

Metabolic syndrome increases risk of pregnancy complications

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Research led by the University of Adelaide shows that metabolic syndrome in pregnant women increases their risk for pregnancy complications including preeclampsia and gestational diabetes by 2-4 times.

Published in the journal *PLOS Medicine* the research assessed maternal metabolic health at 15 weeks' gestation in 5530 women in the international SCOPE Study based at the Lyell McEwin Hospital in Adelaide, and five other centres in Auckland, UK and Ireland.

Metabolic syndrome is a cluster of cardiovascular risk factors. It was defined according to the International Diabetes Federation criteria for adults: a high waist circumference plus any two of the following: raised triglycerides, reduced HDL cholesterol (good cholesterol) raised blood pressure or raised glucose.

Lead author, postdoctoral fellow Dr. Jessica Grieger (Robinson Research Institute and Adelaide Medical School, the University of Adelaide) found that 12.3% (684 women) had [metabolic syndrome](#) in [early pregnancy](#).

"More than half of the women who had metabolic syndrome in early pregnancy developed a pregnancy complication while about one third of those who did not have metabolic syndrome later developed a pregnancy complication," she says.

"Increasing body mass index (BMI) in combination with metabolic syndrome also increased the probability of [gestational diabetes](#).

"This is important because metabolic syndrome diagnosed in early pregnancy may be used to broadly identify women at risk. Furthermore, these women would be candidates for intervention therapy, for example, diet and exercise, and for some women, even medications, to improve metabolic health to reduce their risk.

"Further research in other pregnant populations is required to support this work, but also to determine the optimal cut-points of metabolic components that may identify [pregnant women](#) at risk," says Dr. Greiger.

Professor Claire Roberts (Robinson Research Institute and Adelaide Medical School, and senior author on the paper) says: "This research may help to explain why some lean women who don't appear to be at risk may develop pregnancy complications while some obese women who we would traditionally consider to be at risk because of their weight, do not."

"Preventing [pregnancy complications](#) will also prevent later poor health in women and their children."

More information: Jessica A. Grieger et al. Metabolic syndrome in pregnancy and risk for adverse pregnancy outcomes: A prospective cohort of nulliparous women, *PLOS Medicine* (2018). [DOI: 10.1371/journal.pmed.1002710](#)

Provided by University of Adelaide

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