

**P-384 First trimester pregnancy outcomes after confirmed SARS-CoV-2 infection in the community; a nationwide prospective longitudinal study of 10,000 pregnant women from the COVID-19 pandemic**

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**Study question:** Are pregnant women in the community with confirmed diagnosis of SARS-CoV-2 infection, at increased risk of an early miscarriage?

**Summary answer:** Women diagnosed with COVID-19 in their first trimester were not at increased risk of an early miscarriage. What is known already: In the earliest stages of the pandemic, the Human Fertilisation and Embryology Authority and the European Society of Human Reproduction and Embryology, independently advised against starting assisted reproductive treatments. At the time of this recommendation, among other reasons, there were concerns about the complications of SARS-CoV-2 during pregnancy and the potential for vertical transmission.

We now having growing evidence that pregnant women are at an increased risk of severe illness along with higher rates of preterm births in those with severe acute respiratory syndrome. However, data on the impact of community infections of SARS-CoV-2 in early pregnancy has been sparse.

**Study design, size, duration:** This is an online survey study undertaken in the UK between May and November 2020. Pregnant women at any stage in their pregnancy were invited to participate in the study. Study participants were asked to complete online surveys at the end of each trimester. 10,430 women were recruited to take part in the study. Participants/materials, setting, methods: We analysed pregnancy outcomes from women who were under 13 weeks gestation at the time of registration. We compared miscarriage rates among women with a confirmed diagnosis of SARS-CoV-2 infection to healthy controls. Those in the control group had not been diagnosed with or had symptoms of

SARS-CoV-2 infection nor did they have any household contacts that were diagnosed with or had symptoms of SARS-CoV-2 infection.

**Main results and the role of chance:** 10,430 pregnant women were recruited to participate in the study. 2934 were under 13 weeks gestation at the time of registration. The median age was 32.6 [IQR 29.8-35.6]. The median gestational age at registration was 8 weeks [IQR [6-10]. 246 women reported a miscarriage before 13 weeks of gestation. The overall miscarriage rate before 13 weeks of gestation was 8.4% (95% CI 7.3%-9.4%).

68 women reported a confirmed diagnosis of SARS-CoV-2 infection in their first trimester. The overall rate of confirmed SARS-CoV-2 infections in the first trimester was 2.3% (95% CI 1.8-2.9%). 3/68 (4.4%) were asymptomatic. Among those reporting symptoms, the commonest symptoms were fatigue (82%), headache (69%) and loss of smell/taste (69%). Only 38% of those with a confirmed diagnosis reported a fever. None of the 68 women with confirmed diagnosis of SARS-CoV-2 infection were hospitalised.

The rate of miscarriage before 13 weeks of gestation in women who were diagnosed with SARS-CoV-2 infections was not significantly higher compared to healthy controls (11.8% versus 9.3%,  $p = 0.35$ ). A further 35 women had household contacts with confirmed SARS-CoV-2 infection although they themselves had not been diagnosed. No miscarriages were reported in this group.

**Limitations, reasons for caution:** None of the 68 patients diagnosed with SARS-CoV-2 were hospitalised. We do not know whether the rate of miscarriage among hospitalised women with SARS-CoV-2 infection is the same as those with community infections.

**Wider implications of the findings:** The overall rate of miscarriage during the pandemic was not higher than rates occurring outside of the pandemic. The rate of miscarriage among women diagnosed with SARS-CoV-2 infection was not significantly higher compared to healthy controls. This data can be used to counsel women planning a pregnancy during this pandemic

**Trial registration number:** not applicable