

Editorial

Dilemma's on COVID Vaccine

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How to cite this article:

Chhugani M. Dilemma's on COVID Vaccine. *Int J Nurs Midwif Res* 2020; 7(3): 1-3.

The COVID-19 pandemic in India is part of the worldwide pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first case of COVID-19 in India, which originated from China, was reported on 30 January 2020. India currently has the largest number of confirmed cases in Asia, and has the second-highest number of confirmed cases in the world after the United States, with more than 9 million reported cases of COVID-19 infection and more than 100 thousand deaths. This global crisis has overblown effects on all spheres of life. This current situation of COVID Pandemic has urged the scientific community internationally to search for resolutions in terms of therapeutics and vaccines to control the spread of virus.

The wrestling up towards COVID lead to many efforts towards the development of vaccine. The scale of the humanitarian and economic impact of the COVID-19 pandemic is driving evaluation of next-generation vaccine technology platforms through novel paradigms to accelerate development, and the first COVID-19 vaccine candidate entered human clinical testing with unprecedented rapidity on 16 March 2020. Vaccines save millions of life each year. A number of bio-pharmaceutical companies have applied for U.S. Food and drug administration (FDA) emergency use authorization emergency use authorization for a new COVID vaccine. The quick development and approval of vaccine may increase the hesitancy of general public towards its safety and effectiveness.

For now, more than 200 vaccines are in the phase of clinical trials. Out of these 200, there 4 vaccines whose clinical trail results have come and they may be availbale in the near future.

Vaccine	Efficacy	Number of doses	Approx. Cost (2 doses)	Storage
Pfizer- BioNtech	90%	2	Rs. 3000	-70°C
Moderna	94.5%	2	Rs. 5000	-20°C
Oxford Uni- AstraZeneca	62-90%	2	Rs. 350-400	2-8°C
Gamaleya (Sputnik V)	92%	2	Rs. 1400	2-8°C
Covaxin	60-70%	2	Rs. 10-20	2-8°C

U.S. CDC advisory committee recommended the recently authorized Pfizer- BioNTech COVID-19 vaccine for people age 16 and over in the United States, stating they found it was safe and effective.

With the availability of vaccine, several myths are also surfacing through social media causing dilemma among people towards the vaccine. Some of the most common ones are:

1. The COVID-19 vaccine is not safe because it was rapidly developed and tested.

The emergency situation warranted an emergency response but that does not mean that companies bypassed safety protocols or perform adequate testing. While there are many COVID-19 vaccine candidates in development, early interim data are encouraging for the Pfizer vaccine which likely is to be the first authorized for emergency use by the FDA in the late December/early January time frame. The vaccine developed by Pfizer/BioNTech has been studied in approximately 43,000 people.

To receive emergency use authorization, the biopharmaceutical manufacturer must have followed at least half of the study participants for at least two months after completing the vaccination series, and the vaccine must be proven safe and effective in that population. In addition to the safety review by the FDA, the Advisory Committee on Immunization has convened a panel of vaccine safety experts to independently evaluate the safety data from the clinical trial.

2. If one already had COVID-19 and recovered, so there is no need to get a COVID-19 vaccine when it's available.

There is not enough information currently available to say if or for how long after infection someone is protected from getting COVID-19 again. This is called natural immunity. Early evidence suggests natural immunity from COVID-19 may not last very long, but more studies are needed to better understand this.

3. Another dilemma associated is that there are severe side effects of the COVID-19 vaccines.

There are short-term mild or moderate vaccine reactions that resolves without complication or injury. The early phase studies of the Pfizer vaccine show that it is safe. About 15% of people developed short lived symptoms at the site of the injection. 50% developed systemic reactions primarily headache, chills, fatigue or muscle pain or fever lasting for a day or two. These side effects are indicators that immune system is responding to the vaccine and are common when receiving vaccines.

4. I won't need to wear a mask after I get the COVID-19 vaccine.

It may take time for everyone who wants a COVID-19 vaccination to get one. Also, while the vaccine may prevent one from getting sick, it is unknown at this time if the person can still carry and transmit the virus to others. Until more is understood about how well the vaccine works, continuing with precautions such as mask-wearing and physical distancing will be important.

5. More people will die as a result of a negative side effect to the COVID-19 vaccine than would actually die from the virus.

Circulating on social media is the claim that COVID-19's mortality rate is 1%-2% and that people should not be vaccinated against a virus with a high survival rate. However, a 1% mortality rate is 10 times more lethal than the seasonal flu. In addition, the mortality rate can vary widely and is influenced by age, sex and underlying health condition. While some people that receive the vaccine may develop symptoms as their immune system responds, remember that this is common when receiving any vaccine and not considered serious or life-threatening. One cannot get COVID-19 infection from the COVID-19 vaccines; they are inactivated vaccines and not live vaccines. It's important to recognize that getting the vaccine is not just about survival from COVID-19. It's about preventing spread of the virus to others and preventing infection that can lead to long-term negative health effects. While no vaccine is 100% effective, they are far better than not getting a vaccine. The benefits certainly outweigh the risks in healthy people.

6. The COVID-19 vaccine was developed as a way to control the general population either through microchip tracking or nano transducers in our brains.

There is no vaccine "microchip" and the vaccine will not track people or gather personal information into a database. This myth started after comments made by Bill Gates from The Gates Foundation about a digital certificate of vaccine records. The technology he was referencing is not a microchip, has not been implemented in any manner and is not tied to the development, testing or distribution of the COVID-19 vaccine.

7. The COVID-19 vaccine will alter the DNA.

The first COVID-19 vaccines to reach the market are likely to be messenger RNA (mRNA) vaccines. According to the CDC, mRNA vaccines work by instructing cells in the body how to make a protein that triggers an immune response. Injecting mRNA into human body will not interact or do anything to the DNA of your cells. Human cells break down

and get rid of the mRNA soon after they have finished using the instructions.

The general public need to be patient, as the vaccines are still in trial mode. Instead of focusing on the myths circulated via social media, the general public should trust the government authorities for any legal announcement regarding the vaccine. U.S. Food and drug administration (FDA) will approve Covid-19 vaccine only when the potential benefits will outweigh the risks.