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COVID-19 in pregnancy – risk for mother and child

INVITERT KOMMENTAR

ANNETINE STAFF

uxnnaf@ous-hf.no

Annetine Staff, specialist in obstetrics and gynaecology, professor at the Faculty of Medicine, University of Oslo, and head of research at the Department of Obstetrics and Gynaecology, Oslo University Hospital.
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Many countries experienced higher maternal mortality during the pandemic, but not Norway.

In the study from the intensive care unit at Oslo University Hospital, Rikshospitalet (1), which appears in this edition of the Journal of the Norwegian Medical Association, the authors examine the clinical course of 13 pregnant women with COVID-19 and severe respiratory failure. All 13 survived, but there were two fetal deaths. The findings are consistent with a recent Scandinavian registry study: in the period 2020–22, 143 pregnant women with severe COVID-19 were admitted to an intensive care unit, including 31 in Norway (2). Only 7 % had received at least one dose of the SARS-CoV-2 vaccine, but no maternal deaths were recorded (2). Unvaccinated pregnant women with a background outside of Scandinavia and a low socioeconomic status had a higher risk of admission to intensive care. Among those hospitalised, there was an increased incidence of adverse pregnancy outcomes such as fetal death, fetal growth restriction and preterm delivery (2).

In Norway and Sweden, the vaccination programme for SARS-CoV-2 for high-risk groups started in December 2020, but pregnant women were not included in the recommendation (3). In April 2021, it was recommended that vaccination be considered for pregnant women after week 12. From 2022, vaccination was recommended for all pregnant women. Vaccine coverage in

pregnant women was therefore low at the start of the pandemic, but reached approximately the same level as in the rest of the female population of childbearing age by May 2022 (3).

The pathophysiological mechanisms in pregnant women with severe COVID-19 are complex and multifaceted. It is rare for the SARS-CoV-2 virus to infect placental cells, unlike cytomegalovirus and Zika virus. Nevertheless, SARS-CoV-2 has been shown to induce unique inflammatory responses in fetomaternal tissue that may contribute to placenta-associated complications. Obesity and chronic diseases also increase the risk of placental dysfunction (4), and unvaccinated pregnant women with chronic diseases are at an increased risk of severe COVID-19, death, fetal death and other placenta-mediated pregnancy complications.

Several countries reported a doubling of the fetal death rate in COVID-19 patients in the late stages of pregnancy (5). In Scandinavia, the risk of fetal death was highest in the first two weeks after infection and in the period dominated by the Delta variant (July–December 2021) (5).

> ***«A low SARS-CoV-2 vaccination status in pregnant women can have adverse health implications for the next generation»***

The United States and the UK saw an increase in overall maternal mortality during the pandemic, unlike Scandinavia. The absence of maternal deaths with SARS-CoV-2 infections in Norway is probably due to several favourable factors. We have an advanced health service that caters for the entire population, as illustrated in the article from Rikshospitalet (1). Pre- and perinatal care are without costs for pregnant persons and of a high standard. The generally good health of the population and the SARS-CoV-2 vaccination uptake have probably also played a key role. A total of 87 % of pregnant women in Norway had received at least one dose of the vaccine in the period May 2021–May 2022 (4).

The likelihood of not taking the vaccine as recommended during pregnancy was highest among the youngest group, those with low education and income levels, and those with a background outside Scandinavia (3, 6). This is in line with other countries such as the UK, where vaccination coverage is low in marginalised socioeconomic groups (7). In Massachusetts, USA, only 30 % of black pregnant women were vaccinated by April 2022 (8).

The pandemic has highlighted the need to find new ways to achieve high vaccination rates in all population groups. A low SARS-CoV-2 vaccination status in pregnant persons can have adverse health implications for the next generation, increasing the risk of prematurity, fetal growth restriction and adverse epigenetic effects.

The long-awaited government investment in electronic health records for pregnant persons is a starting point for more equitable healthcare services, for example, through importing the pregnant person's vaccination status from the National Vaccination Registry.

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