

One child mothers with pre-eclampsia at higher risk of heart problems

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Women who develop pre-eclampsia during their first pregnancy (known as preterm pre-eclampsia) - and who don't go on to have any more children – are at greater risk of dying from heart disease in later life than women who have subsequent children, finds a study published on *BMJ* today.

Women who develop the condition only in the final weeks of pregnancy (known as term pre-eclampsia) are at less risk.

This [high risk](#) to one child mothers has not been previously reported and suggests that these women need special monitoring, especially if their pre-eclampsia was preterm.

Pre-eclampsia is a serious condition where abnormally [high blood pressure](#) and other disturbances develop in the second half of pregnancy. The condition carries a higher [risk of cardiovascular disease](#) in later life, but studies have tended to focus on the risk for women with pre-eclampsia in first pregnancy, without acknowledging the importance of later reproduction.

So a team led by Professor Rolv Skjaerven at the University of Bergen in Norway, set out to assess the association of pre-eclampsia with later [cardiovascular death](#) in mothers according to their lifetime number of pregnancies, and particularly after only one child.

Using the Medical Birth Register of Norway, they tracked 836,147

Norwegian women with a first [singleton](#) birth between 1967 and 2009 for [cardiovascular mortality](#).

More than 23,000 women died by 2009, with 3,891 from cardiovascular causes.

As expected, women with pre-eclampsia in their first pregnancy had a higher risk of cardiovascular death than women without the condition. Those with preterm pre-eclampsia who had no more children were at a nine-fold increased risk of cardiovascular death, whereas those who went on to have additional children had a 2.4-fold risk.

The vast majority of women with pre-eclampsia can expect a long life just like other women, say the authors. Previous studies have been incomplete in that they do not take the woman's overall [reproduction](#) into account. It turns out that if the woman has more children, she has no excess risk of early death. This study shows that the main conclusion from previous studies is not generally correct.

Women who have pre-eclampsia in their first pregnancy, and deliver at term (after 37 weeks), but also those who have severe pre-eclampsia (delivered before 37 weeks) are not at increased risk for premature death, provided that they go on to another pregnancy, they add. The latter group of women have a higher risk for cardiovascular death, but they have a lower risk of non-cardiovascular death, and the net effect is no overall excess for an early death compared with other women.

The authors suggest that, rather than regard all women with pre-eclampsia as candidates for special monitoring (as current clinical guidelines recommend), "consideration should be given to one child mothers - especially if their pre-eclampsia was preterm."

Overall, the study represents good news for most women with pre-

eclampsia during pregnancy. Cardiovascular death in women with pre-eclampsia in their first pregnancy is clearly concentrated mainly in women with no additional births, say the authors.

This applies only to a small group of women with one [pregnancy](#), and in [Norway](#) this group is small and represents only 15% of all women.

The reason why some women do not have more children, or choose not to have more children, may be due to underlying health problems, such as diabetes, that discourage or prevent further pregnancies rather than to pre-eclampsia itself, conclude the authors. It is known that diabetes is related to reduced fertility, and also to cardiovascular disease.

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