

## 'Mediterranean' Diet Reduces COPD Risk

BOSTON, May 15 -- The so-called Mediterranean diet -- high in fruits, vegetables, fish and whole grains -- is associated with a 50% reduction in the risk of chronic obstructive pulmonary disease, according to researchers here.

In contrast, a Western diet high in such consumables as refined grains, cured and red meats, desserts and French fries is associated with almost a fivefold increase in the risk of COPD, found Raphaëlle Varraso, Ph.D., of Harvard School of Public Health, and colleagues.

These findings are based on data collected from 1986 through 1998 by the prospective Health Professionals Follow-up Study, they reported online in *Thorax*.

The study enrolled 51,529 American male health professionals ages 40 through 75, who answered a mailed questionnaire, including detailed questions on diet, lifestyle, and medical history.

For this analysis, Dr. Varraso and colleagues said, men with a baseline history of asthma or COPD, were excluded, as were men who didn't answer more than 70 of 131 diet questions or who had reported daily energy intake outside the range of 800 to 4,200 kilocalories. The final baseline population was 42,917 men.

A principal component analysis identified two dietary patterns -- a "prudent" diet and a Western diet -- and the researchers divided respondents into quintiles, depending on how well they adhered to one of the other.

The two groups were not necessarily exclusive, the researchers said: "Men with a high intake of the prudent diet might also have a high intake of the Western diet."

Although the researchers did not use the term, the "prudent" diet is essentially the so-called Mediterranean diet that has been associated with lower rates of cardiovascular disease.

The study found that compared with men with the lowest intake of the prudent diet, those in the

highest quintile were more physically active and less likely to be current smokers.

In contrast, men with the highest intake of the Western diet (compared with those in the lowest quintile) had a higher body mass index, were less active, and were more likely to smoke.

During the 12 years of the study, there were 111 self-reported cases of newly diagnosed COPD in the cohort. Analysis showed that -- after adjustment for age and total energy intake -- the prudent pattern was significantly associated with a lower risk of COPD, while the Western diet was linked to a higher risk.

The associations remained significant after adjustment for cigarette smoking:

Compared to the lowest quintile of the prudent diet, those in the highest quintile had a relative risk of COPD of 0.47 (with a 95% confidence interval from 0.24 to 0.92). The trend was significant at  $P=0.02$ .

Compared to the lowest quintile of the Western diet, those in the highest quintile had a relative risk of COPD of 5.07 (with a 95% confidence interval from 2.21 to 11.66). The trend was significant at  $P<0.001$ .

The pattern was essentially unchanged after adjustment for another seven possible confounders -- race/ethnicity, physician visits, U.S. region, body mass index, physical activity, multivitamin use and energy intake:

Compared with the lowest quintile of the prudent diet, those in the highest quintile had a relative risk of COPD of 0.50 (with a 95% confidence interval from 0.25 to 0.98). The trend remained significant at  $P=0.02$ .

Compared with the lowest quintile of the Western diet, those in the highest quintile had a relative risk of COPD of 4.56 (with a 95% confidence interval from 1.95 to 10.69). The trend remained significant at  $P<0.001$ .

The researchers said that despite statistical adjustments, the study may be affected by some residual confounding by cigarette smoking, which is considered the principal risk factor for COPD.

Another limitation is that the cases were self-reported and no spirometry was available, they said. However, that portion of the questionnaire was validated in another major study that did compare self-reported cases with spirometry, they added.

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