World Academy of Science, Engineering and Technology
International Journal of Mathematical and Computational Sciences
Vol:14, No:12, 2020

Comparison of Maternal and Perinatal Outcomes of Obstetric Population Diagnosed with Covid-19 in Reference to Influenza A/H1N1: A Systematic Review and Meta-Analysis

Authors : Maria Vargas Hernandez, Jose Rojas Suarez, Carmelo Dueñas Castell, Sandra Contreras, Camilo Bello, Diana Borre, Walter Anichiarico, Harold Vasquez, Eduard Perez, Jose Santacruz

Abstract : In the last two decades, there have been outbreaks of emerging infectious diseases, with an impact on both the general population and the obstetric population. These infections, which affect the general population, pose a high risk for adverse maternal and perinatal outcomes, taking into account that physiological and immunological changes that occur during pregnancy can increase their risk or severity. Among these, the pandemics of viral infections, Influenza A/H1N1 and SARS-CoV-2/COVID-19, stand out. In 2009, Influenza A/H1N1 infection (H1N1 2009pdm) affected approximately 3,110 obstetric patients, with data reported from 29 countries, including 1,625 (52.3%) cases that were hospitalized, 378 (23.3%) admissions to ICU and 130 (8%) deaths; and since the end of 2019, the Severe Acute Respiratory Syndrome - 2 (SARS-CoV-2) has been identified, causing the COVID-19 pandemic, with global mortality that is around 2-4% for the general population, and higher mortality in patients requiring admission to the intensive care unit. Its impact on the obstetric population is still unknown. Objectives: To evaluate the impact on maternal and perinatal outcomes of COVID-19 infection in reference to influenza A/H1N1 infection in the obstetric population. Methodology: Systematic review of the literature and meta-analysis. Results: Mortality from maternal infection with influenza A/H1N1 appears to be higher (8%) than mortality due to maternal infection with COVID-19 (3%). The rates of ICU admission, hospitalization, the requirement for invasive mechanical ventilation, and fetal death also appear to be higher in the maternal population with A/H1N1 infection, in reference to the maternal population with COVID-19 infection. Within perinatal outcomes, the admission to the neonatal ICU appears to be higher in the infants born to mothers with COVID-19 infection (28% vs. 15% for COVID-19 and A/H1N1, respectively). Conclusion: A/H1N1 infection in the obstetric population seems to be associated with a higher proportion of adverse outcomes in relation to COVID-19 infection. The actual impact of maternal influenza A/H1N1 infection on perinatal outcomes is unknown. More COVID-19 studies are needed to understand the impact of maternal infection on perinatal outcomes in this population.

Keywords : A/H1N1, COVID-19, maternal outcomes, perinatal outcomes
Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development
Conference Location : Chicago, United States
Conference Dates : December 12-13, 2020