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New evidence shows that multivitamin use may decrease oxidative stress to the human chromosome and increase the length of telomeres (tips of chromosomes), which could relate to prolonged chromosome life and decreased biological aging.

MULTIVITAMIN USE IN ADULT WOMEN IS ASSOCIATED WITH TELOMERE LENGTH

Telomeres are found at the end of a chromosome and are required for replication and stability. It is thought that telomere length may be a marker of biological aging. Multivitamin supplements represent a major source of micronutrients, which may affect telomere length by modulating oxidative stress and chronic inflammation.

Recent research has sought to examine whether multivitamin use is associated with longer telomeres in women. Scientists performed an analysis of data from 586 early participants (ages 35–74 years) in the Sister Study. Multivitamin use and nutrient intakes were evaluated with a 146-item food frequency questionnaire, and relative telomere length of the participant's DNA was measured.

After age and other potential factors were adjusted, multivitamin use was associated with longer telomeres. The relative telomere length of DNA was on average 5.1% longer among daily multivitamin users, compared to nonusers. In the analysis of micronutrients, higher intakes of vitamins C and E from foods were each associated with longer telomeres, even after adjustment for multivitamin use. In addition, intakes of both nutrients were related to telomere length among women who did not take multivitamins.

This study provides the first epidemiologic evidence that multivitamin use is associated with longer telomere length among women, and could possibly relate to a decrease in biological aging.

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