



Advanced maternal age not harmful for adult children

Rostock, Germany. Previously existing ideas on how advanced maternal age affects adult health of children have to be reconsidered. It had been thought that mothers delivering later in life have children that are less healthy as adults, because the body of the mother had already degenerated due to physiological effects like decreasing oocyte quality or a weakened placenta. In fact, what affects the health of the grown-up children is not the age of their mother but her education and the number of years she survives after giving birth and thus spends with her offspring. This is the conclusion of a new study by Mikko Myrskylä from the Max Planck Institute for Demographic Research (MPIDR) in Rostock, Germany carried out with data from 18,000 US children and their mothers.

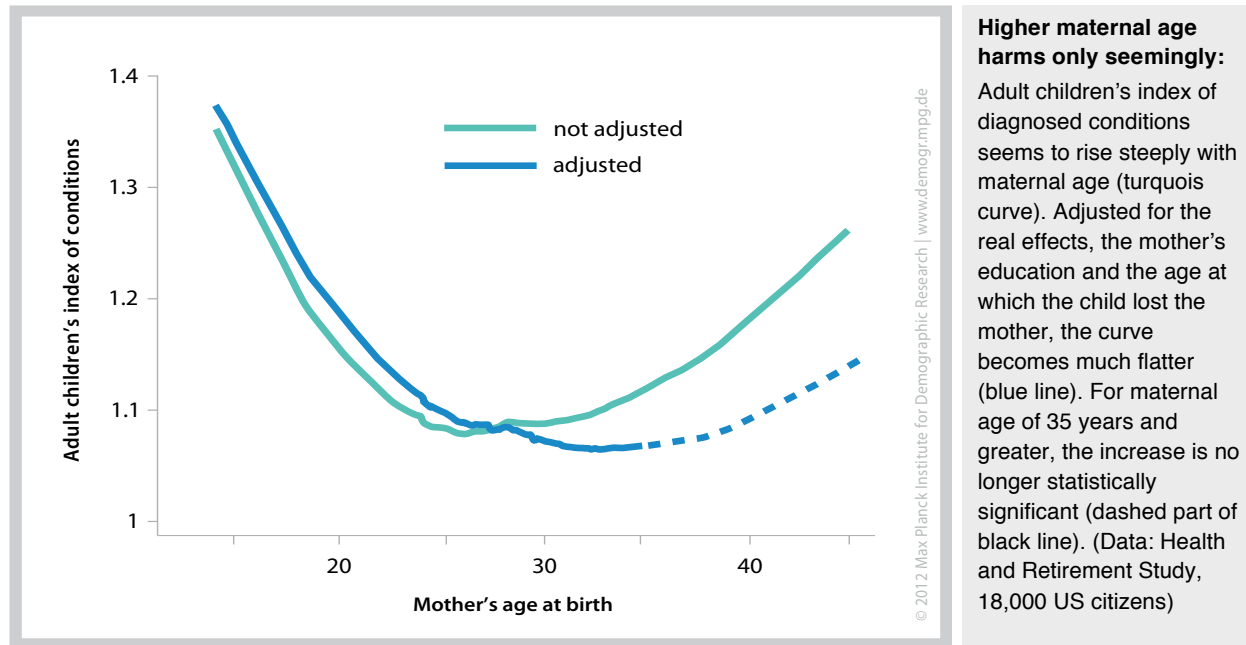
According to Myrskylä's calculations, children born to mothers aged between 35 and 44 years are no less healthy later in life than those whose mothers delivered between ages 25 and 34. While it is still true that higher maternal age brings a greater risk of miscarriage and conditions like Trisomy 21, says demographer Myrskylä, "with respect to adult age early births appear to be more dangerous for children than late ones." Children born to mothers aged 24 and younger have a higher number of diagnosed conditions, die earlier, remain smaller in size and are more likely to be obese as adults.

The negative effect disappears between ages 35 and 45

This is what MPIDR scientist Myrskylä discovered when he adjusted the US health data for the actual factors, the mother's education and date of death, which only simulates a negative effect of maternal age. When not correcting for these elements, adult offspring were in fact ill more often if they were born to older mothers. The adult children of women delivering between ages 35 and 44 appeared to have about ten percent higher incidence of health conditions than those born to mothers aged 25 to 34.

However, in Myrskylä's corrected analysis the health effect shrank to under five percent and therefore lost its statistical significance. In other words, the negative effect of advanced maternal age up to 45 years vanishes into thin air. "The data suggests that what at first looks seems like a negative advanced maternal age effect is an illusion driven by the mother's education and the age at which the child loses the mother," says Mikko Myrskylä.





For younger mothers, the picture looks different: the earlier in life women give birth the more their children suffer from illnesses as adults. Children born to mothers between age 20 and 24 suffer from 5 percent more diseases than those born to mothers aged 25 to 34. The value is much higher, approximately 15 percent for those born to mothers aged 14 to 19 years. These results are statistically significant, and robust to correcting for the mother's education or other confounding factors.

Concurrent lifetime and the mother's education are crucial

The two crucial most crucial factors for offspring adult health turned out to be the mother's education and the number of years the mother and child were alive at the same time. The earlier a child lost her mother the worse her health was as an adult. This could be due to psychological effects accompanying the experience of losing a mother early, or because the time during which she could support her child economically and emotionally was shorter.

Most scientific studies analyzing how the age of the mother at birth influences the child's adult health (including Myrskylä's) survey children born in the early 20th century or even earlier. Data for children born more recently would not be suitable since their adult and old-age health could not yet be fully evaluated. In these earlier times, humans died much earlier and the risk of becoming an orphan at a young age was significantly higher. With increasing life expectancy, however, this has changed as generations can expect to spend many decades together, in particular in developed countries. Therefore the the risk of losing a mother at a young age most probably is no longer critical for children born today.





Still relevant today is the educational background of the mother. Many studies prove that mothers with lower education level have adult offspring who have worse health. Notably, in the early 20th century when today's older people were born, parents with lower education continued to have children later in life, whereas better educated parents had less children at older ages. This led to the misinterpretation that high maternal age was harmful. In fact, it is the low parental education which is significant. This effect of advanced age no longer applies to children born today, as the relationship between maternal age and education is reversed. Today, the later in life a woman has a child the better their education.

For modern health policy Mikko Myrskylä diffuses previous warnings: "At least with respect to children's adult health we don't need to worry about the currently increasing maternal age."

About the MPIDR

The Max Planck Institute for Demographic Research in Rostock (MPIDR) investigates the structure and dynamics of populations. It focuses on issues of political relevance such as demographic change, aging, fertility, the redistribution of work over the course of life, as well as aspects of evolutionary biology and medicine. The MPIDR is one of the largest demographic research bodies in Europe and one of the worldwide leaders in the field. It is part of the Max Planck Society, the internationally renowned German Research Society.

www.demogr.mpg.de

Contact

Mikko Myrskylä – MPIDR author of the article (speaks English)

PHONE +49 381 2081 – 118

E-MAIL myrskylä@demogr.mpg.de

Silvia Leek – MPIDR Press department

PHONE +49 381 2081 – 143

E-MAIL leek@demogr.mpg.de

This press release and high resolution graphics are available for download at: Diese

<http://www.demogr.mpg.de/go/mother-health>

Original article: Mikko Myrskylä: Maternal Age and Offspring Adult Health: Evidence from the Health and Retirement Study, *Demography*, OnlineFirst (DOI 10.1007/s13524-012-0132-x)

<http://dx.doi.org/10.1007/s13524-012-0132-x>

