Majority of Americans not Consuming Vitamin E RDA

Dear Editor,

I read the article by Chuang et al. (1) with interest. The authors are to be commended for their sophisticated approach to understanding human α-tocopherol metabolism. However, Chuang et al. (1) are mistaken in stating on page 5 that dietary intakes of 7.6 ± 2.8 mg α-tocopherol per day for people 27 ± 7 y are close to the RDA. These intakes are only 50% of the RDA (2).

In 2000, the Institute of Medicine (IOM) (2) increased the vitamin E RDA from 10 to 15 mg daily for persons 14 y and older. Using data collected from 1976 to 1980, Murphy et al. (3) reported mean vitamin E intakes of 9.6 and 7.0 mg per day for men and women, respectively. According to food intake reported in 2001–2002, 75% of Americans 19–30 y were still not consuming 10 mg vitamin E daily (4). The mean daily α-tocopherol intakes of 7.6 ± 2.8 mg reported by Chuang et al. (1) confirm there hasn’t been any progress in improving vitamin E intakes in almost 40 years.

Horwitt (5) wrote that tocopherol requirements are dependent upon the amount of peroxidizable lipids in the diet, the amount of peroxidizable lipids in tissues, and the fatty acid composition of the lipids in the tissues. At that time, it was known that MUFA and PUFA were more oxidizable and would increase vitamin E requirements. In recent years, the IOM recommendations have been to limit saturated fat and replace this with MUFA and PUFA, especially those rich in long-chain (n-3) and (n-6) fatty acids (6). This guidance will only increase vitamin E requirements and accentuate the vitamin E deficit. Emerging evidence indicates that some polymorphisms alter antioxidant vitamin requirements (7) which may explain variable results of vitamin E supplementation on oxidative stress and mortality (8).

Given these observations, it is important to have additional studies to determine the effect of amount and type of dietary fat consumption on vitamin E requirements in individuals with different haptoglobin genotypes.

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Literature Cited


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1 Author disclosure: M. I. McBurney is employed by DSM Nutritional Products. The opinions expressed are his and not necessarily those of his employer.