

# Pandemic affects pregnancy health whether moms catch COVID or not

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UK leading pregnancy charity Tommy's warns that pandemic pressures can take a physical toll on mums-to-be—even if they don't personally catch COVID-19, following new research, published in the medical journal *Placenta* co-authored by University of Manchester scientists

An international study of 115 mums who gave birth during the [pandemic](#) shows far more physical abnormalities in the placenta (baby's support system in the womb) than doctors would expect to see in a pre-2020 pregnancy. Rates of placenta problems tripled among mothers with COVID-19 but doubled even among those who tested negative, suggesting these changes can be caused by the sheer stress of the pandemic as well as the virus itself.

Stress in pregnancy can lead to inflammation and functional changes in the placenta, which can raise pregnancy risks and have long-term consequences for babies' development. As COVID-19 triggers inflammation, the concern for [expectant mothers](#) who catch the virus is whether this can damage the placenta—but despite being classed as higher risk in the pandemic to protect their [physical health](#), their mental wellbeing is more easily overlooked.

Although other studies are investigating how COVID-19 infection affects pregnancy, this is the first to look at pandemic-related stress more broadly in mums without the virus. [Research has shown](#) that mums who gave birth during the pandemic are more likely to have clinical depression and anxiety, and a [survey of 5,500 expectant and new parents](#) across the UK found that 9 in 10 felt more anxious because of COVID-19. While some were isolated in lockdown, others faced the stress of being unable to avoid unsafe environments; almost half of pregnant women didn't feel safe going out to work, and 1 in 10 were (or expected to be) made redundant

Study co-author Professor Alexander Heazell, Director of Tommy's Stillbirth Research Center at the University of Manchester, said: "The increase of placental problems we've seen during the pandemic is concerning, but we need more long-term research to understand the full effects of COVID-19 and related stresses on pregnancy; both clearly affect the placenta, but we still can't tell exactly what that means for the

health of mothers and babies. In the meantime, there must be appropriate psychological care and support available throughout pregnancy, to help reduce the pandemic's impact on maternal wellbeing."

Prof Heazell and his team at Tommy's research center took samples from the placenta, umbilical cord and fetal membranes of mums who gave birth at Saint Mary's Hospital in Manchester from March to September 2020; study authors in Canada and France also took samples for analysis from their local hospitals. When an expectant mother tested positive for COVID-19, researchers randomly selected someone without the virus who gave birth in the same hospital at the same time, as well as comparing these groups with historic patient data.

More than three-quarters of mums with COVID-19 had abnormalities in their placentas (92.9 percent in the UK / 80.6 percent in Canada / 87.5 percent in France) compared to half of those who gave birth during the pandemic without having the virus (45.5 percent in the UK / 52.6 percent in Canada) and a quarter of the pre-2020 group (25 percent in Canada, consistent with other [large studies](#)).

Trends varied across countries, but common issues found in the UK were excess of a blood-clotting protein called fibrin (which can restrict babies' growth) and calcification (calcium in the placenta builds up in late pregnancy to prepare for birth, but too much too soon can cause dangerous deterioration). Some abnormalities were only found in mums who had COVID-19, suggesting they're caused by infection—but others happened across 2020 pregnancies and not in the control group, implying links to the stress of the pandemic rather than the virus itself.

Researchers concluded that both COVID-19 and pandemic-related stress can affect the placenta, but more long-term studies are needed to properly assess the pandemic's impact on the health of mothers and babies. Tommy's CEO Jane Brewin said: "Good research evidence takes

time, and the pandemic is still unfolding—so while our scientists keep working to understand how this affects pregnancy health, it's vital that mums-to-be are supported mentally as well as physically. We've seen a huge rise in calls to the midwives on our helpline throughout the last 18 months, as the pandemic has created extra confusion and anxiety for many families along the pregnancy journey. Services are adapting but they're still running, so mums shouldn't hesitate to raise any concerns with their care team and seek help when needed."

30-year-old content marketer Rachel from Rhyl found out she was expecting her first child just before the Government deemed pregnant women a higher risk group in the pandemic, which she describes as "extremely anxiety-inducing." Rachel recalled: "I didn't know what to do because I've never been through this before—and even if I had, COVID changed everything. I couldn't just go to my midwife, and in fact I hardly saw any professionals until I was close to giving birth. I didn't want to be a burden with my concerns when the NHS was in crisis, so I must've spoken to Tommy's midwives on their helpline dozens of times; it really made such a difference to have a professional reassuring me that my anxieties weren't unreasonable and giving advice to improve my mental wellbeing. Connecting with fellow mums-to-be online helped too, and I got to a place where my stress and anxiety levels were manageable."

Tommy's midwife Amina Hatia advised: "Any [pregnancy](#) can be stressful, and anxiety is a normal response to a threatening situation, so it's completely understandable to struggle in times like these—but there are things expectant parents can do to feel more in control. We're all different so the only advice that will apply to everyone is to focus on your physical and mental health, distracting yourself with things you enjoy or find relaxing, instead of being drawn into 'what ifs.'" Try to avoid the constant news cycle, which can be overwhelming, and only get updates from reliable sources when you need information. Talk to

someone you're close to, or release emotions into a journal, but don't keep things in. Take it a day at a time, be kind to yourself, and reach out for support if you need it."

**More information:** Marie-Eve Brien et al, Pandemic stress and SARS-CoV-2 infection are associated with pathological changes at the maternal-fetal interface, *Placenta* (2021). [DOI: 10.1016/j.placenta.2021.09.007](https://doi.org/10.1016/j.placenta.2021.09.007)

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