

Maternal and Neonatal Outcomes During the First Year of the Covid-19 Pandemic

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Dear Sir,

Perinatal statistics in the covid era are subject to a number of factors - the outcome of pregnancy in SARS-CoV-2 infected women, changes in the pattern of antenatal care, uptake of screening and diagnostic tests, changes in social circumstances as a result of lockdown, and job and financial security.

A systematic review and meta-analysis on the effects of the pandemic on maternal, fetal and neonatal outcomes published in early 2021 demonstrated substantial disparities between low/middle- and high-income countries (LMIC and HIC respectively)¹. Adverse outcomes such as maternal mortality and stillbirth were found to be increased, primarily in LMIC, and a significant decrease in the preterm birth rate was noted in HIC, most notably spontaneous preterm birth^{2,3}.

It soon became evident that much of this early pandemic data, including our own, was based on what was simply the first wave of a relapsing and remitting course of viral resurgence. Ensuing larger studies found no reduction in preterm birth, postulating that earlier studies were not necessarily taking into account the natural variation in these rates over time⁴.

We sought clarity by reviewing our outcomes over the first year of the pandemic, to identify any statistically significant trends in maternal and neonatal outcomes. This was achieved through a retrospective review over three successive 12-month periods (2018/19, 2019/2020 and 2020/21) the most recent correlating with the onset of the pandemic in Ireland, commencing 1st March 2020 and ending 28th February 2021.

During the 3-year study period, 23,753 babies ≥ 22 weeks gestation were born to 22,739 women. There was a slight increase in mean maternal age (32.3, 32.3 and 32.5y $t=2.6$ $p<0.01$) and BMI (26.0, 26.2 and 26.3kg/m² $t=2.6$ $p<0.01$) amongst those giving birth during the pandemic. There was an increase in the induction rate (from 36.7% & 37.9% pre-pandemic, to 40%; chi-sq 6.9, $p<0.01$) but this was not reflected in the rate of intervention as spontaneous vaginal delivery rates remained stable (51.3%, 53.3% and 52.4%, chi-sq 0.6 $p=NS$).

There was no difference in stillbirth (28, 37 and 25 cases, chi-sq 0.6, p=NS), preterm birth (8.3%, 8.9%, and 8.1% chi-sq 3.4, p=NS) or the perinatal mortality rate (5.3, 6.5 and 4.5 per 1000 births chi-sq 1.7, p=NS) during the pandemic. There was a small but statistically significant increase in birth weight during the pandemic (3375, 3354 and 3392g; t=3.2, p<0.01) and no increase in neonatal intensive care admission. There was a notable decrease in the birth rate (7.9%) during the pandemic in comparison to previous years.

In the first year of the pandemic, only a small number of pregnant women (n=51) admitted to our unit tested positive for SARS-CoV-2. In light of the notable and significant effect of the aftercoming delta variant on pregnant people, further analysis of this time period is required to determine whether our maternity services were robust enough to sustain these positive findings.

In conclusion, there was no significant change in maternal or neonatal outcomes during the first year of the Covid-19 pandemic. This is not only reassuring for the pregnant population but also allows for validation of the extraordinary efforts of healthcare workers in maternity settings during this time.

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