

Starting periods before age of 12 linked to heightened risk of heart disease and stroke

January 15 2018



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Starting periods early—before the age of 12—is linked to a heightened risk of heart disease and stroke in later life, suggests an analysis of data from the UK Biobank study, published online in the journal *Heart*.

It is one of several reproductive risk factors, including early menopause, complications of pregnancy, and hysterectomy, that seem to be associated with subsequent [cardiovascular disease](#), the findings show.

Previous research has suggested that certain reproductive risk factors may be linked to an increased risk of heart disease or stroke, but the findings have been somewhat mixed.

In a bid to clarify any potential associations, the research team drew on data from the UK Biobank, a large population based study of more than half a million men and women up to the age of 69, and recruited between 2006 and 2010.

Participants filled in questionnaires on their lifestyle, environment, and medical history, which included a wide range of [reproductive factors](#). They also took tests to assess their physical and functional health, and provided urine, blood, and saliva samples.

In all, the health of 267,440 women and 215,088 men—none of whom had cardiovascular disease when they entered the study—was tracked up to March 2016 or until they had their first heart attack or stroke, whichever came first.

The average age of the women at the start of the study was 56, and around half (51%) came from the most affluent third of the UK population. Six out of 10 had never smoked.

The average age at which they had started having periods was 13; most (85%) had been pregnant, and nearly half (44%) had had two kids. On average, they were 26 when they had had their first child.

One in four of the women had miscarried, and 3 percent had had a stillbirth. Nearly two thirds of them had gone through the menopause, at

an average age of 50.

Some four out of 10 of the men (42%) had fathered two kids before the start of the study.

During a monitoring period spanning around 7 years, 9054 cases of cardiovascular disease were recorded, a third (34%) of which were in women. This included 5782 cases of [coronary artery disease](#) (28% women) and 3489 cases of stroke (43% women).

Analysis of the data showed that after taking account of potentially influential factors, women who had started having periods before the age of 12 were at 10 percent greater risk of cardiovascular disease than those who had been 13 or older when they started.

Similarly, those who went through the menopause early (before the age of 47) had a 33 percent heightened risk of cardiovascular disease, rising to 42 percent for their risk of stroke, after taking account of other potentially influential factors.

Previous miscarriages were associated with a higher risk of [heart](#) disease, with each miscarriage increasing the risk by 6 percent. And stillbirth was associated with a higher risk of cardiovascular disease in general (22%) and of [stroke](#) in particular (44%).

Hysterectomy was linked to a heightened risk of cardiovascular disease (12%) and of [heart disease](#) (20%). And those who had had their ovaries removed before a hysterectomy were twice as likely to develop cardiovascular disease as those who hadn't had these procedures.

Young age at first parenthood seemed to be another risk factor, with each additional year of age lessening the risk of cardiovascular disease by around 3 percent.

But the association between the number of children and cardiovascular disease was similar for men and women, suggesting that social, psychological, and behavioural factors may be more important than biological ones.

This is an observational study, so no firm conclusions can be drawn about cause and effect, added to which the information on reproductive factors was based on recall, so may not have been completely accurate.

Nevertheless, the study was large, and the researchers were able to account for a range of potentially influential factors.

"More frequent cardiovascular screening would seem to be sensible among [women](#) who are early in their reproductive cycle, or who have a history of adverse reproductive events or a hysterectomy, as this might help to delay or prevent their onset of [cardiovascular disease]" they advise.

More information: Research Women's reproductive factors and incident cardiovascular disease in the UK Biobank, *Heart* (2018). [DOI: 10.1136/heartjnl-2017-312289](https://doi.org/10.1136/heartjnl-2017-312289)

Provided by British Medical Journal

Citation: Starting periods before age of 12 linked to heightened risk of heart disease and stroke (2018, January 15) retrieved 13 March 2024 from <https://medicalxpress.com/news/2018-01-periods-age-linked-heightened-heart.html>

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