Vitamin D in foods may reduce risk of depression in older women

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Results of a large study among older women suggest that those who ate more of the "sunshine vitamin" were less likely to experience depression symptoms than women who consumed less of the vitamin, according to findings published this week by Elizabeth Bertone-Johnson at the University of Massachusetts Amherst School of Public Health and Health Sciences, with colleagues from several other U.S. academic centers.

Overall, a diverse population of postmenopausal women who consumed 800 international units (IU) per day of the vitamin was 20 percent less likely to have depressive symptoms than those who consumed less than 100 IU daily. Among women who had no depression at baseline, those who took in 400 IU or more of vitamin D per day from food sources also had a 20 percent lower risk of depressive symptoms three years later compared to those in the group taking in the lowest amount of vitamin D.

In terms of absolute risk for depressive symptoms and vitamin D intake, the prevalence of depressive symptoms was 10.0 percent in women reporting total vitamin D intake greater than or equal to 800 IU per day compared to 12.7 percent in those reporting less than 100 IU per day, the authors report. Their results are in the current issue of the American Journal of Clinical Nutrition.

These findings need to be confirmed in clinical trials of vitamin D and depression, say Bertone-Johnson and colleagues at institutions across the

nation, but the results are provocative. "Dietary vitamin D intake and supplement use are easy for women to modify and, if shown to be effective in clinical trials, could provide new avenues for the prevention and perhaps the treatment of depression," she points out.

In addition to sunlight, fat-soluble vitamin D comes largely from eating fatty fish and fortified milk, dairy products and orange juice.

The association observed between dietary vitamin D intake and depressive symptoms was found among nearly 82,000 postmenopausal women (50 to 79 years old) recruited for the Women's Health Initiative Observational Study, part of a larger study of older women funded by the National Heart, Lung and Blood Institute at 40 clinical centers throughout the United States from 1993 to 1998.

Participants' vitamin D intake at baseline was measured by questionnaire and supplement use was assessed by trained interviewers. Among other questions, participants were asked to report their usual intake of 122 foods or food groups in the three previous months. The study also estimated and controlled for the average amount of sunlight residents could receive in various parts of the country.

Bertone-Johnson and colleagues examined depressive symptoms at baseline and after three years using an established eight-item scale plus information on current antidepressant use.

The analyses controlled for age, physical activity and other factors and evaluated how mean total vitamin D intake, vitamin D from food sources and vitamin D intake from supplements were associated with the prevalence of depressive symptoms at baseline and with depressive symptoms after 3 years.

Women with the highest intake of total vitamin D, greater than 800 IU

daily, and vitamin D from food sources greater than 400 IU daily, each had a significantly lower prevalence of depressive symptoms compared to those reporting consuming less than 100 IU per day. Also, among women without evidence of depression at baseline, higher vitamin D intake from food sources was associated with a lower risk of depressive symptoms in the third year of follow-up.

A strength of this large study included the diversity of subjects which allowed the researchers to explore whether the association between vitamin D and depression may vary by race/ethnicity, age or other factors such as education, body mass index, smoking, alcohol use, possible sunlight exposure and physical activity.

Besides Bertone-Johnson and colleagues at the University of Massachusetts Amherst, other researchers taking part in this study were from Group Health Research Institute in Seattle, the University of Nevada School of Medicine in Reno, Drexel University School of Public Health in Philadelphia, Fred Hutchinson Cancer Research Center in Seattle, the University of Buffalo, Brigham and Women's Hospital and Harvard Medical School in Boston; the UMass Medical School in Worcester, the University of California at Los Angeles School of Public Health, the Albert Einstein College of Medicine and Yeshiva University in Bronx, New York.

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