Hormone Replacement Therapy May Help Women's Memory

November 7, 2017

Working memory is a cognitive function that allows the brain to keep information immediately available for processing. Hormone replacement therapy—which helps treat problems following menopause—may help protect this particular type of memory in some women, according to findings published in the Journal of Clinical Endocrinology and Metabolism, reports ScienceDaily.

Researchers at the University of Southern California (USC) recruited 42 women with an average age of 66 from the USC Early versus Late Intervention Trial with Estradiol to measure the effect of estrogen therapy on their working memory under stress, which can impair working memory. Half of the postmenopausal women were previously on the estrogen therapy estradiol for five years. The other women received a placebo.

Participants visited USC on two occasions. On the first visit, scientists asked the women to place one of their hands in ice water for about three minutes to induce a stress response. The second visit required them to submerge their hand in warm water. Before and after each visit, researchers collected saliva to measure the women's cortisol, estrogen and progesterone levels.

In addition, scientists assessed the women's working memory through a test called the "sentence span task," which required each woman to say whether individual sentences in a series given to them by the researchers made sense. Participants were also asked to recall the last word of each sentence.

All the women performed equally well on the sentence span task that followed the warm water exercise. However, after the ice bath part of the study, researchers found that women on the estrogen therapy had lower levels of the stress hormone cortisol and better working memory function compared with those on the placebo.

"Our study suggests that estrogen treatment after menopause protects the memory that is needed for short-term cognitive tasks from the effects of stress," said Alexandra Ycaza Herrera, a researcher at the USC Leonard Davis School of Gerontology and the study's lead author.

While hormone replacement therapy may not be the right choice for every postmenopausal woman, Ycaza Herrera suggested that women in this stage of their lives discuss this treatment with their doctors.

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