

Abstract citation ID: deac105.039

O-139 COVID-19 in pregnant women: a living systematic review and meta-analysis on the risk and prevalence of pregnancy loss

J. Van Baar¹, E. Kostova¹, M. Van Wely¹

¹Amsterdam UMC- University of Amsterdam, Center for reproductive medicine, Amsterdam, The Netherlands

Study question: What is the risk and prevalence of pregnancy loss (PL) in women with COVID-19 compared to women without COVID-19?

Summary answer: Pregnant women with COVID-19 do not appear to be at increased risk of miscarriage.

What is known already: Pregnant women with COVID-19 have an increased risk to deliver preterm and to deliver a stillborn child in comparison to pregnant women without the disease. Currently, many studies have evaluated birth outcomes in pregnant women with COVID-19, however few regard the risk of PL as most data were available on pregnancies infected during the third trimester. Based on the data currently available, there is no evidence to suggest that an infection with SARS-CoV-2 poses an increased risk of miscarriage.

Study design, size, duration: Our living systematic review is based on a prospectively registered protocol (PROSPERO CRD42020178076; registered 22 April 2020). For this project a short separate protocol was developed (<https://osf.io/e8dhr/>). The literature search was performed up until the 8th of December 2021 and an update has been planned.

Participants/materials, setting, methods: We included retrospective and prospective cohort studies of pregnant women with COVID-19, provided that they contained information on PL. We calculated odds ratios (OR) and risk differences with corresponding 95% confidence intervals (CI) and pooled the data using random effects meta-analysis. To estimate risk prevalence, we performed meta-analysis on proportions. Heterogeneity was assessed by I^2 .

Main results and the role of chance: We included 75 studies comprising a total of 39826 pregnant women, of which 32663 pregnant women with COVID-19 and 2610 controls. 1423 pregnant women with COVID-19 were in their first trimester and 2700 were in their second trimester. Evidence level was considered to be of low certainty.

The overall proportion of pregnancy loss in all COVID-19 pregnancies including third trimester pregnancies was 1.2% (95% CI 0.7% to 1.8%; $I^2=79%$). Selecting on first and second trimester pregnancies the proportion of pregnancy loss was 4.7% (95% CI 3.0% to 6.7%; $I^2=71%$).

When comparing pregnancy loss in cohorts of pregnant women with COVID-19 to pregnant women without the disease the odds ratio was 1.26 (95% CI 0.74 to 2.18, $I^2=0%$; RD 0.12%, 95% CI -0.62 to 0.85, $I^2=0%$). Selecting on only first and second trimester pregnancies, the odds ratio for pregnancy loss was 1.35 (95% CI 0.46 to 3.93, $I^2=0%$; RD 0.35%, 95% CI -1.44 to 2.15, $I^2=0%$).

The overall proportion of ectopic pregnancy in all COVID-19 pregnancies cohorts including third trimester pregnancies was 0.61% (95% CI 0.1% to 1.4%; $I^2=49.8%$). Selecting on first and second trimester pregnancies the proportion of ectopic pregnancy was 2.0% (95% CI 0.3% to 5.9%; $I^2=40%$).

Limitations, reasons for caution: Most included studies were hospital-based studies such that selection bias towards more severe infections seems likely. A minority of studies reported on first and second trimester pregnancies.

Wider implications of the findings: At this moment there are no indications that COVID-19 increases the risk of miscarriages. In view of the wide insecurities around the risk estimates further well-designed studies are required, that consider the clinical manifestation of COVID-19 and include first and second trimester pregnancies.

Trial registration number: Not applicable