

[Abstract text for new page](#)

Detopoulou , et al. Dietary choline and betaine intakes in relation to concentrations of inflammatory markers in healthy adults: the ATTICA study. *Am J Clin Nutr* 2008; 87:424-430

**Background:** Choline and betaine are found in a variety of plant and animal foods and were recently shown to be associated with decreased homocysteine concentrations.

**Objective:** The scope of this work was to investigate the associations between dietary choline and betaine consumption and various markers of low-grade systemic inflammation.

**Design:** Under the context of a cross-sectional survey that enrolled 1514 men (18–87 y of age) and 1528 women (18–89 y of age) with no history of cardiovascular disease (the ATTICA Study), fasting blood samples were collected and inflammatory markers were measured. Dietary habits were evaluated with a validated food-frequency questionnaire, and the intakes of choline and betaine were calculated from food-composition tables.

**Results:** Compared with the lowest tertile of choline intake (<250 mg/d), participants who consumed >310 mg/d had, on average, 22% lower concentrations of C-reactive protein ( $P < 0.05$ ), 26% lower concentrations of interleukin-6 ( $P < 0.05$ ), and 6% lower concentrations of tumor necrosis factor- $\alpha$  ( $P < 0.01$ ). Similarly, participants who consumed >360 mg/d of betaine had, on average, 10% lower concentrations of homocysteine ( $P < 0.01$ ), 19% lower concentrations of C-reactive protein ( $P < 0.1$ ), and 12% lower concentrations of tumor necrosis factor- $\alpha$  ( $P < 0.05$ ) than did those who consumed <260 mg/d. These findings were independent of various sociodemographic, lifestyle, and clinical characteristics of the participants.