

Hormone secreted by fetus causes morning sickness: study

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A hormone produced by the human fetus is to blame for morning sickness in pregnant women, a study has found, paving the way to possible prevention and treatment.

Nausea and vomiting affect approximately 70 percent of [pregnant](#)

[women](#), according to the study published in *Nature* on Wednesday by researchers in the United Kingdom, the United States and Sri Lanka.

In its worst form, [hyperemesis gravidarum](#), the nausea and vomiting is so severe that women are unable to eat or drink normally.

"The culprit is a hormone produced by the fetus—a protein known as GDF15," the University of Cambridge said.

"But how sick the mother feels depends on a combination of how much of the hormone is produced by the fetus and how much exposure the mother had to this hormone before becoming pregnant."

To reach this result, the team examined data from women recruited to a number of studies.

They used a combination of approaches including [human genetics](#), new ways of measuring hormones in pregnant women's blood, and studies in cells and mice.

The discovery "points to a potential way to prevent pregnancy sickness by exposing mothers to GDF15 ahead of pregnancy to build up their resilience"" the University of Cambridge said.

Path to treatment

Professor Sir Stephen O'Rahilly, one of the co-authors at the university, said it was also good news for treatment.

"It... makes us more confident that preventing GDF15 from accessing its highly specific receptor in the mother's brain will ultimately form the basis for an effective and safe way of treating this disorder," he said.

Lead author Dr. Marlena Fejzo, from the University of Southern California, said the research was personal.

"When I was pregnant, I became so ill that I could barely move without being sick. When I tried to find out why, I realized how little was known about my condition, despite pregnancy nausea being very common," she said.

It was her team that initially identified the genetic association between GDF15 and hyperemesis gravidarum.

"Hopefully, now that we understand the cause of hyperemesis gravidarum, we're a step closer to developing effective treatments," she said.

The Princess of Wales, wife of the British heir to the throne, Prince William, suffered from hyperemesis gravidarum during all three of her pregnancies.

More information: Stephen O'Rahilly, Gdf15 linked to maternal risk of nausea and vomiting during pregnancy, *Nature* (2023). [DOI: 10.1038/s41586-023-06921-9](https://doi.org/10.1038/s41586-023-06921-9).
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