THE GAME CHANGING LIFE SAVER- "COVID VACCINE": A BRIEF REVIEW

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"I love exchanging guidance related facts, self-improvement tips, productivity hacks, and anything that adds value satisfaction and happiness to our lives. I am passionate about guiding students preparing for various competitive examinations and school examinations. I am also a student of life and learn from you all. Let's hold hands and grow together.

INTRODUCTION

The first vaccine was developed after eleven months since SARS-CoV-2 virus was identified. One of the fastest developed vaccine - an exceptional effort by the scientific community led to the start of over 300 vaccine projects initially, over 40 were still undergoing clinical evaluation, ten of them were in Phase III clinical trials, three of them had ended Phase III with positive results. A few of these new vaccines were also approved for emergency use. The conceptual and technological platforms exploited are diverse, and it is likely that different vaccines will show to be better suited to distinct groups of the human population. Due to the short development time and the novelty of the technologies adopted, these vaccines will be deployed with several unresolved issues that only the passage of time will permit to clarify. Technical problems connected with the production of billions of doses and ethical ones connected with the availably of these vaccines also in the poorest countries, are imminent challenges facing us.

WHAT ALL VACCINES ARE CURRENTLY AVAILABLE WITH US IN INDIA?

Two vaccines were initially licenced in India; enrolled for use in a phased manner: (I) Phase I (January 16th 2021): For healthcare workers; (ii) Phase II (March 1st 2021): High-risk general public; which include persons > 60 years age and persons between 45 and 59 years of age with comorbid conditions such as cancer, diabetes, hypertension, etc.

COVAXIN: Initiated by ICMR-Bharat Biotech, India. It is a whole-virion inactivated vaccine, which uses spike protein as a target. It is administered in two doses (4 weeks apart) by IM route.

COVISHIELD: It is prepared by Serum Institute of India, in collaboration with University of Oxford and AstraZeneca pharmaceuticals, UK. It is based on non-replicating adenovirus vector (modified Chimpanzee adenovirus, ChAdOx1) expressing spike protein. It is administered in two doses (4 weeks apart) by IM route.

HOW A VACCINE WORKS?

Vaccines help people develop immunity (protection) to a disease by safely imitating a natural infection. Some people may believe that natural immunity (which occurs after a person is infected by a bacteria or virus) is better than the immunity developed from vaccines. However, natural infections are dangerous because they can cause severe illness and lead to serious complications and even death.

MYTHS ABOUT THE COVID VACCINE

A very small group of very vocal, but misinformed people have made accusations regarding the safety of vaccines, claiming that vaccines contain a laundry list of toxins. These incorrect claims are taken out of context and they just end up scaring people into believing that getting vaccinated is riskier than not getting vaccinated. In fact, the opposite is true. Not getting vaccinated can be a very risky choice and can leave you, your family members and your community vulnerable to vaccine-preventable diseases.

A BRIEF NOTE ON VACCINE INGREDIENTS

The main ingredients in vaccines are antigens, which are small amounts of the bacteria or virus against which the person is being vaccinated. Antigens are the parts of the vaccine that encourage your immune system to create antibodies to fight against future infections. To make sure that the vaccines cannot

cause the disease you are trying to protect against, the antigens are altered or weakened.

Like many of the foods we eat and beverages we drink, vaccines also contain a small amount of additional ingredients, and each has a specific, necessary function. These ingredients may be added to the vaccine to make it more effective, sterile and/or safe. These additional ingredients have been studied and are safe for humans in the amount used in vaccines.

In fact, the amount of these additional ingredients in vaccines is much less than children encounter in their environment, food and water. As the saying goes, "the dose makes the poison." In other words, any chemical – even water or oxygen – can be toxic or even deadly in large enough quantities.

SOME RARE BUT POSSIBLE SIDE EFFECTS

As is the case with any medication, vaccines can have side effects. However, the majority of vaccine side effects are very mild, such as soreness or redness where the vaccine was given, or a low-grade fever. These side effects usually go away within a few days. Serious side effects following vaccination are very rare occurring 1 in a million doses, and would happen within a few minutes to a **few** hours after the vaccination.

In general, parents should pay extra attention to their children's overall health for a few days after vaccination (and your own health if you have been vaccinated). If you notice something that concerns you, call/visit your healthcare provider.

REFERENCES

1. "COVID-19 vaccines: where we stand and challenges ahead." Guido Forni & Alberto Mantovani on behalf of the COVID-19 Commission of Accademia Nazionale dei Lincei, Rome.

2. "Essentials of medical microbiology" by Apurba S Sastry & Sandhya Bhatt- 3rd Edition.

3. https://vaccinateyourfamily.org/questions-about-vaccines/understanding-vaccine-science