Study links estrogen use to improved cognition: postmenopausal women.(Women's Health)

Family Practice News

| February 01, 2004 | Sullivan, Michele G. | Copyright

MIAMI BEACH -- Postmenopausal estrogen users performed significantly better on computerized cognitive tests than nonusers, suggesting that the hormone may have a beneficial effect on cognition in some women, Joan Friebely, Ed.D, reported in a poster session at the annual meeting of the North American Menopause Society.

Dr. Friebely's conclusions, which indicated intact working memory and executive function, support the hypothesis that estrogen may have a protective effect on cognition when administered to younger, healthy postmenopausal women like those included in her analysis.

Other computerized tests of cognition have not examined similar populations, she pointed out. "We looked at healthy women who were within a relatively short time after their final menstrual period and who started using estrogen early, in that critical period before any [cognitive] damage was done," she said in an interview.

Her retrospective analysis included data from two of her own prior studies. One study compared the effects of placebo and soy tablets in a group of non-estrogen users who had hot flashes. The second study compared the effects of different hormone regimens. Both studies used the same computerized tests, which included a continuous performance test of attention, a finger-tapping test of motor speed, and a switching attention test to measure working memory and executive function.

Estrogen users performed significantly better on every test than did nonusers. After adjusting for possible confounders, the difference in performance scores between the estrogen users and nonusers had a mean effect size of 1.13. Effect size is the standardized difference between two means.

An effect size of 0.2-0.3 is considered small, one of 0.3-0.7 is considered moderate, and one of 1.1 is considered large.

"Our results were quite large," said Dr. Friebely, a researcher at Brigham and Women's Hospital, Boston. "Very few studies show results with such a substantial effect size."

Because of the similarities between the two study groups and among the participants, Dr. Friebely believes that the results are likely to represent a real effect, uncompromised by the healthy user bias.

All of the groups were recruited with similar media ads mentioning cognition and, aside from the presence of hot flashes, the women were all quite similar at baseline, she said, lessening the possibility of a healthy user bias. The use of soy as a nutritional supplement probably contributed to baseline similarity. "There's some evidence that women who use nutritional supplements are similar in many ways to women who use estrogen," in terms of education and health-seeking behavior, she said.

However, she noted, the presence of hot flashes in one group of women may have affected their test performance. "Hot flashes might affect sleep, so that the women who had them were tired and didn't do as well," she said. "Or, hot flashes may indicate an underlying vulnerability, which was expressed in the scores."

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