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## Primary preeclampsia in a second pregnancy: comparing outcomes to illuminate preeclampsia etiology

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## **Primary preeclampsia in a second pregnancy: comparing outcomes to illuminate preeclampsia etiology**

Rebecca Parmenter, OHSU Medical student; Abigail Newby-Kew, MPH; Anna Sandström, PhD; Jonathan Snowden, PhD,

Preeclampsia is a multisystem pregnancy-specific disorder that affects 3-5% of all pregnancies. This complex condition is one of the leading causes of both maternal morbidity and mortality. On average, the life expectancy of women who developed preeclampsia is reduced by 10 years. Preeclampsia also causes both mortality and morbidity for the child, primarily due to prematurity and fetal growth restriction.

The majority of women who develop preeclampsia are affected in their first pregnancy. The risk of preeclampsia recurrence is well-established: preeclampsia affects 15% of pregnancies among women with previous preeclampsia compared to 1.0 – 1.8% of pregnancies among women with a non-preeclamptic first pregnancy. While previous preeclampsia is a strong predictor of subsequent preeclampsia, there is a noted evidence gap regarding primary preeclampsia among parous women. Understanding the characteristics and pregnancy outcomes for these women is important for providing optimal clinical care and further elucidating preeclampsia etiology.

In this retrospective cohort study, we will use the Swedish Medical Birth Register to explore risk factors that may contribute to primary preeclampsia in parous women among women who delivered two pregnancies between 1987 and 2016. Women who develop primary preeclampsia in the second pregnancy will be compared to two groups: women who do not develop preeclampsia in either their first or second pregnancy, and women with pre-eclampsia in their first pregnancy. Potential risk factors of interest include maternal demographics (e.g. as maternal age, marital status, country of birth), health factors (e.g. smoking, diabetes, chronic hypertension), and obstetric history (e.g. preterm delivery, gestational hypertension, and assisted reproduction).