people age 55 or older in the central region of the country between 2013 and 2015. Of those, 449 had AMD in its early stages before vision loss, and 434 did not have AMD. Researchers assessed their diets based on a questionnaire asking how often they ate foods associated with the Mediterranean diet. The more they ate foods associated with the diet, the higher the score, from 0-9. Those who closely followed the diet scored a 6 or greater. Their findings were as follows:

- **Higher diet adherence scores meant lower AMD risk.** Of those who did not closely follow the diet (scored below a 6), 50 percent had AMD. Of those who did closely follow the diet (scored 6 or above), only 39 percent had AMD. This represents a 35 percent lower risk compared to those who did not adhere to the diet.
- **Fruits were especially beneficial.** Researchers analyzed consumption of foods and found that people who consumed higher levels of fruit were significantly less

likely to have AMD. Of those who consumed 150 grams (about five ounces) or more of fruit a day: 54.5 percent did not have AMD and 45.5 percent had AMD. Overall, people who ate that much fruit or more each day were almost 15 percent less likely to have AMD, based on an odds ratio calculation.

- **Caffeine and antioxidants also were protective.** Researchers used a computer program to analyze the participants' consumption of micronutrients, according to their answers on the questionnaire. They found higher consumption of antioxidants such as caffeine, beta-carotene and vitamins C and E was protective against AMD. Of those who consumed high levels of caffeine (about 78 mg a day, or the equivalent of one shot of espresso): 54.4 percent did not have AMD and 45.1 percent had AMD.

While caffeine is not considered part of the Mediterranean diet per se, consumption of caffeine-containing foods such as coffee and tea is common in Mediterranean countries. The researchers opted to look at caffeine because it is a powerful antioxidant that is known to be protective against other conditions, such as Alzheimer's disease.

"This research adds to the evidence that a healthy, fruit-rich diet is important to health, including helping to protect against macular degeneration," said Rufino Silva, M.D., Ph.D., lead author of the study and professor of ophthalmology at the University of Coimbra, Portugal; ophthalmologist working at the Centro Hospitalar e Universitário de Coimbra; and investigator at the Association for Innovation and Biomedical Research on Light and Image. "We also think this work is a stepping stone towards effective preventive medicine in AMD."

Disclosure: The study was sponsored by the Association for Innovation and Biomedical Research on Light and Image (AIBILI) and supported by Novartis. Dr. Silva is a consultant for Novartis, but not in matters related to the study. Dr Silva also is a consultant for Alcon Laboratories, THEA, Alimera, Allergan and Bayer.

The Role of Adherence to a Mediterranean Diet and Lifestyle Risk Factors in AMD: The Coimbra Eye Study is being presented at [AAO 2016, the 120th annual meeting of the American Academy of Ophthalmology](#). The event is being held in conjunction with the Asia-Pacific Academy of Ophthalmology from Oct. 14-18 at McCormick Place, Chicago. Known as the place "Where all of Ophthalmology Meets[®]," the Academy's annual meeting is the world's largest conference for eye physicians and surgeons. For more information, see [AAO 2016 highlights](#).

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