

# Pre-eclampsia linked to an increased risk of dementia later in life

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Pre-eclampsia is associated with an increased risk of later dementia, particularly vascular dementia, caused by reduced blood supply to the brain due to diseased blood vessels, finds a large study published by *The BMJ* today.

The findings suggest that asking about a history of [pre-eclampsia](#) could help physicians to identify women who might benefit from early interventions, such as reducing [blood pressure](#) and cholesterol levels.

Pre-eclampsia is a serious condition where abnormally high blood pressure (hypertension) and other complications develop during pregnancy. It affects about 3-5% of pregnancies and is dangerous for both mother and child.

Previous studies have shown that a history of pre-eclampsia is associated with an increased risk of cognitive impairment, but these studies had several limitations and results have been inconsistent.

To overcome these limitations, researchers at the

Statens Serum Institut in Denmark set out to compare the risks of [dementia](#) among women with and without a history of pre-eclampsia.

Using national medical registers, they analysed data for more than 1.1 million women in Denmark who gave birth at least once between 1978 and 2015 and had not been diagnosed with heart disease, heart attack, stroke, heart failure, diabetes, or dementia before first birth.

Most women (95%) were under 45 years of age at the start of follow-up, and mean age at the end of follow-up was 49 years.

After taking account of age and previous births, the researchers found that women with a history of pre-eclampsia had more than three times the risk of [vascular dementia](#) later in life compared with women with no history of pre-eclampsia (1.44 cases per 100,000 person years for women with a history of pre-eclampsia compared with 0.47 cases per 100,000 person years for women with no history of pre-eclampsia).

This association seemed to be particularly strong for late onset disease (65 years and over) than for early onset disease (less than 65 years), and persisted even after taking account of other potentially influential factors, such as diabetes, [high blood pressure](#), cardiovascular disease, and obesity.

In contrast, a history of pre-eclampsia was only modestly associated with the risk of Alzheimer's disease and other/unspecified types of dementia.

This is an observational study, and as such, can't establish cause, and the researchers cannot rule out the possibility that some of the observed risk may be due to other unmeasured factors.

They also point out that these women were still relatively young (90% were less than 65 years old),

so rates of dementia were much lower than one would expect had the study included older women.

Nevertheless, they say this was a large study with a long follow-up period, and information on pre-eclampsia and dementia from national registry data. In addition, a link between pre-eclampsia and vascular dementia is biologically plausible.

As such, they conclude: "This study indicates that pre-eclampsia is associated with an increased risk of later dementia, particularly vascular dementia, suggesting that pre-eclampsia and vascular dementia may share underlying mechanisms or susceptibility pathways."

Asking about a history of pre-eclampsia "could help physicians to identify women who might benefit from screening for early signs of disease, allowing for early clinical intervention," they add.

In a linked editorial, researchers at the University of Toronto agree that there may be "some commonality between pre-eclampsia and vascular dementia" and, as such, suggest that vascular dementia "might be preventable in women with previous pre-eclampsia, with good control of blood pressure, lipids, and glucose."

Before starting an interventional trial, however, they say next steps are "to replicate the current findings and conduct the aforementioned nuanced analyses to further our understanding of the influence of pregnancy on the large and small blood vessels of the brain."

**More information:** Pre-eclampsia and risk of dementia later in life: nationwide cohort study, *The BMJ* (2018). [www.bmj.com/content/363/bmj.k4236](http://www.bmj.com/content/363/bmj.k4236)

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