

COVID-19 Vaccination and Pregnancy

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Pregnant women are as vulnerable as non-pregnant women and males to get Covid-19 infection. Though most of these infections would be mild, 8-11% of pregnant women with covid-19 will need hospitalization and 2-4% will need ICU admission.^{1,2,3} Compared to non-covid patients, pregnant covid-infected women are at increased risk of needing ventilation with an equivalent mortality to their age-matched peers.² Increasing maternal age, and co-morbidities like obesity, diabetes, hypertension and heart disease increase the risk, just as in non-pregnant people.

Soon after the appearance of the pandemic it became apparent that no drug treatment could completely cure this condition, and vaccination was the only way of protection. Naturally a large number of pharmaceutical companies, university research departments, and private laboratories embarked on the search for an effective vaccine against this disease.

Currently there are three covid-19 vaccines are globally licensed and WHO approved., which are recommended for use. They are Pfizer-BioNTech Covid-19 vaccine (mRNA), Moderna Covid-19 vaccine (mRNA) and Oxford-AstraZeneca covid-19 vaccine (Viral vector vaccine). Very recently WHO has also approved Sinovac from China for emergency use.

mRNA vaccines do not enter the nucleus of the cell and do not alter DNA. They act only against the viral spike protein. In Phase III trials, both Pfizer and Moderna vaccines did not show any serious side-effects after the first dose though a significant number of recipients developed low grade fever after the second dose.

Astra-Zeneca vaccine has got the advantage of widespread use because of less restrictive storage and handling requirements. In Phase III trial there was no meaningful difference in side effects between the vaccine and control groups. Side effects were generally mild which included pain at the injection site, feverishness, fatigue, myalgia etc.,

As the potential risk of the vaccines on the pregnant women and her unborn child was not known at the initial stages of vaccine introduction, pregnant women were excluded from vaccination programmes. However many women work in situations which make them specially vulnerable such as health workers, and those working in community.

Universal exclusion of pregnant women from the receipt of covid-19 vaccine is based on on undocumented and

hypothetical risk to the fetus will leave pregnant women to the risk of severe morbidity and even death, and their babies to the risk of premature birth with serious consequences.

Now it has been recommended that pregnant and lactating women who are eligible for covid-19 vaccination due to exposure risk, medical status or other circumstances should be able to make an informed decision whether or not to take vaccine.⁴ The PREVENT Working Group state that 'in the absence of evidence and mere theoretical or even documented risk of fetal harm is generally not sufficient to justify denying pregnant women access to a vaccine in an out break or epidemic'.⁵ During an epidemic, the default should be to offer vaccination to pregnant women alongside with other affected populations.

Many professional bodies have come up with their own guidelines regarding vaccination of pregnant women but one of the most recent, comprehensive guideline has been published by the SOGC-Statement on covid-19-vaccination in pregnancy. These recommendation appears to be universally applicable. Following are the excerpts from that statement⁶

Timing Of Vaccination During Pregnancy & Vaccination Intervals

At present there is no data to guide administration at a particular gestational age and vaccination may be considered at any gestational age including the first trimester (SOGC Statement)⁶

No clear evidence to direct if vaccine spacing is required; the recommendations do not advice any specific time interval and simultaneous administration of more than one vaccine can be administered if necessary. Covid 19 vaccines out of prudence can be spaced from any other vaccine that the woman needs to take.

After receiving covid-19 vaccine it would be wise if possible to wait for 28 days before receiving any other vaccine, unless a vaccine is required urgently such tetanus or hepatitis vaccine.

Time sensitive interventions such as administration of anti-D immunoglobulin or other blood products can be given simultaneously.

In The Context Of Limited Vaccine Supply

Though in situations of limited vaccine supply, some pregnant women may have to defer their second dose of vaccine. This does not have any different effect than non-pregnant women. In deciding prioritization in the context of limited vaccine supplies, prioritization of pregnant women is justified, as pregnancy carries an increased risk of covid-19-related hospitalization, ICU admission and mechanical ventilation.

Inadvertent Pregnancy Following Vaccination

When a woman is found to be inadvertently pregnant during vaccination or shortly afterwards, there is no medical indication for termination of pregnancy. When a woman becomes pregnant after the first dose of vaccine, there is no indication to delay or postpone the second dose if she is found to be pregnant, as the vaccine is considered to be safe in all trimesters of pregnancy.

Women Contemplating Pregnancy

For women who are contemplating pregnancy, it will be wise to complete the immunization schedule in order to have maximum protection during pregnancy

Evidences upto now available indicate that pregnant and lactating women represent a relatively vulnerable group to have covid-19 related mortality and morbidity, they should be vaccinated on priority basis. Since the data regarding vaccination of pregnant women is still sparse, these women should be kept under close supervision to see if the safety concerns are valid or not.

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