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# Are pregnant women and unborn children being forgotten in the pandemic?

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EDITORIAL

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## **The COVID-19 pandemic poses a biopsychosocial health risk to pregnant women, women in labour and infants throughout the world.**

COVID-19 is affecting pregnant women, women in labour and infants to a greater extent than we thought. In addition to the risk of serious maternal illnesses, there is also an increased risk of severe pregnancy complications, such as premature birth, preeclampsia and stillbirth [\(1, 2\)](#).

In an article in this edition of the Journal of the Norwegian Medical Association, Eberhard-Gran et al. describe how one-third of their sample of women who gave birth in Norway during the pandemic had a high score for depressive symptoms [\(3\)](#). This is three times higher than in a study conducted ten years ago, and is in line with international findings [\(4\)](#). There is reason to believe that this increase in the prevalence of depressive symptoms also applies

to the prenatal period and not just the postnatal period. This finding is disturbing because it is believed that prenatal stress has a detrimental effect on the health of infants (5). Eberhard-Gran et al. found that women with the lowest level of education reported the most problems, which confirms that the pandemic increases the health inequalities in society. They also found that women who gave birth during the pandemic received poorer maternity care, and that more than half of those who had mental health problems stated that they did not receive adequate care.

*«Perhaps it is not COVID-19 per se that is the pandemic's biggest threat to pregnant women and future generations»*

Studies suggest that in cases of SARS-CoV-2 infection, it is the mother's immune response – as opposed to the virus itself – that can be harmful to the fetus (6). Vertical transplacental SARS-CoV-2 transmission appears to be rare, but there have been cases where it was found in the placenta and amniotic fluid (7). For some maternal infections, an increased risk of health problems, including mental disorders, has been observed in children over the long term. The question is whether this also applies to COVID-19 (8).

However, perhaps it is not COVID-19 per se that is the pandemic's biggest threat to pregnant women and future generations. Early prenatal stress is known to be associated with an increase in the risk of mental disorders in children (5). Previous crises have shown that mothers' health and exposure to stress, environmental factors, poor nutrition, etc. before and during pregnancy not only have an impact on the child's health, but that the problems are also passed on to the next generation through epigenetic mechanisms. The Forsdahl-Barker hypothesis and the fetal origins hypothesis have been used in describing the significance of early life factors on subsequent development and health (9).

A recently published study (10) found no association between maternal COVID-19 status and the infant's neurological development at six months of age, but found that children born during the pandemic, regardless of maternal COVID-19 status, scored lower on neurocognitive tests than a historical cohort of children. The authors of the study suggest that this may be due to COVID-19-related stress in pregnancy, which means we may be facing a significant public health crisis in relation to the generation born during the pandemic. The findings are not fully transferable to Norway, but they are nevertheless thought-provoking and in line with the findings of Eberhard-Gran et al. (3).

Pregnant women's concerns about the coronavirus infection itself can be remedied through vaccination, which has been shown to be safe and effective, including for pregnant women. In Norway, 60 % of women who gave birth in December 2021 had been vaccinated (F. Macsali, Norwegian Institute of Public Health, personal communication). Better motivation for pregnant women to be vaccinated and more measures for parents of young children aimed at preventing psychological repercussions from the pandemic are required. Studies are also needed on the effects of pandemics and exposure to infection. Pregnant women, women in labour and women in the postnatal period make

up a large and vulnerable group in the population, but the Government's experts have left them to fend for themselves [\(11\)](#). There may be ramifications for future generations.

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