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Consumption of fruits and vegetables in relation to the risk of developing acute coronary syndromes; the CARDIO2000 case-control study

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Abstract

Background

The relation between diet and human health has long been investigated. The aim of this work is to evaluate the association between CHD risk and the consumption of fruit and vegetable, in a large sample of cardiac patients and controls.

Methods

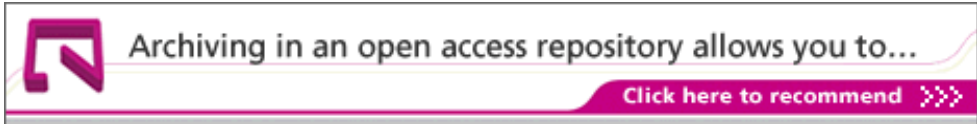
Stratified sampling from all Greek regions, consisted of 848 (700 males, 58 ± 10 years old and 148 females, 65 ± 9 years old) randomly selected patients, admitted to the cardiology clinic for a first event of an acute coronary syndrome (ACS). In addition we selected 1078 frequency paired, by sex-age-region, controls in the same hospitals but without any clinical suspicion of CHD. Using validated food-frequency questionnaires we assessed total diet, including fruit and vegetable intake, on a weekly basis. Multiple logistic regression analysis estimated the relative risk of developing ACS by level of fruits and vegetables intake after taking into account the effect of several potential confounders.

Results

Data analysis revealed that the benefit of fruit or vegetable consumption increases proportionally by the number of servings consumed (P for trend < 0.001). After adjusting for the conventional cardiovascular risk factors, those in the upper quintile of fruit consumption (5 or more items/day) had 72% lower risk for CHD (odds ratio = 0.28, 95% CI 0.11 – 0.54, P < 0.001), compared with those in the lowest quintile of intake (<1 items/day). Similarly, consumption of vegetable more than 3 days / week was associated with 70% lower risk for CHD (odds ratio = 0.30, 95% CI 0.22 – 0.40, P < 0.001), compared with those that they did not consume vegetables. Of particular interest, a 10% reduction in coronary risk was observed for every one piece of fruit consumed per day (odds ratio = 0.90, 95% CI 0.85 – 0.97, P = 0.004).

Conclusions

Consumption of fruits and vegetables seems to offer significant protection against CHD.



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