चरैवेति चरैवेति

महात्मा ज्योतिबा फुले
रुहेलखण्ड विश्वविद्यालय, बरेली

JAN- JUN 2022

NEWSLETTER

Department of Pharmacy

MJP Rohilkhand University, Bareilly

FROM THE DESK OF HEAD OF DEPARTMENT

Dear Students and Faculty Members,

It gives me immense pleasure to share with you the latest developments and achievements in the Department of Pharmacy at MJP Rohilkhand University. The department has been working tirelessly to provide the best education and training to our students and make significant contributions to the field of pharmacy.

Firstly, I would like to congratulate all our students who have successfully completed their degree programs and have secured placements in top pharmaceutical companies. Our students have shown remarkable dedication and hard work, and I am confident that they will excel in their respective careers.

I am pleased to announce that the department has recently introduced a new course i.e., PhD Pharmaceutical Sciences, which has received an overwhelming response from the students. We believe that this course will impart our students with the latest knowledge and skills required to pursue research and development in the field of Pharmaceutical Sciences.

In addition to academic and research activities the department has organized various seminars, workshops and guest lectures by eminent personalities from the pharmaceutical industry. These events have provided our students with an opportunity to interact with experts and gain valuable insights into the latest trends and developments in the field.

Conclusively, I would like to thank all the students, faculty members and staff for their contributions to the success of the Department of Pharmacy at MJP Rohilkhand University. Let us continue to work together to achieve greater heights and make significant contributions to the field of pharmacy.

Best Regards

S. Singh

Prof. (Dr.) Sobhna Singh
Head of Department

EDITORIAL

Immunization: The Key to a Healthy Campus Community

As we prepare to return to campus for another academic year, it's essential to remember that our health and well-being are crucial to our success. One way to ensure a healthy campus community is through immunization.

Immunization is the process of getting vaccinated against diseases to build immunity and protect ourselves from infectious diseases. Vaccines work by triggering an immune response to produce antibodies to fight off the disease if we come into contact with it.

It's essential to recognize that immunization not only protects ourselves but also those around us. As college students, we live and study in close quarters, making us vulnerable to diseases like the flu, measles, and meningitis, among others. Getting vaccinated reduces the risk of spreading these diseases and helps us protect our peers and faculty members who may be more susceptible.

Some students may be concerned about vaccine safety. However, it's important to remember that vaccines undergo rigorous testing and are continuously monitored for safety and effectiveness by public health officials. The benefits of getting vaccinated far outweigh the potential risks.

In conclusion, immunization is a vital tool for maintaining a healthy and thriving campus community. By getting vaccinated, we protect ourselves and those around us from infectious diseases, making our academic experience safer and more enjoyable. Let's do our part in keeping our campus healthy and get vaccinated.

Best & Regards

Dr. Shiv Dev Singh
Associate Professor
Department of Pharmacy

What is Vaccine?

A preparation that is used to stimulate the body's immune response against diseases. Vaccines are usually administered through needle injections, but some can be administered by mouth or sprayed into the nose

What is Vaccination?

The act of introducing a vaccine into the body to produce protection from a specific disease.

What is Immunization?

A process by which a person becomes protected against a disease through vaccination. This term is often used interchangeably with vaccination or inoculation.

- **The four main types of COVID-19 vaccine**

There are four categories of vaccines in clinical trials: whole virus, protein subunit, viral vector and nucleic acid (RNA and DNA). Some of them try to smuggle the antigen into the body, others use the body's own cells to make the viral antigen.

1. WHOLE VIRUS

Many conventional vaccines use whole viruses to trigger an immune response. There are two main approaches. Live attenuated vaccines use a weakened form of the virus that can still replicate without causing illness. Inactivated vaccines use viruses whose genetic material has been destroyed so they cannot replicate, but can still trigger an

immune response. Both types use well-established technology and pathways for regulatory approval, but live attenuated ones may risk causing disease in people with weak immune systems and often require careful cold storage, making their use more challenging in low-resource countries. Inactivated virus vaccines can be given to people with compromised immune systems but might also need cold storage

2. PROTEIN SUBUNIT

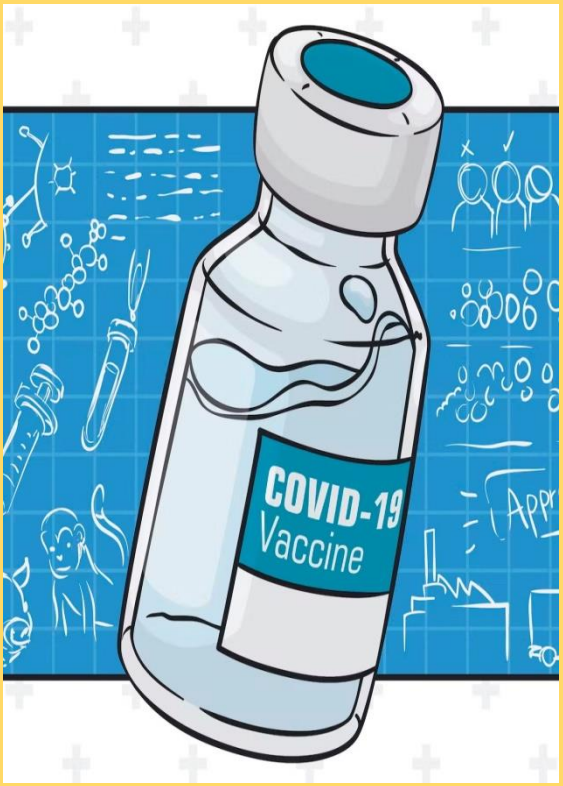
Subunit vaccines use pieces of the pathogen - often fragments of protein - to trigger an immune response. Doing so minimises the risk of side effects, but it also means the immune response may be weaker. This is why they often require adjuvants, to help boost the immune response. An example of an existing subunit vaccine is the hepatitis B vaccine.

3. NUCLEIC ACID

Nucleic acid vaccines use genetic material – either RNA or DNA – to provide cells with the instructions to make the antigen. In the case of COVID-19, this is usually the viral spike protein. Once this genetic material gets into human cells, it uses our cells' protein factories to make the antigen that will trigger an immune response. The advantages of such vaccines are that they are easy to make, and cheap. Since the antigen is produced inside our own cells and in large quantities, the immune reaction should be strong. A downside, however, is that so far, no DNA or RNA vaccines have been licensed for human use, which may cause more hurdles with regulatory approval. In addition, RNA vaccines need to be kept at ultra-cold temperatures, -70C or lower, which could prove challenging for countries that don't have specialised cold storage equipment, particularly low- and middle-income countries.

4. VIRAL VECTOR

Viral vector vaccines also work by giving cells genetic instructions to produce antigens. But they differ from nucleic acid vaccines in that they use a harmless virus, different from the one the vaccine is targeting, to deliver these instructions into the cell. One type of virus that has often been used as a vector is adenovirus, which causes the common cold. As with nucleic acid vaccines, our own cellular machinery is hijacked to produce the antigen from those instructions, in order to trigger an immune response. Viral vector vaccines can mimic natural viral infection and should therefore trigger a strong immune response. However, since there is a chance that many people may have already been exposed to the viruses being used as vectors, some may be immune to it, making the vaccine less effective.



❖ **COVID- 19 vaccines in India**

Central Drugs Standard Control Organisation (CDSCO) based on the the recommendations of the Expert Committee has approved the follwoing vaccines for restricted use in emergency situation in India.

1. **Covaxin** of M/s Bharat Biotech for age group of 6-12 and 12-18 years
2. **Sputinik -V** of M/s Dr. Reddy's Laboratories Ltd. (Importer)

3. **Sputinik -V** of M/s Panacea Biotec Ltd
4. **Janssen** - Johnson & Johnson (Importer)
5. **Janssen** - M/s Biological E Limited
6. **ZyCoV-D** of Zydus Cadila - age group >12 years
7. **Sputinik -V** of M/s Hetero Biopharma Ltd
8. **Corbevax** of Biological E. Limited - age groups 5-12, >12 and >18 years
9. **Covovax** of M/s Serum Institute of India - age groups >12 and >18 years
10. **Moderna** - M/s Cipla (Importer)
11. **SPUTNIK Light** of M/s Dr. Reddy's Lab. Ltd. (Importer)
12. **Lyophilized mRNA Vaccine for Injection (COVID-19) [HGCO-19]** of M/s Gennova Biopharmaceuticals Limited

How Well COVID-19 Vaccines Work?

- People who are up to date have lower risk of severe illness, hospitalization and death from COVID-19 than people who are unvaccinated or who have only received the primary series.
- Updated COVID-19 boosters can help restore protection that has decreased since previous vaccination. The updated boosters provide added protection against the recent Omicron subvariants that are more contagious than the previous ones. The recent subvariants, BA.4 and BA.5, are very closely related to the original variant, Omicron, with very small differences between itself and the original variant.

Safety of COVID-19 Vaccines

COVID-19 vaccines have undergone—and will continue to undergo—the most intensive safety monitoring in U.S. history. Evidence from the hundreds of millions of COVID-19 vaccines already administered in the United States, and the billions of vaccines administered globally, demonstrates that they are safe and effective.

Side Effects

- Side effects that happen within 7 days of getting vaccinated are common but are mostly mild. Sometimes they may affect a

person's ability to do daily activities.

- Side effects throughout the body (such as fever, chills, tiredness, and headache) are more common after the second dose of a Pfizer-BioNTech, Moderna, or Novavax COVID-19 vaccine.

Adverse Events

- Severe allergic reactions to vaccines are rare but can happen.
- There is a rare risk of myocarditis and pericarditis associated with mRNA COVID-19 vaccination, mostly among males ages 12–39 years. The rare risk may be further reduced with a longer interval between the first and second dose.
- Cases of myocarditis and pericarditis have also been reported in people who received Novavax COVID-19 vaccine.

GLIMPSE OF DEPARTMENT

INTER UNIVERSITY YOUTH FESTIVAL, JAUNPUR

FOUNDATION DAY

PREPARED & EDITED BY

FACULTY MEMBERS:

Mr. Priyesh Kumar Singh
M.Pharm., PhD (Pursuing)
Lecturer

Mr. Hemendra Kumar
M.Pharm., PhD (Pursuing)
Lecturer

STUDENTS:

Abushan Khan
M.Pharm (Pharmaceutics)
2nd Year

Mohd. Anas Iqbal
B.Pharm 3rd Year