Reproduction later in life is a marker for longevity in women

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Women who are able to naturally have children later in life tend to live longer and the genetic variants that allow them to do so might also facilitate exceptionally long life spans.

A Boston University School of Medicine (BUSM) study published in *Menopause: The Journal of the North American Menopause Society*, says women who are able to have children after the age of 33 have a greater chance of living longer than women who had their last child before the age of 30.

"Of course this does not mean women should wait to have children at older ages in order to improve their own chances of living longer,"

explained corresponding author Thomas Perls, MD, MPH. "The age at last childbirth can be a rate of aging indicator. The natural ability to have a child at an older age likely indicates that a woman's reproductive system is aging slowly, and therefore so is the rest of her body."

The study was based on analysis of data from the Long Life Family Study (LLFS)—a biopsychosocial and genetic study of 551 families with many members living to exceptionally old ages. Boston Medical Center, the teaching hospital affiliate of BUSM, is one of four study centers that make up the LLFS. The study investigators determined the ages at which 462 women had their last child and how old those women lived to be. The research found that women who had their last child after the age of 33 years had twice the odds of living to 95 years or older compared with women who had their last child by age 29.

The findings also indicate that women may be the driving force behind the evolution of genetic variants that slow aging and decrease risk for age-related genes, which help people live to extreme old age.

"If a woman has those variants, she is able to reproduce and bear children for a longer period of time, increasing her chances of passing down those genes to the next generation," said Perls, the director of the New England Centenarian Study (NECS), a principal investigator of the LLFS and a professor of medicine at BUSM. "This possibility may be a clue as to why 85 percent of women live to 100 or more years while only 15 percent of men do."

The results of this study are consistent with other findings on the relationship between maternal age at birth of last child and exceptional longevity. Previously, the NECS found that women who gave birth to a child after the age of 40 were four times more likely to live to 100 than women who had their last child at a younger age.

The results of Perls' study show the importance of future research on the genetic influences of reproductive fitness because they may also impact a person's rate of aging and susceptibility to age-related diseases, according to the researchers.

Provided by Boston University Medical Center