

# COVID-19 pandemic worsened pregnancy outcomes for women and babies worldwide

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Pregnancy outcomes for mothers and babies have worsened during the COVID-19 pandemic, a review of data from 40 studies representing 17 countries published today in *The Lancet Global Health* journal has

revealed.

Findings varied by country but analysis of pooled data showed stillbirth and maternal mortality rates increased by approximately one-third during the pandemic compared to life before COVID-19 took hold (stillbirth rates: during pandemic 1099/168,295 pregnancies vs before pandemic 1325/198,993 pregnancies; [maternal mortality rates](#): during pandemic 530/1,237,018 pregnancies vs pre-pandemic 698/2,224,859 pregnancies).

Mental health outcomes also worsened during the pandemic. Of the 10 studies included in the analysis that reported on maternal mental health, six reported an increase in postnatal depression, maternal anxiety, or both.

Overall, outcomes were worse in low- and middle-income countries as compared to [high-income countries](#) and the researchers say immediate action is required to preserve safe maternity care worldwide, especially during the global emergency.

Although the study did not analyse the impact of COVID-19 infection during [pregnancy](#), it provides the first global assessment of the collateral impact of the pandemic on antenatal, birth, and postnatal outcomes.

Professor Asma Khalil, lead author of the study, of St George's University of London, said: "The COVID-19 pandemic has had a profound impact on health care systems around the world. Disruption to services, nationwide lockdowns, and fear of attending health care facilities mean that the adverse effects of COVID-19 are expected to have health consequences that extend beyond the deaths and disease caused by the virus itself. It is clear from our study and others that the disruption caused by the pandemic has led to the avoidable deaths of both mothers and babies, especially in low- and middle-income

countries. We urge policymakers and health care leaders to prioritise safe, accessible, and equitable maternity care within the strategic response to the pandemic and aftermath, to reduce adverse pregnancy outcomes worldwide."

Studies from individual countries have suggested that the pandemic has affected rates of stillbirth and pre-term birth, potentially as a result in a reduction of healthcare-seeking behaviour for fear of infection, as well as reduced provision of maternity services.

In this latest study, researchers reviewed data from 40 studies that were published between 1 January 2020 and 8 January 2021, representing 17 countries and with data from more than 6 million pregnancies. All of the studies compared pregnancy outcomes during and before the pandemic, but studies that focused solely on SARS-CoV-2 infected women were excluded.

Of the studies included in the review, 12 reported on the incidence of stillbirth. Analysis of the pooled data found the chances of having a stillbirth were increased by more than a quarter compared with pre-pandemic instances (odds of stillbirth increased 28%; stillbirth rate during pandemic: 1,099/168,295 pregnancies, stillbirth rate before pandemic: 1,325/198,993 pregnancies).

The review included two studies that investigated the impact of the pandemic on maternal death rates, both from middle-income countries (one from India and one from Mexico). Pooled analysis of data from both studies found that the risk of mothers dying during pregnancy or childbirth was increased by more than a third compared with before the pandemic (maternal death rate: during pandemic, 530/1,237,018 pregnancies vs pre-pandemic: 698/2,224,859 pregnancies). This finding was dominated by the study from Mexico, which represented the majority of pregnancies included in the analysis (Mexico study

3,452,141/ 3,468,086 pregnancies [99.7%], India study 9,736 / 3,468,086 pregnancies [0.3%]).

The review did not find any difference in overall rates of pre-term birth before and during the pandemic. However, pooled data from studies from high-income countries suggests that, in this setting, the odds of preterm birth were reduced by almost 10% during the pandemic. The authors say the reduction appears to be driven by a drop in spontaneous pre-term birth, rather than those requiring medically indicated early induction of labour or cesarean section, which may be increased. They say this means it is more likely that changes in [health care delivery](#) and population behaviours are contributing factors, which may bring valuable lessons for understanding the mechanisms underlying preterm birth. The odds of having a pre-term birth in low- and [middle-income countries](#) were unchanged.

From the three studies that reported on the use of surgery for treatment of ectopic pregnancies, analysis of pooled data revealed that surgery rates were almost six times higher during the pandemic compared with before, after accounting for the size of the included studies (surgery rate for ectopic pregnancies across all studies during pandemic 27/37, pre-pandemic 73/272). If discovered early, ectopic pregnancies can typically be treated with medication, meaning this increase in surgeries may be an indication that more women delayed seeking care.

The variation in outcomes reported between different studies may be partially explained by inefficiencies in health care systems in the countries studied, the researchers found. Differences in pandemic mitigation responses between countries did not seem to affect the findings, however. The researchers say this suggests the increase in adverse pregnancy outcomes may be driven by pressures on health care systems caused by COVID-19 itself, rather than measures aimed at limiting the spread of the virus, such as lockdowns.

The review did not identify any changes in reporting of other pregnancy complications during the pandemic, including gestational diabetes or pregnancy disorders linked to high blood pressure. There were no observed changes in delivery outcomes during the pandemic either, such as cesarean section or spontaneous vaginal delivery or the rate of pregnancies requiring induction of labour. Despite these numbers remaining steady, the researchers none the less say their findings provide clear indication that women and babies have experienced worse health outcomes during the pandemic. They highlight the need to prioritise safe, accessible, and equitable maternity care within the strategic response to this pandemic and in future health crises.

Dr. Erkan Kalafat, a co-author of the study from Koc University, Turkey, said: "We have an unprecedented opportunity to learn from the experiences of the COVID-19 pandemic to plan for a future of inclusive and equitable maternity care worldwide. One such learning opportunity will be to investigate the mechanisms underlying the apparent reduction in pre-term births observed in high-income settings during the pandemic, with a view to identifying new preventative interventions that could potentially benefit all women worldwide."

The authors note several limitations to their findings. Notably, the studies included in their analysis varied in the way [pregnancy outcomes](#) were defined and measured, which makes it difficult to compare results between studies. There were fewer studies from low- and middle-income settings, and this is concerning as the analysis shows substantial variation in outcomes between high- and low-income settings. The authors also note that they cannot exclude the risk of publication bias against studies reporting negative findings, although they did not find any evidence of bias when they tested for this.

Writing in a linked Comment article, Dr. Jogender Kumar, of the Postgraduate Institute of Medical Education and Research, India, who

was not involved in the study, said: "There was significant heterogeneity in outcomes between HICs and LMICs, and the rates of the adverse outcomes were much higher in LMICs. These findings highlight disparities in health care within and across countries."

He added: "In resource-poor countries, even under normal circumstances, it is a challenge to provide adequate coverage for antenatal checkups, obstetric emergencies, universal institutional deliveries, and respectful maternity care. The COVID-19 [pandemic](#) has widened this gap and exposed several lacunae of health-care systems worldwide, but more so in LMICs."

**More information:** *The Lancet Global Health* (2021). [DOI: 10.1016/S2214-109X\(21\)00079-6](#) , [www.thelancet.com/journals/lan... \(21\)00079-6/fulltext](#)

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