

Cardiovascular Disease

Major Habitual Dietary Patterns Are Associated with Acute Myocardial Infarction and Cardiovascular Risk Markers in a Southern European Population

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Link to full text: [http://www.adajournal.org/article/S0002-8223\(10\)01823-7/fulltext](http://www.adajournal.org/article/S0002-8223(10)01823-7/fulltext)

Significance: Lower fruit and vegetable intake in women and a higher consumption of red meat and alcohol in both sexes were associated with an increased risk of acute myocardial infarction and adverse cardiovascular risk profiles.

This population-based case-control study assessed the association of a posteriori dietary patterns with acute myocardial infarction (AMI) and cardiovascular risk markers in the general adult population of Porto, Portugal. Cases were patients consecutively hospitalized for an incident non-fatal AMI (n=820) and controls were individuals free of previous AMI (n=2,196). In comparison to women with a “healthy” dietary pattern, those with a “low fruit and vegetables” pattern and a “red meat and alcohol” (also characterized by lower intake of dairy products and vegetables) pattern showed a higher risk of AMI (OR=1.85, 95% CI=1.01 to 3.39 and OR=1.91, 95% CI=1.17 to 3.12, respectively). Female controls with the “red meat and alcohol” pattern also had a higher total- to HDL-cholesterol ratio. In comparison to men with a “healthy” pattern, those with the “red meat and alcohol” pattern, similar to the counterpart found in women, were more likely to experience an AMI (OR=1.98, 95% CI=1.35 to 2.92); male controls with this pattern had higher diastolic and systolic blood pressure, C-reactive protein, and uric acid levels.

Dairy Products Consumption Is Associated with Decreased Levels of Inflammatory Markers Related to Cardiovascular Disease in Apparently Healthy Adults: The ATTICA Study

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Link to full text: <http://www.jacn.org/cgi/content/full/29/4/357>

Significance: An inverse association between dairy products consumption and levels of various inflammatory markers among healthy adults were observed.

This study investigated the association between consumption of dairy products and levels of various inflammatory markers among 1514 men (18-87 years old) and 1528 women (18-89 years old) with no evidence of cardiovascular or other chronic disease. Results showed that C-reactive protein (CRP), interleukin-6 (IL-6), and tumor necrosis

factor-alpha (TNF- α) levels of individuals consuming between 11 and 14 servings of dairy products/week were almost 16%, 5%, and 12% lower, respectively, than in those consuming <8 servings ($p<0.05$), while those consuming >14 servings/week had 29%, 9%, and 20% lower levels of CRP, IL-6, and TNF- α , respectively ($p<0.01$), even after adjustments were made for age, gender, smoking, physical activity, body mass, dietary habits, and other potential confounders.

Infant Formula

Effect of An α -Lactalbumin-Enriched Infant Formula with Lower Protein on Growth

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Link to full text: <http://www.nature.com/ejcn/journal/v65/n2/full/ejcn2010236a.html>

Significance: α -Lactalbumin-enriched formula containing 12.8 g/L protein was safe and supported age-appropriate growth.

This randomized, double-blind, controlled trial evaluated the effect of an α -lactalbumin-enriched formula with a lower protein concentration on infant growth, protein markers and biochemistries.

Healthy term formula-fed (FF) infants 5–14 days old were randomized to standard formula (SF: 14.1 g/L protein, 662 kcal/L) group ($n=112$) or experimental formula (EF: 12.8 g/L protein, 662 kcal/L) group ($n=112$) for 120 days; a human milk (HM) reference group ($n=112$) was included. Primary outcome was weight gain (g/day) from D0 to D120. A total of 321/336 infants (96%) who enrolled, completed the study. Mean age was 9.6 (± 2.9) days; 50% were girls. Mean weight gain (g/day) did not significantly differ between SF vs. EF nor between EF vs. HM; however, weight gain (g/day) was significantly greater in the SF vs. HM group ($P=0.04$). At day 120, mean weight-for-age Z-score (WAZ) and weight-for-length Z-score (WLZ) did not significantly differ between SF vs. EF nor EF vs. HM; however, the WAZ was significantly greater in SF vs. HM ($P=0.025$).

A Non-Hydrolyzed, Fermented Milk Formula Reduces Digestive and Respiratory Events in Infants at High Risk of Allergy

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Significance: Heat-killed *Bifidobacterium breve* C50 and *Streptococcus thermophilus* 065 decreased the incidence of potentially allergic adverse events in children with family history of atopy during the first months of life and after formula was stopped.

This multicenter, randomized, double-blind, controlled study determined the impact of a not hydrolyzed fermented infant formula containing heat-killed *Bifidobacterium breve* C50 and *Streptococcus thermophilus* 065 (HKBBST) on the incidence of allergy-like events during the first 2 years of life in children at high risk of atopy. Infants at high

risk of atopy used HKBBST or a standard infant formula (SIF) since birth until 1 year of age, and were followed at 4, 12 and 24 months after birth. The study included 129 children, 63 were randomized to SIF, 66 to HKBBST. The use of HKBBST milk did not alter the proportion of cow's milk allergy but decreased the proportion of positive SPT to cow's milk (1.7 vs 12.5%, $P=0.03$), and the incidence of digestive (39 vs. 63%, $P=0.01$) and respiratory potentially allergic adverse events (PAAEs) (7 vs 21%, $P=0.03$) at 12 months, and that of respiratory PAAEs at 24 months (13 vs. 35%, $P=0.01$).

Lipids

Effect of Moderate Walnut Consumption on Lipid Profile, Arterial Stiffness and Platelet Activation in Humans

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Link to full text: <http://www.nature.com/ejcn/journal/v65/n2/full/ejcn2010233a.html>

Significance: The potentially beneficial cardiac effects of walnuts may not be apparent at lower and more practical levels of consumption.

This single-blind, randomized controlled, crossover trial investigated whether a moderate intake of walnuts would affect lipid profile, arterial stiffness and platelet activation in 30 healthy male volunteers. Subjects received 4 weeks of dietary walnut supplementation (15 g/day) and 4 weeks of control (no walnuts). Results showed there were no differences in lipid profile after 4 weeks of walnut supplementation compared with control. Dietary intake of α -linolenic acid was increased during the walnut diet (2.1 ± 0.4 g/day vs. 0.7 ± 0.4 g/day, $P < 0.0001$). There were no differences in augmentation index or augmented pressure during walnut supplementation. Walnut supplementation did not affect platelet-monocyte aggregation. Dietary intervention with a moderate intake of walnuts does not affect lipid profile, arterial stiffness or platelet activation in man.

Dose-Response Effects of Omega-3 Fatty Acids on Triglycerides, Inflammation, and Endothelial Function in Healthy Persons with Moderate Hypertriglyceridemia

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Link to full text: <http://www.ajcn.org/content/93/2/243.full>

Significance: The higher dose (3.4 g/d) of EPA+DHA significantly lowered triglycerides, but neither dose improved endothelial function or inflammatory status over 8 wk in healthy adults with moderate hypertriglyceridemia.

This placebo-controlled, double-blind, randomized, 3-period crossover trial (8 wk of treatment, 6 wk of washout) compared the effects of a nutritional dose of eicosapentaenoic acid (EPA) + docosahexaenoic acid (DHA) (0.85 g/d) with those of a pharmaceutical dose (3.4 g/d) on serum triglycerides, inflammatory markers, and endothelial function in 23 men and 3 postmenopausal women with moderate hypertriglyceridemia (150–500 mg/dL). Results

showed the higher dose of EPA+DHA lowered triglycerides by 27% compared with placebo (mean±SEM: 173±17.5 compared with 237±17.5 mg/dL; P=0.002), whereas no effect of the lower dose was observed on lipids. No effects on cholesterol (total, LDL, and HDL), endothelial function, inflammatory markers (IL-1 β , IL-6, TNF- α , and high-sensitivity CRP), or the expression of inflammatory cytokine genes in isolated lymphocytes were observed.

Phytochemicals

Habitual Intake of Flavonoid Subclasses and Incident Hypertension in Adults

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Significance: Anthocyanins and some flavone and flavan-3-ol compounds may contribute to the prevention of hypertension.

The association between habitual flavonoid intake and incident hypertension in a prospective study of 87,242 women from the Nurses' Health Study (NHS) II, 46,672 women from the NHS I, and 23,043 men from the Health Professionals Follow-Up Study was examined. During 14 y of follow-up, 29,018 cases of hypertension in women and 5629 cases of hypertension in men were reported. In pooled multivariate-adjusted analyses, participants in the highest quintile of anthocyanin intake (predominantly from blueberries and strawberries) had an 8% reduction in risk of hypertension (RR=0.92; 95% CI 0.86, 0.98) compared with that for participants in the lowest quintile of anthocyanin intake; the risk reduction was 12% (RR=0.88; 95% CI 0.84, 0.93) in participants \leq 60 y of age and 0.96 (0.91, 1.02) in participants $>$ 60 y of age (P for age interaction=0.02). Although intakes of other subclasses were not associated with hypertension, pooled analyses for individual compounds suggested a 5% (95% CI 0.91, 0.99) reduction in risk for the highest compared with the lowest quintiles of intake of the flavone apigenin. In participants \leq 60 y of age, a 6% (95% CI 0.88, 0.97) reduction in risk was observed for the flavan-3-ol catechin when the highest and the lowest quintiles were compared.

Type 2 Diabetes

Soy Consumption is Not Protective Against Diabetes in Hawaii: The Multiethnic Cohort

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Link to full text: <http://www.nature.com/ejcn/journal/v65/n2/full/ejcn2010228a.html>

Significance: The current findings do not support a protective effect of modest levels of soy food consumption against diabetes.

This study examined the association of soy intake with diabetes risk in the Hawaii component of the Multiethnic Cohort. Among 29,719 Caucasian, 35,141 Japanese American and 10,484 Native Hawaiian men and women, 8564

incident diabetes cases were identified during 14 years of follow-up. After adjusting for known confounders with stratifications by sex, ethnicity and weight status, no protective effect of soy food consumption on diabetes risk was observed in this population, which has a wide range of soy intakes though lower than in Asian populations. Indeed, higher soy food intake was associated with a weakly elevated diabetes risk across ethnic groups; the higher risk was limited to overweight and obese individuals.

Special Report

Dietary Supplement Use in the United States, 2003–2006

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Link to full text: <http://jn.nutrition.org/content/141/2/261.full>

Significance: Given the widespread use of supplements, data should be included with nutrient intakes from foods to correctly determine total nutrient exposure.

This analysis estimated dietary supplement (DS) use for the U.S. population (≥ 1 y of age) by the DRI age groupings using the NHANES 2003–2006. Supplement use was measured through a questionnaire and was reported by 49% of the U.S. population (44% of males, 53% of females). Multivitamin-multimineral use was the most frequently reported DS (33%). The majority of people reported taking only 1 DS and did so on a daily basis. DS use was lowest in obese adults and highest among non-Hispanic whites, older adults, and those with more than a high-school education. Between 28 and 30% reported using DS containing vitamins B-6, B-12, C, A, and E; 18–19% reported using iron, selenium, and chromium; and 26–27% reported using zinc- and magnesium-containing supplements. Botanical supplement use was more common in older than in younger age groups and was lowest in those aged 1–13 y but was reported by ~20% of adults. About one-half of the U.S. population and 70% of adults ≥ 71 y use DS; one-third use multivitamin-multimineral DS.