CHRD 2024: Abstract Submission Form

Presenter Name
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Presenter Status
PhD Student

Role in the project
Design
Analyze Data
Write Abstract

Research Category
Community Health / Policy

Title
Prenatal care and pregnancy outcomes before and during the COVID-19 pandemic: An interrupted time series study

Background
The COVID-19 pandemic had a profound impact on healthcare service, but there is limited population-based evidence on the impact of the pandemic on prenatal care and pregnancy outcomes.

Objective
Our aim was to investigate the impact of the pandemic on prenatal care visits, mode of delivery, breast feeding initiation (BFI) and Neonatal ICU (NICU) admissions.

Methods
Using Manitoba, Canada administrative health databases, we conducted a retrospective population-based study of live birth pregnancies occurring before (April 2008-February 2020) or during (March 2020-March 2022) the pandemic; for the latter period, they were defined as partially (March-November 2020) or fully (December 2020-March 2022) exposed. We estimated monthly rates of insufficient prenatal care (<5 visits), c-sections, BFI, and NICU admissions. Interrupted time series analyses using season-adjusted generalized linear models were conducted to test immediate and lagged pandemic effects.

Results
Amongst 221,255 pregnancies insufficient prenatal care (4.5% vs. 3.9%) and c-section (28.2% vs. 23%) was higher during than before the pandemic. The pandemic was associated with an abrupt relative increase in insufficient care by 36% ($p<0.001$), followed by a nonsignificant decline ($\beta=-0.007$, $p=0.125$) during the pandemic. An abrupt rise in c-sections by 11.7%($p<0.001$), and NICU by 17.3% ($p=0.77$) were observed followed by non-significant declines (c-section $\beta=-0.001$, $p=0.9$; NICU $\beta=-0.001$, $p=0.8$). The pandemic was associated with an abrupt decrease in BFI($p=0.002$) followed by increase($\beta=-0.002$, $p=0.007$). There were no significant differences in insufficient care, c-section, BFI, and NICU among the partially exposed pregnancies between the two time periods. Among fully exposed pregnancies, there was a significant increase in BFI($p=0.017$) and NICU admissions($p=0.044$) during pandemic.

Conclusion
Our findings suggest that the COVID-19 pandemic was associated with increased rates of insufficient prenatal care and c-sections. Over the 2-year pandemic period, we observed increased NICU admissions and BFI, particularly amongst pregnancies in which the full term occurred during the pandemic.

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