Nutty Study: Eating Nuts To Lower Inflammation

By Ruth Kava — August 1, 2016

Inflammation has been linked to an increased risk of chronic diseases such as diabetes and cardiovascular disease (CVD). Elevated levels of some blood constituents, e.g. C-reactive protein (CRP), tumor necrosis receptor factor 2 (TNFR2), and interleukin 6 (IL-6) are considered biomarkers for an increased level of inflammation in the body. A new study [2], led by Dr. Ying Bao from Brigham and Women's Hospital and Harvard Medical School in Boston, published in the American Journal of Clinical Nutrition, assessed the influence that peanut and nut consumption might have on the level of inflammation.

This report is a reassessment of two large cohort studies — the Nurses' Health Study and the Health Professionals Follow-Up Study — both of which have been running at Harvard for a couple of decades now. Using data from food frequency questionnaires (FFQ), the researchers quantified peanut and tree nut consumption. They used biochemical analyses of blood samples from participants in each study to assess inflammation biomarkers. They then performed statistical analyses to determine if there were associations between the two.

A total of about 5,000 individual, who had valid nut intake data and measures of inflammatory biomarkers (although there was variability in the number of participants' who had the different measured biomarkers) were included in the current study. The investigators used data from the 2 FFQ's submitted before blood samples had been drawn. They then calculated an "inflammatory diet score," for which higher numbers implied a greater level of inflammation. They further estimated "the effect of substituting three servings of nuts/week for three servings of animal protein or foods containing poor quality carbohydrate/ week ."

The results of all these calculations included the following:

Participants "who had a higher intake of nuts tended to be older, were more likely to exercise, drank more alcohol, and had lower CRP and IL-6 levels than those with lower intake." Levels of TNFR2 didn't differ with levels of nut intake.
Replacing animal protein foods, or poor quality carbs (e.g. potato chips), with nuts would result in significantly lower levels of CRP and IL-6 levels, and thus, perhaps a lower degree of inflammation, CVD, or diabetes.

While the results sound good, there is lack of strong evidence to think that eating nuts, though healthful, will prevent CVD or diabetes. As noted above, people who consumed more nuts also had other, perhaps significant, differences in lifestyle. Further, as a cross-sectional cohort study, these results cannot be assumed to reflect a causal relationship between nut consumption and inflammation. The bottom line is that these manipulative calculations present interesting, but far from convincing, evidence that should not move anyone to change their diet. And remember that nuts, while containing many healthful constituents, also provide high fat and calories.