Associations of COVID-19 Pandemic with Clinical Manifestations among the Uninfected Pregnant Women in China: A Combined Cohort Study

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Abstract

Objective: To investigate whether the COVID-19 pandemic would significantly affect pregnancy-associated factors in uninfected pregnant women in China. Design: A combined cohort study Setting: Six sites in China Population: Uninfected pregnant women participating in the programs with a singleton birth and delivery or termination from January 1 to May 31 2019 (pre-pandemic period, P-2019) and from January 1 to May 31 2020 (pandemic period, P-2020) (n = 32,277). Methods: The associations of pregnancy-associated outcomes and the COVID-19 were assessed by poisson regression, linear regression or log-binomial regression. Main Outcomes Measures: The number of prenatal examinations (NPE), delivery gestational week (DGW), caesarean section (CS), preterm birth, macrosomia. Results: For Hubei, the NPE and DGW were negatively associated with the COVID-19 pandemic, whereas the CS and preterm birth rates were positively associated with the COVID-19, with adjusted relative risks (aRRs) of 1.11 [95% confidence interval (CI) 1.06–1.17] and 1.37 (95% CI: 1.02–1.84) respectively. For Guangdong, the associations of CS and preterm birth with the COVID-19 were similar in Hubei. Limited associations were evident in other areas while a positive association with macrosomia was observed in Beijing [aRR = 1.26 (95% CI: 1.03–1.55)]. Conclusions: The CS and preterm birth rates increased slightly in areas that were more affected by the pandemic than other

areas. NPEs were not significantly interrupted and most maternal and neonatal clinical characteristics were within the normal ranges. Appropriate interventions should be considered to protect pregnant women. Keywords: COVID-19, pregnancy outcome, neonatal outcome, uninfected pregnant women

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