

Many middle-aged and older Americans not getting adequate nutrition

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Micronutrients such as calcium, magnesium, potassium and vitamin C play essential roles in maintaining health. As older adults tend to reduce their food intake as they age, there is concern that deficits in these micronutrients lead to medical problems. In a study published in the March 2009 issue of the *Journal of the American Dietetic Association*, researchers examined how well different ethnic groups met the recommended daily allowances (RDAs) through food intake and supplement consumption. The study determined that many middle-aged and older Americans are not getting adequate nutrition.

Using data drawn from the Multi-Ethnic Study of Atherosclerosis (MESA), a prospective cohort study designed to investigate the prevalence, correlates and progression of subclinical cardiovascular disease, researchers examined over 6200 participants from 4 ethnic groups, Caucasian, African American, Hispanic and Chinese. Dietary intakes were determined from food frequency questionnaires and respondents were asked to provide amounts and frequencies of micronutrient consumption using label information from their supplements. These data were used to calculate whether the RDAs or Adequate Intake (AI) levels were being met. The large sample size and multiple ethnic groups in this population gave investigators enough power to examine interactions between supplementation and ethnicity.

Over half of the population took supplements, and supplement users were more likely to be older, women, Caucasian and college-educated. Calcium and vitamin C supplements were most common. Although

dietary intake of calcium, magnesium, potassium and vitamin C was similar between supplement users and non-users for both men and women, there were differences in median dietary intake levels between the different ethnic groups. Chinese Americans tended to have the lowest dietary intakes, particularly in calcium where both Chinese and African Americans had significantly lower dietary intakes of calcium than Caucasians and Hispanics.

The study also evaluated differences between multivitamins and high-dose supplements. While high-dose calcium was associated with meeting RDA/AIs for all ethnic groups, some high-dose supplements could also cause users to exceed their Tolerable Upper Intake Levels (ULs). For calcium, 15.0% of high-dose users exceeded the UL compared to 1.9% of multivitamin users and 2.1% of non-users. For magnesium, 35.3% of high-dose supplement users exceeded the UL compared to 0% of both multivitamin users and non-users. In addition, 6.6% high-dose vitamin C users exceeded the UL compared to 0% of both multivitamin users and non-users.

The study also found that potassium intake was very much below the RDA whether supplements were taken or not. This could point to a need to reformulate supplements to deliver higher potassium doses.

Writing in the article, Pamela J. Schreiner, MS, PhD, Professor and Director of Graduate Studies, Division of Epidemiology and Community Health, University of Minnesota, states, "The present study indicates a clear association between meeting RDA/AIs and supplement use for calcium, magnesium and vitamin C. However, even with the assistance of dietary supplements many middle-aged and older Americans are not getting adequate nutrition, and there was no association between supplement use and meeting the AI for potassium. In addition, those taking high-dose vitamin supplements were more likely to exceed the UL for that nutrient. Future studies should explore dietary

supplementation along with other methods to improve nutrition in middle-aged and older Americans."

Source: Elsevier

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