



changes in delivery outcomes during the COVID-19 pandemic as reported in a pregnancy mobile application

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Introduction

With healthcare delivery changing due to the COVID-19 pandemic, we aimed to evaluate the relationship between the COVID-19 pandemic and delivery and maternal health outcomes, using patient reported data in a pregnancy mobile app.

Methods

We conducted a retrospective cohort study on women who gave birth between October 1, 2019 and September 30, 2020 and completed a birth report in a pregnancy mobile app. Women were assigned to the 'Pre-COVID-19' cohort if they delivered between October and March, and the 'During COVID-19' cohort if they delivered between April and September. Gestational age at delivery, delivery method, delivery facility type, and length of hospital stay were compared.

Results

Among 415,125 total birth reports, 213,541 (51%) were in the 'Pre-COVID-19' cohort and 201,584 (49%) were in the 'During-COVID-19' cohort. When compared to the 'Pre-COVID-19' cohort, women in the 'During-COVID-19' group **were less likely to deliver preterm** (OR = 0.95, $p < .001$), **more likely to deliver by Cesarean section** (OR = 1.02, $p = 0.02$), **more likely to choose a home birth** (OR = 1.3, $p < .001$), and **had hospital stays that were, on average, 8.2% shorter** (mean = 2.45 days, $p < .001$).

Conclusions/Implications

This study indicates the impact of the COVID-19 pandemic on delivery outcomes so far, however the measures of its effects are only in the beginning stages. **Ongoing research as the pandemic progresses is necessary to evaluate long-term effects on maternal health and birth outcomes.** Early findings indicate that women who gave birth during the pandemic were less likely to deliver preterm, but much more likely to deliver by Cesarean section, more likely to choose a home birth, and had much shorter hospital stays compared to women who delivered pre-pandemic.

Figure 1. Percent change in reported birth outcomes by month, compared to reference period

