

# SARS-CoV-2 infection in pregnancy in Denmark – characteristics and outcomes after confirmed infection in pregnancy: a nationwide, prospective, population-based cohort study

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## Abstract

**Objective** To identify risk factors for and outcomes after SARS-CoV-2 infection and severe COVID-19 in pregnancy **Design** Prospective population-based cohort study **Setting** Denmark Population All pregnancies between 1 March and 31 October 2020 **Methods** Using data from the Danish National Patient Register and Danish Microbiology Database and prospectively registered data from medical records, we compared women with a positive SARS-CoV-2 test during pregnancy to non-infected pregnant women. Severe infection was defined as hospital admission due to COVID-19. **Main Outcome Measures** Pregnancy, delivery, maternal, and neonatal outcomes. **Results** Among 82,682 pregnancies, 418 women had SARS-CoV-2 infection during pregnancy, corresponding to an incidence of 5.1 per 1000 pregnancies, 23 (5.5%) of which required hospital admission due to COVID-19. Risk factors for infection were asthma (OR 2.19 [1.41–3.41]) and being foreign born (OR 2.12 [1.70–2.64]). Risk factors for hospital admission due to COVID-19 included obesity (OR 2.74 [1.00–7.51]), smoking (OR 4.69 [1.58–13.90]), infection after gestational age in weeks (GA) 22 (GA 22–27: OR 3.77 [1.16–12.29]; GA 28–36: OR 4.76 [1.60–14.12]) and having asthma (OR 4.53 [1.39–14.79]). We found no difference in any obstetric or neonatal outcomes. **Conclusions** Severe outcomes of SARS-CoV-2 infection in pregnancy are rare. **Funding** The Danish Ministry of Higher Education and Science (Reg. 0237-00007B) and The Region of Southern Denmark and Region Zealand's shared fund for joint health research projects (Reg. A767) **Keywords** Severe acute respiratory syndrome coronavirus 2; COVID-19; Obstetric delivery; Pregnancy complications; Pregnancy outcome; Cohort studies; Prospective studies.

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