Editors’ Note: Long-term Dietary Flavonoid Intake and Subjective Cognitive Decline in US Men and Women

Using registry data from the prospective Nurse’s Health Study and the Health Professional’s Follow-up Study, Dr. Yeh et al. evaluated cognitive outcomes after dietary flavonoid consumption. As naturally occurring antioxidants with the potential for reducing oxidative stress in the nervous system, flavonoids may be nutrients that can reduce the cognitive decline that has been tied to oxidative stress. Given the large sample size of more than 75,000 patients with follow-up exceeding 20 years, Yeh et al. used Poisson regression to evaluate the relationship between total flavonoid use (and flavonoid subtypes) with subjective, patient-reported, cognitive decline (SCD). The multivariable model accounted for other dietary components and relevant medical and social history. Compared with the lowest quintile of total flavonoid intake, subjects reporting the highest quintile of flavonoid intake were at 19% lower odds of SCD after adjustment for covariates—with flavones (found in oranges, peppers, celery) being the most strongly tied to better cognitive outcomes. In response to the research article, Dr. Abe cautions readers regarding excess intake of flavonoids, citing literature that may have implicated higher flavonoid intake with cerebrovascular disease, cancer, and even depression. On more careful review of these studies, however, it seems higher flavonoid intake is actually protective against these conditions.

James E. Siegler, MD, and Steven Galetta, MD
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Reader Response: Long-term Dietary Flavonoid Intake and Subjective Cognitive Decline in US Men and Women

Kazuo Abe (Hyogo, Japan)

I was interested in the article by Yeh et al.1 A lot of studies have been published concerning the associations between diet and subjective cognitive decline (SCD). This study is based on a follow-up assessment spanning more than 20 years, which is strongly persuasive. The authors conclude that many flavonoid-rich foods are significantly associated with lower odds of SCD. Their conclusion seems reasonable—however, previous studies suggest that higher flavonoid intake increases risk for cerebrovascular diseases or cancers.2,3 Other research reports that higher dietary flavonoid intake can be associated with decreased overall body composition in younger women.4 In older populations, dietary flavonoid intake may also increase the risk of depression.5 Considering these merits and demerits of dietary flavonoid intake, appropriate intake should be suggested.

We thank Dr. Abe for the response to our article. However, we noticed that the studies mentioned in the comment actually showed that higher intake of flavonoids was associated with lower risk of cardiovascular disease, cancers, stroke, and depression.

In addition, we are not recommending a specific intake of flavonoids, but rather suggesting daily intake of flavonoid-rich foods.

[11C]PK11195-PET Brain Imaging of the Mitochondrial Translocator Protein in Mitochondrial Disease

In the article “[11C]PK11195-PET Brain Imaging of the Mitochondrial Translocator Protein in Mitochondrial Disease” by van den Ameele et al.,1 panels E, H, K, and N of Figure 4 should be labeled “Patient < controls.” A corrected version of Figure 4 is available at links.lww.com/WNL/B478. The editorial staff regret the error.

Reference

American Academy of Neurology Code of Professional Conduct

In the Special Article “American Academy of Neurology Code of Professional Conduct” by Russell et al.,1 the following paragraph should have been included after the first paragraph in the Acknowledgment section:

The authors thank the authors of the original code of professional conduct: James L. Bernat, MD, and H. Richard Beresford, MD, JD, in collaboration with the other then-current members of the AAN Ethics and Humanities Subcommittee. Drs. Bernat and Beresford’s original document, much of which is preserved in this revised code, continues to be a highly valued, dynamic, and seminal work for neurology.

The authors regret the omission.

Reference

Long-term Dietary Flavonoid Intake and Subjective Cognitive Decline in US Men and Women

In the Research Article “Long-term Dietary Flavonoid Intake and Subjective Cognitive Decline in US Men and Women” by Yeh et al.,1 there were errors in the labels of Figure 4. The y-axis for both the Nurses’ Health Study (NHS) and Health Professionals Follow-Up Study graphs should have been labeled “OR (95% CI),” and the middle sections should have been labeled “Average intake.” For the NHS graph, the x-axis should read “1984–2006” under Average intake and “1984–1990” under Mutually adjusted intake. See the corrected figure below. The publisher regrets the errors.

Reference
Figure 4 Temporal Relationships Between Flavone Intake and ORs of 3-Unit Increments in SCD

Multivariate model: Nurses’ Health Study (NHS): adjusted for age, total energy intake, Census tract income, education (registered nursing degrees, bachelor degree, master or doctorate degree), husband’s education (high school or lower education, college, graduate school), race (White, Black, other), smoking history (never, ≤4 pack-years, 5–24 pack-years, >24 pack-years), depression, physical activity level (metabolic equivalent-hours per week, quintiles), body mass index, family history of dementia, vitamin C, vitamin D, and vitamin E supplementation use (yes/no), intakes of alcohol, postmenopausal status and hormone replacement therapy use, missing indicator for subjective cognitive decline (SCD) measurement at 2012 or 2014, number of dietary assessments during 1984 to 2006, multivitamin use (yes/no), parity (nulliparous, 1–2, >2), and intakes of total carotenoids, vitamin C, vitamin D, vitamin E, and long-chain omega-3 fatty acid.

Health Professionals Follow-Up Study (HPFS): adjusted for age, total energy intake, smoking history (never, ≤24 pack-years, 25–44 pack-years, ≥45 pack-years), cancer (yes/no), depression, physical activity level (metabolic equivalent-hours per week, quintiles), body mass index, multivitamin use (yes/no), intake of alcohol, family history of dementia, profession (dentist, pharmacist, optometrist, osteopath, podiatrist, veterinarian), percentage of energy intake from dietary total protein (quintiles), missing indicator for SCD measurement at 2008 or 2012, number of dietary assessments during 1986–2002, and intakes of total carotenoids, vitamin C, vitamin D, vitamin E, and long-chain omega-3 fatty acid. OR = odds ratio. *Comparing 90th to 10th percentile of flavone intake.
Long-term Dietary Flavonoid Intake and Subjective Cognitive Decline in US Men and Women

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