

# Dilemma of COVID 19 vaccine during pregnancy

## Abstract

The 2019 Coronavirus caused by single stranded RNA virus. Morbidity and mortality are high among pregnant women. Covid 19 vaccine considered safe for adult and protective. Issues of safety raised toward pregnant women and vaccine. The authorization of Covid 19 vaccine for pregnant and nursery women need more studies and trials.

**Keywords:** pregnancy, Covid 19, women, morbidity, mortality

Volume 12 Issue 2 - 2021

**Munirah AlAbdulwahab, Mufareh Asiri**

Maternity Hospital, King Saud Medical City, Riyadh, Saudi Arabia

**Correspondence:** Dr. Munirah AlAbdulwahab, Maternity Hospital, King Saud Medical City, Riyadh, Saudi Arabia, Tel 966548800781, Email munirah1994w@gmail.com

**Received:** March 03, 2021 | **Published:** March 17, 2021

**Abbreviations:** COVID-19, 2019 Coronavirus; ACOG, American College of Obstetricians and Gynecologist; SMFM, Society for Maternal Fetal Medicine; CDC, Disease Control and Prevention

## Introduction

A new emerging virus has named the 2019 Coronavirus (COVID-19) caused by a novel single-stranded RNA virus. It was first identified in Wuhan, China in December 2019, and it is caused millions of deaths worldwide, with over 2,394,694 deaths reported in worldwide. The route of transmission is either by respiratory droplets or nasal discharges which lead to a rapid spread. Therefore, it is difficult to control it. There has been a dramatic impact on modern global society. Symptoms can include fever, cough, headache, fatigue, loss of taste and smell. The majority of patients are asymptomatic (90%) or with mild symptoms. Others may develop complications of an inflammatory cascade like acute respiratory distress syndrome or thromboembolism, septic shock and multi-organ failure. Some patients will develop persistent symptoms like low-grade fevers, fatigue, shortness of breath, cognitive impairment, or autonomic dysfunction for months.<sup>1,2</sup>

Pregnant women and neonates are high-risk population with high rates of morbidity and mortality, especially for respiratory infectious diseases. Morbidities among symptomatic pregnant women notably increase the need for intensive care, mechanical ventilation, increased rates of preterm birth and death.<sup>3</sup> Accordingly, maternal vaccination can reduce risk of the mother, fetus, and infant by passive immunization of the neonate via transplacental passage of protective antibody into the fetal/neonatal circulation, therefore possibility of increasing the immunity of the mother and fetus. It is an area of genuine concern and importance. Influenza vaccination during pregnancy works to decrease the maternal morbidities, protect the infant during the first months of life, as well as to reduce the risk of pregnancy complications such as preterm birth and/or pregnancy loss.<sup>4</sup>

The history of previous outbreaks of some diseases such as Human Immunodeficiency Virus, H1N1 Influenza, Ebola virus, and Zika virus, was the response to modern-era infections disease outbreak in terms of vaccination is similar to the COVID19 vaccine. Evidence from the ongoing studies may strengthen vaccine confidence in pregnant women, and to pay more efforts to achieve immunity among the entire population.<sup>5</sup> A demonstrate the safety of vaccine products specifically during pregnancy is very important. Its safety doubles life for mother and neonate. Moreover, response to vaccination may differ

from that of the general population due to distinct physiological and susceptibilities of pregnancy. These efforts will help also to decrease transmissions.<sup>6</sup>

There is a wide demand to include pregnant women in COVID-19 vaccine research efforts to protect them and their offspring in numerous epidemics. In the past time they have been excluded from vaccine trials, except those has been enrolled in 2009 H1N1 influenza and pertussis vaccines.<sup>7</sup> Exclusion from vaccine delivery programs will affect the results to develop vaccines. Currently with limited available data, obstetricians have to weigh the benefits and risks of the COVID-19 vaccine during pregnancy. The Disease Control and Prevention (CDC), American College of Obstetricians and Gynecologist (ACOG), and Society for Maternal Fetal Medicine (SMFM) have each issued guidance sporting the offer of COVID-19 vaccines to pregnant persons. The FDA has approved the Moderna COVID-19 vaccine on December 18, 2020. The CDC's ACIP met on December 2020, and approved a recommendation for the Moderna COVID-19 vaccine for persons 18 years of age and older. A significant concern should be considered that some women in reproductive age who participate in these large trials might become pregnant within short interval following immunization.<sup>8-10</sup>

Pregnant women represent an important scientifically population, as well as increase with the development, testing, and implementation. A available treatment options for COVID 19 disease in both maternal and fetal, to reduce the risk of exposure community-acquired infection and progression to severe COVID-19 disease. We recommend to including pregnant women in vaccine trials.<sup>11</sup> ACOG recently recommended that authorized COVID-19 vaccines can be offer to pregnant women. The FDA and the ACIP had conclude to generate an equitable evidence base for vaccine before giving to pregnant women.<sup>12</sup>

## Conclusion

FDA-approved COVID-19 vaccines should not be withheld from women solely based on their pregnancy or lactation status when they otherwise meet the criteria for vaccination.

## Acknowledgments

None.

## Funding

None.

## Conflicts of interest

The author declares that there is no conflict of interest regarding this study.

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