Anxiety linked to shortened telomeres, accelerated aging: research

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(Medical Xpress) -- Is anxiety related to premature aging? A new study by researchers at Brigham and Women's Hospital (BWH) shows that a common form of anxiety, known as phobic anxiety, was associated with shorter telomeres in middle-aged and older women. The study suggests that phobic anxiety is a possible risk factor for accelerated aging.

The study will be electronically published on July 11, 2012 in PLoS ONE.

Telomeres are DNA-protein complexes at the ends of chromosomes. They protect chromosomes from deteriorating and guard the genetic information at the ends of chromosomes during cell division. Telomeres are considered markers of biological or cellular aging. Shortened telomeres have been linked to increased risk of cancers, heart disease, dementia and mortality.

In this large, cross-sectional study, researchers had obtained blood samples from 5,243 women, age 42 to 69 years, who were participants in the Nurses' Health Study. Using the samples, the researchers analyzed telomere lengths, as well as the participants' concurrent self-reports regarding phobic symptoms on a validated questionnaire.

Having a high phobic anxiety level was associated with significantly shorter telomere lengths. The difference in telomere lengths for women who were highly phobic vs. not was similar to what was seen for an additional six years of age.

"Many people wonder about whether—and how—stress can make us age faster," said Olivia Okereke, MD, MS, BWH Department of Psychiatry, study author. "So, this study is notable for showing a connection between a common form of psychological stress—phobic anxiety—and a plausible mechanism for premature aging. However, this type of study design cannot prove cause-and-effect or which problem came first—the anxiety or shorter telomeres."

The findings pave the way for further prospective investigations relating anxiety to telomere length change.

Provided by Brigham and Women's Hospital