

PHARMA FIRST

www.pharmafirstonline.com

Vol-8

Issue-09

October 2026

WORLD POLIO DAY

OPV vs IPV

Two Vaccines. One Goal.

NEW FDA DRUGS

What's New in Treatment?

MEDICINE PRICING

Is Healthcare Really Affordable?

**THE 14TH NATIONAL IPA
PHARMACY STUDENTS'
CONGRESS 2026**

VIRTUAL HOSPITALS

*Healthcare Without
Hospital Walls*

COLLAGEN PEPTIDES

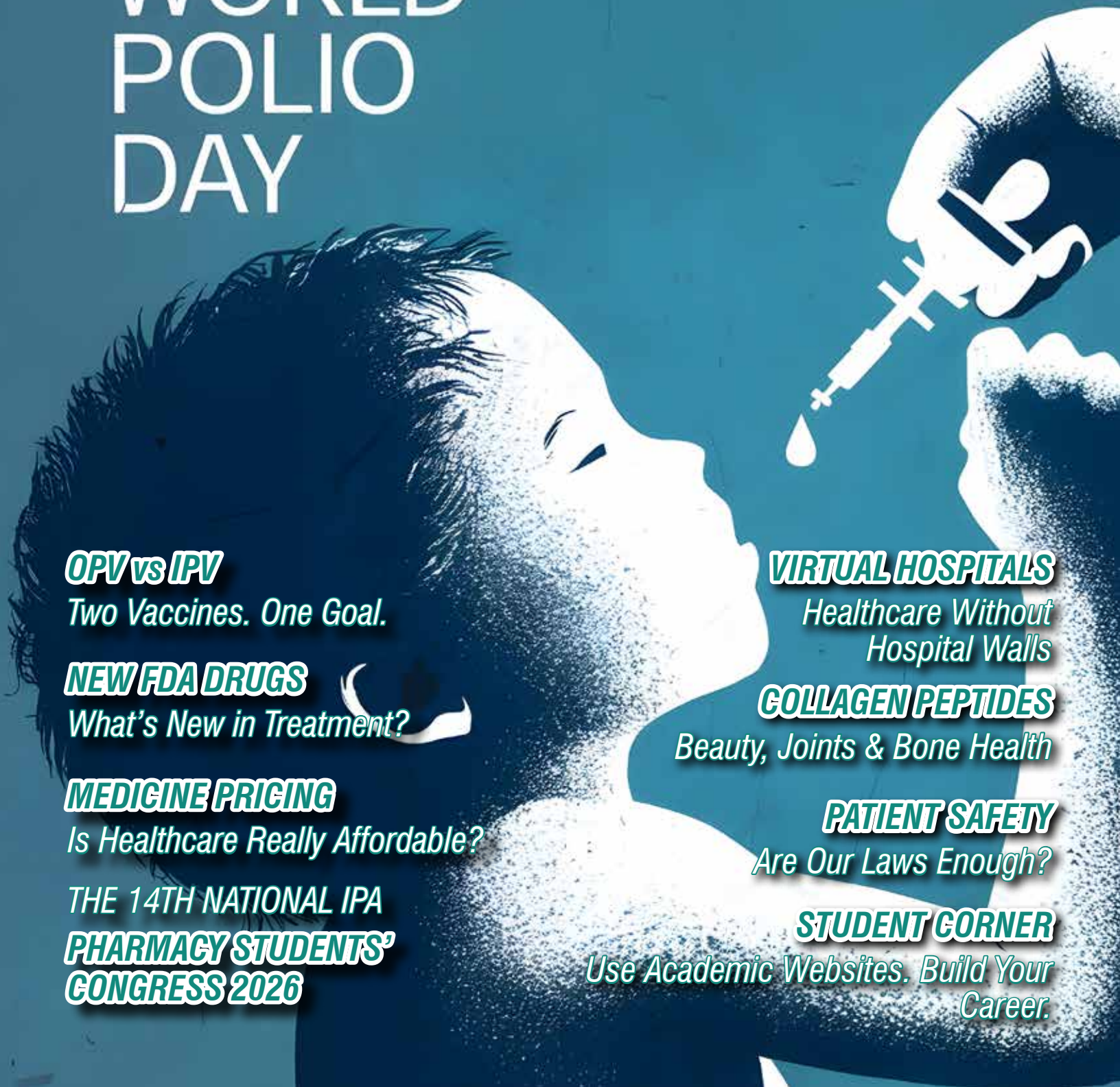
Beauty, Joints & Bone Health

PATIENT SAFETY

Are Our Laws Enough?

STUDENT CORNER

*Use Academic Websites. Build Your
Career.*





07

VACCINES & PUBLIC HEALTH

OPV VS IPV: TWO VACCINES, ONE GOAL - A POLIO-FREE WORLD

A practical comparison of Oral Polio Vaccine and Inactivated Polio Vaccine, their advantages, limitations, safety aspects and changing roles in the global polio-eradication strategy.

13

REFLECTIONS by Dr P. Jayasekhar

MEDICINE PRICES IN INDIA: THE SUPREME COURT'S WAKE-UP CALL

Why medicine affordability and price transparency matter to the common man—and what practical steps are needed to make essential medicines more accessible.

16

IPA NATIONAL EVENT

THE 14TH NATIONAL IPA PHARMACY STUDENTS' CONGRESS 2026

A report on the national gathering of around 1,400 pharmacy students, academicians, researchers, industry leaders, healthcare professionals and regulatory experts at Kochi on 19–20 September 2026. Theme: Pioneering India's Pharmaceutical Future: Bridging Innovation, Entrepreneurship, Industry and

21

INNOVATIONS IN HEALTHCARE –

VIRTUAL HOSPITALS: HEALTHCARE WITHOUT HOSPITAL WALLS

How digital technology is bringing consultation, diagnosis, monitoring and follow-up care closer to patients—and what virtual hospitals can mean for the future of healthcare in India.

25

NUTRITION & WELLNESS - COLLAGEN PEPTIDES: THE NEW-AGE PROTEIN FOR SKIN, JOINTS & BONES

What are collagen peptides? How are they made? What are their potential benefits for skin, joints, bones, hair and nails? A simple guide to one of today's popular nutritional supplements.

30

PATIENT SAFETY LAWS IN INDIA: PROGRESS, GAPS & THE ROAD AHEAD

An overview of India's legal and regulatory framework for patient safety, including medicine safety, medical negligence, healthcare standards and protection of patient rights—with a look at achievements and continuing challenges.



ഇന്ത്യയിലെ രോഗി സുരക്ഷാ നിയമങ്ങളും നിയന്ത്രണ സംവിധാനങ്ങളും

മരുന്നുകളുടെ സുരക്ഷിത ഉപയോഗം, ചികിത്സാ പിഴവുകൾ ഒഴിവാക്കൽ, ഗുണമേന്മയുള്ള ആരോഗ്യ സേവനം ഉറപ്പാക്കൽ എന്നിവയാണ് രോഗി സുരക്ഷ എന്ന ആശയത്തിന്റെ പ്രധാന ലക്ഷ്യം. ലോകാരോഗ്യ സംഘടന രോഗി സുരക്ഷയെ ആരോഗ്യ സംവിധാനത്തിന്റെ അടിസ്ഥാന ഘടകമായി കണക്കാക്കുന്നു. ഇന്ത്യയിൽ രോഗി സുരക്ഷ ഉറപ്പാക്കുന്നതിനായി നിരവധി നിയമങ്ങളും ചട്ടങ്ങളും നിയന്ത്രണ സംവിധാനങ്ങളും നിലവിലുണ്ടെങ്കിലും, അവയുടെ ഫലപ്രദമായ നടപ്പാക്കലാണ് ഇന്നും ഏറ്റവും വലിയ വെല്ലുവിളി.

അവയിൽ പ്രധാനപ്പെട്ടവയാണ് ഡ്രഗ്സ് ആൻഡ് കോസ്റ്റേറ്റിങ്ങ് ആക്ട്, 1940, ന്യൂ ഡ്രഗ്സ് ആൻഡ് ക്ലിനിക്കൽ ട്രയൽസ് റൂൾസ്, 2019, മെഡിക്കൽ ഡിവൈസസ് റൂൾസ്, 2017, ഫാർമകോവിജിലൻസ് പ്രോഗ്രാം ഓഫ് ഇന്ത്യ (PvPI), കൺസ്യൂമർ പ്രൊട്ടക്ഷൻ ആക്ട്, 2019, നാഷണൽ മെഡിക്കൽ കമ്മീഷൻ ആക്ട്, 2019, ക്ലിനിക്കൽ എസ്റ്റാബ്ലിഷ്മെന്റ്സ് (രജിസ്ട്രേഷൻ ആൻഡ് റെഗുലേഷൻ) ആക്ട്, 2010, നാഷണൽ അക്രഡിറ്റേഷൻ ബോർഡ് ഫോർ ഹോസ്പിറ്റൽസ് (NABH) മാനദണ്ഡങ്ങൾ എന്നിവ.

മരുന്നുകളുടെ ഗുണമേന്മയും സുരക്ഷയും ഉറപ്പാക്കാൻ നിർമ്മാണ സ്ഥാപനങ്ങളിൽ GMP (Good Manufacturing Practices) മാനദണ്ഡങ്ങൾ കർശനമായി പാലിച്ചുവരുന്നു. കേന്ദ്ര-സംസ്ഥാന ഡ്രഗ്സ് കൺട്രോൾ വിഭാഗങ്ങളുടെ പരിശോധനകളും നിയമനടപടികളും ശക്തിപ്പെടുത്തിയിട്ടുണ്ട്. ക്ലിനിക്കൽ, മരുന്നുകളുടെ പാർശ്വഫല റിപ്പോർട്ടിംഗിൽ പുരോഗതിയുണ്ടായിട്ടും അത് പ്രതീക്ഷിച്ച നിലവാരത്തിലെത്തിയിട്ടില്ല.

ആശുപത്രികളിൽ Patient Safety Committee, Infection Control Committee തുടങ്ങിയ സംവിധാനങ്ങൾ നിലവിലുണ്ടെങ്കിലും, അവയുടെ പ്രവർത്തനം എല്ലാ സ്ഥാപനങ്ങളിലും ഒരുപോലെ കാര്യക്ഷമമല്ല. അതേസമയം, NABH അംഗീകൃത ആശുപത്രികളിൽ രോഗികളുടെ സുരക്ഷ ഉറപ്പാക്കുന്നതിനുള്ള നിശ്ചിത മാനദണ്ഡങ്ങൾ കൂടുതൽ കർശനമായി പാലിച്ചുവരുന്നു.

മരുന്ന് പിശകുകൾ, ശസ്ത്രക്രിയാ പിഴവുകൾ, ആശുപത്രി അണുബാധകൾ എന്നിവ കൃത്യമായി രേഖപ്പെടുത്തി റിപ്പോർട്ട് ചെയ്യുന്നതിൽ ഇപ്പോഴും പോരായ്മകളുണ്ട്. രോഗികേന്ദ്രിതമായ സുരക്ഷാ സംസ്കാരം വളർത്തുകയും ചികിത്സാ പിശകുകൾ റിപ്പോർട്ട് ചെയ്യാൻ ആരോഗ്യപ്രവർത്തകരെ പ്രോത്സാഹിപ്പിക്കുകയും ആവശ്യമായ പരിശീലനം നൽകുകയും വേണം. ഗ്രാമീണ മേഖലകളിലെ പരിശോധനാ സംവിധാനങ്ങൾ ശക്തിപ്പെടുത്തി വ്യാജവും നിലവാരമില്ലാത്തതുമായ മരുന്നുകളുടെ വിപണനം തടയണം. AMR നിയന്ത്രണ നടപടികൾ കാര്യക്ഷമമാക്കുന്നതിനൊപ്പം സ്വകാര്യ ആരോഗ്യസ്ഥാപനങ്ങളിലും ഏകീകൃത ഗുണനിലവാര-സുരക്ഷാ മാനദണ്ഡങ്ങൾ നടപ്പാക്കണം.

WHO Patient Safety Action Plan അനുസരിച്ച് ദേശീയ രോഗി സുരക്ഷാ നയം ശക്തിപ്പെടുത്തി എല്ലാ ആശുപത്രികളിലും Patient Safety Programme നിർബന്ധമാക്കണം. Medication Error Reporting System, Electronic Health Records, e-Prescription സംവിധാനങ്ങൾ വ്യാപിപ്പിച്ച് രോഗികളെയും കുടുംബാംഗങ്ങളെയും ചികിത്സാ തീരുമാനങ്ങളിൽ സജീവമായി പങ്കാളികളാക്കണം.

Pharmacovigilance, Materiovigilance, Hemovigilance സംവിധാനങ്ങൾ ശക്തിപ്പെടുത്തുന്നതിനൊപ്പം ആശുപത്രികളിൽ Patient Safety Officers നിയമിക്കുകയും രോഗി സുരക്ഷാ ഓഡിറ്റുകൾ നിർബന്ധമാക്കുകയും വേണം.

രോഗി സുരക്ഷ നിയമപരമായ ബാധ്യത മാത്രമല്ല, ഓരോ ആരോഗ്യപ്രവർത്തകന്റെയും ധാർമ്മിക ഉത്തരവാദിത്തവുമാണ്. ഇന്ത്യയിലെ രോഗി സുരക്ഷാ നിയമങ്ങളും നിയന്ത്രണ സംവിധാനങ്ങളും ഫലപ്രദമായി നടപ്പാക്കാൻ ആരോഗ്യരംഗത്തെ എല്ലാ പങ്കാളികളുടെയും സജീവ സഹകരണം അനിവാര്യമാണ്.

സ്നേഹപൂർവ്വം
ഡോ. പ്രദീപ് എം.ആർ
എഡിറ്റർ, ഫാർമാഫസ്റ്റ്

Greetings from the Team

Dear Readers,

A NEW MONTH. A FRESH START. A GREATER PURPOSE.

Let's turn knowledge into action and commitment into impact.

Every prescription carries responsibility, Every medicine demands care
& Every patient deserves our best.

As pharmacy professionals, our role goes beyond dispensing medicines. It is about making informed choices, preventing errors, sharing the right knowledge and creating confidence in every patient we serve.

So, as we step into a new month, let's challenge ourselves to raise the standard of our practice, embrace new learning, speak up for patient safety and turn every professional interaction into an opportunity to make healthcare better.

Let's not simply move forward with the month — let's move the profession forward with purpose.

PharmaFirst wishes all pharmacists, healthcare professionals, students and well-wishers a meaningful, energetic and successful month ahead!

PharmaFirst — Knowledge – Care-- Commitment.

TEAM PHARMAFIRST

Key Health Awareness Events

in October 2026

Month-Long Health Observances

OCTOBER

is globally recognized as one of the most significant months for health awareness, bringing attention to several major public health issues and encouraging preventive healthcare, early diagnosis, and healthy lifestyles.

The month is observed as Breast Cancer Awareness Month, emphasizing the importance of early detection through regular breast self-examination, clinical screening, and mammography. It also promotes research, patient support, and public education about breast cancer.

October 10 – World Mental Health Day highlights the need to prioritize mental well-being, reduce stigma associated with mental illness, and improve access to quality mental healthcare services.

Second Thursday of October (October 8, 2026) – World Sight Day focuses on preventing avoidable blindness and vision impairment through regular eye examinations, timely treatment, and equitable access to eye care services.

October 12 – World Arthritis Day raises awareness about arthritis and other musculoskeletal disorders, encouraging early diagnosis, physical activity,

weight management, and appropriate treatment to improve quality of life.

October 15 – Global Hand washing Day promotes proper hand hygiene with soap as one of the simplest and most effective ways to prevent infectious diseases, including diarrhoeal and respiratory illnesses.

October 16 – World Food Day emphasizes food security, balanced nutrition, sustainable agriculture, and the global effort to eliminate hunger and malnutrition.

October 20 – World Osteoporosis Day highlights the importance of maintaining strong bones through adequate calcium and vitamin D intake, regular exercise, and screening for individuals at risk.

October 24 – World Polio Day celebrates the progress made toward global polio eradication while reinforcing the importance of routine immunization and continued vaccination efforts.

Together, these health observances encourage governments, healthcare professionals, pharmacists, public health organizations, and communities to work collaboratively toward disease prevention, health promotion, and improved quality of life for all.

RECENTLY APPROVED FDA DRUGS & INDICATIONS

Compiled by : Devika Jayan

The following drugs have recently been approved by the FDA. Includes newly approved drugs and new indications for drugs already approved.

Lisraya (brepocitinib) Tablets

The U.S. FDA approved Lisraya (brepocitinib) on August 27, 2026, for treating dermatomyositis in adults. It is an oral Janus kinase 1 (JAK1) and Tyrosine kinase 2 (TYK2) inhibitor that targets immune-mediated inflammation associated with this rare autoimmune disease.

Rasonque (daraxonrasib) Tablets

The U.S. FDA approved Rasonque (daraxonrasib) on August 26, 2026, for adults with metastatic pancreatic adenocarcinoma. It is an inhibitor of the RAS GTPase family, offering a new targeted treatment option for patients with advanced pancreatic cancer.

Pasatru (garetosmab-grts) Injection

FDA approved Pasatru (garetosmab-grts) on August 19, 2026, to reduce new abnormal bone formation and disease flare-ups in adults with fibrodysplasia ossificans progressiva (FOP). It is a fully human monoclonal antibody that blocks Activin A signaling.

Genglycos (pariglasgene breccaparovvec-opnr) Suspension for Intravenous Infusion - formerly DTX401

The U.S. FDA granted accelerated approval to Genglycos (pariglasgene breccaparovvec-opnr) on August 19, 2026, for adults and children aged 8 years and older with glycogen storage disease type Ia (GSDIa). It is an AAV-based gene therapy designed to reduce daily cornstarch requirements.

Zenbexus (iberdomide) Capsules

The U.S. FDA granted accelerated approval to Zenbexus (iberdomide) on August 13, 2026, in combination with daratumumab and hyaluronidase-fihj and dexamethasone for adults with multiple myeloma who have received at least one prior line of therapy.

Tauklarify (florquinitau F 18) Injection - formerly MK-6240

The U.S. FDA approved Tauklarify (florquinitau F 18 injection) on August 14, 2026, as a radioactive diagnostic agent for Positron Emission Tomography (PET) imaging of the brain in adults with cognitive impairment being evaluated for Alzheimer's disease. It helps identify tau neurofibrillary tangle pathology associated with Alzheimer's disease.

Tudriqev (vusolimogene oderparepvec-wtpg) Suspension for Intratumor Injection

The U.S. FDA granted accelerated approval to Tudriqev (vusolimogene oderparepvec-wtpg) on August 6, 2026, in combination with nivolumab for adults with unresectable advanced cutaneous melanoma that has progressed following anti-PD-1 therapy. Tudriqev is a genetically modified oncolytic viral therapy designed to target and destroy cancer cells.

Orzeyful (oveporexton) Tablets

The U.S. FDA approved Orzeyful (oveporexton) on August 5, 2026, for adults with narcolepsy type 1(narcolepsy with cataplexy). It is an oral orexin receptor 2 (OX2R) agonist that restores orexin signaling and targets the underlying cause of the disorder.

mFLUSIVA (influenza vaccine, mRNA) Injection - formerly mRNA-1010

The U.S. FDA approved mFLUSIVA (influenza vaccine, mRNA) on August 5, 2026, for prevention of influenza in adults 50 years and older. It is the first mRNA-based seasonal influenza vaccine approved in the United States ●

ORAL POLIO VACCINE (OPV) VS. INACTIVATED POLIO VACCINE (IPV):

ADVANTAGES, LIMITATIONS
AND GLOBAL STRATEGY

Dr. Krishnakumar M. P.

Global polio eradication depends on two distinct vaccines – the Oral Polio Vaccine (OPV) and Inactivated Polio Vaccine (IPV) each offering distinct advantages and limitations. OPV provides strong intestinal immunity and helps interrupt person-to-person transmission, while IPV offers excellent protection against paralytic disease without the risk associated with live vaccine strains. Understanding their differences is essential for developing safe, effective, and sustainable immunization strategies in the final stages of global polio eradication.

Oral Polio Vaccine (OPV)

1. Outstanding Safety Profile - Since IPV contains an inactivated virus, there is no risk of Vaccine-Associated Paralytic Poliomyelitis (VAPP) or vaccine-derived poliovirus outbreaks.
2. Excellent Individual Protection - IPV induces strong systemic immunity and protects 99–100% of vaccinated individuals against paralytic poliomyelitis after completion of the recommended vaccination schedule.
3. Preferred in Polio-Free Countries- Countries that have eliminated indigenous poliovirus, including most industrialized nations, primarily use IPV because it maintains immunity without the risks associated with live vaccines.

Disadvantages

1. Limited Intestinal Immunity -Although IPV effectively prevents paralysis, it provides comparatively less intestinal immunity than OPV. Vaccinated individuals may still become infected with poliovirus in the gut and shed the virus, potentially transmitting infection to others.
2. Higher Cost -IPV is considerably more expensive than OPV due to its manufacturing process and administration requirements.
3. Greater Logistical Requirements -Administration requires sterile syringes, cold-chain maintenance, safe injection practices, and trained healthcare professionals, increasing operational costs.



Comparison of OPV and IPV

FEATURE	ORAL POLIO VACCINE (OPV)	INACTIVATED POLIO VACCINE (IPV)
Vaccine Type	Live attenuated virus	Inactivated (killed) virus
Route of Administration	Oral drops	Injection
Cost	Low	Higher
Individual Protection	Excellent	Excellent
Intestinal (Gut) Immunity	Strong	Limited
Prevention of Community Transmission	Highly effective	Limited
Risk of VAPP	Extremely rare	None
Risk of Vaccine-Derived Poliovirus	Possible in under-immunized populations	None
Suitability	Outbreak control and endemic areas	Routine immunization in polio-free regions

Global Polio Vaccination Strategy

The Global Polio Eradication Initiative (GPEI) employs a phased strategy that combines the strengths of both vaccines.

- OPV is used during outbreak response and in regions with ongoing poliovirus transmission because it rapidly interrupts community spread through strong intestinal immunity.
- IPV is incorporated into routine immunization programmes worldwide to provide long-lasting protection against paralytic disease while eliminating the risks of vaccine-associated paralysis and vaccine-derived poliovirus.

To further improve vaccine safety, the GPEI has introduced the novel Oral Polio Vaccine type

2 (nOPV2). This vaccine retains the transmission-blocking advantages of traditional OPV but has been genetically engineered to be substantially more stable, thereby reducing the likelihood of reversion into vaccine-derived poliovirus.

Conclusion

Neither OPV nor IPV alone is sufficient to achieve and sustain global polio eradication. OPV remains indispensable for interrupting virus transmission during outbreaks, while IPV provides safe and durable protection against paralytic disease in routine immunization programmes. The strategic use of both vaccines, together with robust surveillance and high vaccination coverage, continues to move the world closer to the goal of a polio-free future ●

ALLERGIC DISEASES IN INDIA

Part-IV

Dr. K. K. Janardanan, M D.

Causes | Symptoms | Identification
Treatment | Prevention
A Comprehensive Reference for
Healthcare Stakeholders



6. Anaphylaxis

Anaphylaxis is the most severe and potentially fatal form of allergic reaction. It is a systemic, rapidly progressive reaction involving multiple organ systems simultaneously. Though relatively uncommon, its management in India is hampered by poor public awareness, absence of epinephrine auto-injectors in the market, and inadequate emergency response training.

Common Triggers in India

Common triggers of anaphylaxis include foods such as peanut, tree nuts, fish, shellfish, sesame, cow's milk and egg. Insect stings, particularly from bees, wasps and hornets, can also cause severe allergic reactions. Certain medicines, including penicillin, aspirin, NSAIDs, contrast media and anaesthetic agents, are important triggers. Latex exposure may lead to anaphylaxis, particularly among healthcare workers and children undergoing multiple surgical procedures. Although rare, exercise-induced anaphylaxis can occur in some individuals, especially when physical activity follows the consumption of a specific food.

Symptoms — A Multi-System Emergency

Anaphylaxis can develop rapidly and affect several organ systems at the same time. Skin symptoms may include generalised hives, flushing and angioedema, causing swelling of the face, lips or throat. Respiratory symptoms include severe throat tightening, stridor, bronchospasm, breathlessness and wheezing. Cardiovascular symptoms may involve a sudden drop in blood pressure, faintness, irregular heartbeat and, in severe cases, shock. Gastrointestinal symptoms can include severe vomiting, abdominal cramps and diarrhoea. Neurological symptoms may include a feeling of impending doom, confusion, dizziness and loss of consciousness.

EMERGENCY ACTION

Call 108 immediately. Lay the person flat with legs elevated (or upright if breathing difficulty). Administer intramuscular adrenaline (epinephrine) 0.3–0.5 mg into the outer thigh as first-line treatment. Every minute of delay worsens prognosis.

Treatment

Intramuscular adrenaline (epinephrine) 0.3–0.5 mg is the first and most important treatment for anaphylaxis. Oxygen and IV fluids may be given for breathing difficulty, hypotension or shock. Antihistamines and corticosteroids are only supportive treatments and should not replace adrenaline. Nebulised salbutamol may be used for persistent bronchospasm. Patients require appropriate medical observation because delayed or biphasic reactions can occur.

Prevention

Prevention of anaphylaxis requires strict avoidance of known allergens and awareness of accurate allergen labelling. Patients should carry a personalised anaphylaxis action plan and wear MedicAlert identification when appropriate. Healthcare providers, schools and workplaces should be informed about the person's allergy history. For confirmed bee or wasp venom allergy, venom immunotherapy can greatly reduce the risk of future severe reactions.

Key Barriers to Allergy Care in India

Despite the substantial allergy burden, several factors continue to limit effective diagnosis and treatment:

- **Air Pollution:** Fine particulate matter (PM2.5) from traffic, biomass burning and industry can worsen allergic sensitisation and symptoms.
- **Limited Specialist Access:** India has a shortage of trained allergy and immunology specialists, limiting access to specialised care.
- **Limited Product Availability:** Epinephrine auto-injectors, quality allergen extracts and some biologic therapies may be unavailable or unaffordable.
- **Cultural & Socio-economic Barriers:** Myths, stigma, low health literacy and financial constraints can delay treatment and affect adherence.
- **Inadequate Asthma Management:** Poor inhaler awareness and a preference for oral medicines can compromise effective asthma control.
- **Regulatory Gaps:** Allergen-specific immunotherapy requires stronger standardisation, while food-allergen labelling needs further strengthening.

Universal Preventive Strategies Across Allergic Diseases

Although prevention varies by condition, several measures can help reduce allergy-related risks in the Indian context:

- **Environmental Control:** Reduce indoor allergens through regular cleaning, dust-mite covers, HEPA filtration and moisture control.

- **Air Quality Monitoring:** Check daily AQI levels and limit outdoor exposure during periods of high pollution or pollen.
- **Personal Protection:** Consider well-fitting N95 masks during high-pollution or high-pollen periods.
- **Allergen Immunotherapy:** For selected allergies, immunotherapy can modify the underlying immune response and reduce long-term symptoms.
- **Healthy Early-Life Exposure:** Avoid unnecessary over-sanitisation while maintaining good hygiene, as diverse microbial exposure may influence immune development.
- **Balanced Nutrition:** A diet rich in fruits, vegetables and essential nutrients supports overall immune health.
- **Breastfeeding:** Exclusive breastfeeding for about six months is recommended for infant nutrition and may provide benefits for immune development.
- **Early Allergen Introduction:** Introducing foods such as peanut and egg during infancy, when

appropriate and under medical guidance, may reduce the risk of developing food allergy.

- **Smoke-Free Environment:** Avoiding parental smoking and second-hand smoke is an important measure to reduce childhood asthma and respiratory allergy risks.

Conclusion

Allergic diseases represent a significant and often under-recognised public health challenge in India, affecting millions and impacting quality of life, productivity and well-being. Addressing this burden requires a coordinated approach involving specialist training, better diagnostics, accessible emergency medicines, stronger regulation, public awareness and improved air-quality management.

The pharmaceutical, AYUSH and nutraceutical sectors, together with healthcare regulators, have an important role in developing affordable, quality-assured products and patient-safe solutions. Strengthening scientific evidence, regulatory oversight and patient-centred care can help improve prevention, early diagnosis and effective management of allergic diseases across India ●



Reflections

Medicine Pricing in India: The Supreme Court's Wake-Up Call



Dr. P Jayasekhar

Former Dean, College of Pharmacy, National University of Science & Technology, affiliated to West Virginia University (US) and President, Indian Pharmaceutical Association, Kerala Branch

The recent observations of the Supreme Court of India on the pricing of medicines have brought renewed attention to one of the most sensitive issues in healthcare: the affordability and transparency of medicine prices. The Court questioned the wide difference between the price at which certain medicines are supplied to retailers and the maximum retail price (MRP) ultimately charged to patients. It also raised concerns regarding the pricing practices of pharmacies attached to corporate hospitals and the financial burden imposed on patients.

The observations are particularly significant because India already has a well-established system of pharmaceutical price

regulation. The National Pharmaceutical Pricing Authority (NPPA), under the Drugs (Prices Control) Order, regulates the prices of medicines included in the National List of Essential Medicines. However, the existence of price control does not necessarily mean that the final price paid by every patient is always reasonable or transparent.

The key issue is the entire medicine supply chain. Between the manufacturer and the patient, there may be distributors, stockists, retailers and hospital pharmacies. Each component has legitimate operating costs, including transportation, storage, inventory management, credit, expiry losses and regulatory compliance. Therefore, the difference between the manufacturer's price and MRP cannot automatically be regarded as profit. Nevertheless, an exceptionally large difference demands greater transparency and regulatory scrutiny.

The Court's observations concerning hospital pharmacies are equally important. Patients admitted to hospitals, particularly those undergoing cancer treatment, surgery or intensive care, are often in no position to compare prices or purchase medicines elsewhere. If patients are effectively required to obtain medicines exclusively from a hospital pharmacy, the principles of

consumer choice and competitive pricing become difficult to apply. Hospitals have a special ethical responsibility to ensure that medicine prices charged to vulnerable patients are transparent and defensible.

The suggestion of examining a uniform margin for medicines also merits careful consideration. A standard margin may improve transparency, but medicines differ substantially in their manufacturing complexity, storage requirements, volume of sales and distribution costs. A uniform approach should therefore not unintentionally affect the availability of specialised or low-volume medicines.

What India needs is not merely more price control, but smarter price regulation. The government should examine the complete pricing chain from manufacturer to patient. Hospital-pharmacy margins should be transparent, patients should have reasonable freedom to purchase medicines from licensed pharmacies, and reimbursement under government and insurance schemes should be based on rational and transparent prices.

At the same time, the pharmaceutical industry, distributors, pharmacists and hospitals must be given due recognition for their legitimate costs and investments. Excessive pricing and genuine commercial costs should not be treated as the same.

The Supreme Court's intervention therefore provides an opportunity for comprehensive reform. The objective should be to establish a system in which

patients receive medicines at affordable and transparent prices, pharmacists and healthcare institutions receive reasonable remuneration, and pharmaceutical companies remain economically viable.

Ultimately, medicine is not an ordinary commodity. For a patient, it can be the difference between treatment and financial hardship. India's pricing policy must therefore place the patient's right to affordable medicines at the centre, while ensuring fairness and sustainability throughout the pharmaceutical supply chain.

Way Forward

- Review the existing pricing framework:
- Consider a rational margin framework:
- Mandate transparent billing:
- Strengthen monitoring of non-scheduled medicines:
- Protect government-funded patients:
- Strengthen enforcement
- Review the system periodically:.
- Establish a multidisciplinary expert committee involving representatives from the NPPA, CDSCO, pharmacists, pharmaceutical manufacturers, distributors, hospitals, economists and patient organisations to periodically examine medicine pricing, margins and affordability and recommend evidence-based reforms.
- Promote competition and generic availability: ●

PHARMA Quiz

Dr. Swathy Pradeep. Pharm D

1 Which type of arthritis is caused primarily by degeneration of articular cartilage?

2 Name the autoimmune arthritis which produces symmetrical inflammation of small joints?

3 Mention the gene marker strongly associated with ankylosing spondylitis?

4 Which antibody is considered highly specific for rheumatoid arthritis?

5 Name the inflammatory cytokine which is a major therapeutic target in rheumatoid arthritis?

6 Which enzyme family is targeted by drugs such as tofacitinib and upadacitinib?

7 Name the imaging technique used to detect early synovitis before conventional X- rays show major structural changes?

8 Which bacterium is associated with reactive arthritis following gastrointestinal infection?

9 Which intestinal microbial ecosystem is increasingly being investigated for its role in inflammatory arthritis?

10 Name the emerging treatment approach which uses a patient's biological characteristics to select the most appropriate arthritis therapy?

Answers @ Page 23

THE 14TH NATIONAL IPA PHARMACY STUDENTS' CONGRESS 2026



Dr. Mohanan Kunnummal Vice Chancellor Kerala university of Health Sciences, Inaugurating the 14th National IPA students congress in presence of Dr B. Suresh, Chief Guest and Keynote speaker

Staff Reporter

The 14th National IPA Pharmacy Students' Congress 2026, organized by the Education Division of the Indian Pharmaceutical Association (IPA) and the IPA Students' Forum (IPASF) and hosted by the IPA Kerala State Branch, was successfully conducted on 19 and 20 September 2026 at Toc H Public School, Vyttila, Ernakulam (Kochi), with the main programmes held at the Dr. A.P.J. Abdul Kalam Auditorium.

With the theme "Pioneering India's Pharmaceutical Future: Bridging Innovation, Entrepreneurship, Industry, and Healthcare Practice in the Digital Era," the two-day national congress brought together approximately 1,400 pharmacy students from different parts of India along with academicians, researchers, pharmaceutical industry leaders, healthcare professionals, regulatory experts and distinguished personalities from the profession.



IPAS students Congress souvenir released by Dr RN Gupta and Dr TV Narayana



Local Organizing committee of the 14th National IPA Students congress with Dr R.N Gupta, National President IPA



Students of Amrita School of Pharmacy performing welcome dance in the inaugural ceremony

The Congress provided a vibrant national platform for knowledge exchange, professional development, research presentation, innovation, entrepreneurship, skill development and networking among the next generation of pharmacists. The various halls and programme venues were named in honour of veterans and distinguished personalities of Indian pharmacy, adding a special professional dimension to the event.

The Congress was inaugurated by Dr. Mohanan Kunnummal, Vice Chancellor, Kerala University of Health Sciences. Dr. B. Suresh, Pro-Chancellor, JSS Academy of Higher Education & Research, delivered the keynote address on the Congress theme. In his presidential address, Dr. P. Jayasekhar, President, IPA Kerala State Branch and Chairman, Local Organising Committee, emphasized the need to prepare young pharmacists to respond effectively to the rapidly changing pharmaceutical and healthcare ecosystem. He highlighted the expanding opportunities created by innovation, digital technologies, entrepreneurship, advanced healthcare practice and interdisciplinary collaboration.

Dr. T. Bharat Vikas, Secretary, IPA Education Forum, welcomed the gathering. The inaugural session was also addressed by Dr. R. N. Gupta, National President, IPA; Dr. T. V. Narayana, Immediate Past National President; Dr. Subhash Mandal, Hon. National Secretary, IPA; Ms. M. V. Komali, National President, IPASF; Dr. Sabitha M., Principal, Amrita School of Pharmacy, Kochi; and Dr. John Joseph, Hon. Secretary, IPA Kerala State Branch, among other dignitaries.

Scientific and Academic Programme

The scientific programme was designed to expose students to emerging developments across pharmaceutical research, manufacturing, technology, healthcare practice and career opportunities.

Dr. George Patani, Director, Ingalab, Mumbai and Senior Vice President, IDMA, delivered a keynote address on “Reinvigorating the R&D Ecosystem for Innovation in the Pharmaceutical Sector in India.” His presentation highlighted the need to strengthen India’s research ecosystem and encourage innovation-oriented pharmaceutical development.

Dr. Prakash Katakam, Ph.D., Founder Chairman, 3DFlying, Hyderabad, spoke on “3D

Printing the Future of Pharmacy: From Conventional Dosage Forms to Personalized Medicines.” The session explored the potential of additive manufacturing and 3D printing in the development of personalized dosage forms and future pharmaceutical applications.

Dr. Premnath Shenoy, Former Director, AstraZeneca, addressed the students on “Pharmacy Horizons: Designing Careers for Tomorrow’s Leaders.” The session provided valuable perspectives on career planning and the evolving professional opportunities available to pharmacy graduates.

A technical session by Dr. Suhas N. Yewale, Associate Director – Techno Commercial, SOTAX India, focused on “Introduction to USP Type 4 Dissolution Apparatus and Its Applications for Dissolution Testing of New Drug Dosage Forms.” The session provided students with exposure to advanced dissolution testing technologies and their relevance to modern pharmaceutical development.

Dr. Rosemary M. J., Scientist, Medical Devices Lab, CRDC, HLL Lifecare Ltd., spoke on “Cutting-edge Research and Recent Developments in Medical Device Technology,” highlighting emerging innovations and the expanding interface between pharmacy, medical devices and healthcare technology.

In the area of clinical pharmacy, Dr. Grace Mary John, Believers Hospital, Thiruvalla, delivered a session on “Cutting-Edge Clinical Pharmacy Practice: Expanding the Role of Clinical Pharmacists in Hospital Settings.” The presentation emphasized the growing role of pharmacists in multidisciplinary healthcare teams and patient-centred clinical services.

Dr. Sriram S., Principal, SRIPMS, Coimbatore, presented on “Artificial Intelligence and Digital Health in Next-Generation Healthcare,” introducing students to the transformative potential of artificial intelligence, digital health technologies and data-driven healthcare.

Together, the scientific sessions exposed students to contemporary developments in pharmaceutical R&D, personalized medicine, dissolution testing, medical devices, clinical pharmacy, artificial intelligence, digital health and professional career development.

Pharma Excellence Awards 2026

An important highlight of the Congress was the presentation of the IPA Kerala State Branch Pharma Excellence Awards 2026. The awards, instituted four years ago, recognize outstanding contributions by professionals who have made significant contributions to different domains of pharmacy.

This year's awards honoured distinguished professionals in the following categories:

- Pharma Education & Research – Dr. M. K. Unnikrishnan
- Pharmaceutical Industry – Dr. David Joseph Palayoor
- Regulatory Affairs – Sri N. Sugatha Rao
- Pharmacy Practice – Sri B. Rajan

The awards were presented by Dr. R. N. Gupta, National President, IPA, in the presence of Dr. T. V. Narayana, Dr. Subhash Mandal, Dr. P. Jayasekhar, Dr. John Joseph, Dr. M. R. Pradeep, Sri M. P. George and other dignitaries.

The occasion also witnessed the release of the 14th National IPA Students' Congress Souvenir by Dr. R. N. Gupta.

Student Competitions and Skill Development

The Congress provided substantial opportunities for students to demonstrate their knowledge, creativity, communication skills and professional competencies through a series of national-level competitions.

1. Mastermind Quiz Competition
2. Medication Error Detection Competition
3. Patient Counselling Reel Competition
4. Ideation Contest
5. Clinical Case Presentation Competition

The competitions encouraged students to apply their academic knowledge to practical and contemporary pharmaceutical and healthcare challenges. Winners were presented with cash prizes and certificates of appreciation, recognizing their achievements and encouraging continued professional development. The Congress also promoted experiential learning through pre-Congress workshops, practical activities and interactive sessions.

Round Table Discussion – “Reimagining Pharma Vision 2035”

A major intellectual highlight of the Congress was the Round Table Discussion on “Reimagining Pharma Vision 2035.”

The session was chaired by Dr. T. V. Narayana, Immediate Past National President, IPA, with Dr. Jooly Kurien, Professor, Lisie College of Pharmacy, Ernakulam, serving as moderator.

The expert panel included:

- Mr. Benny Joseph, HLL Lifecare Ltd.
- Dr. Premnath Shenoy, Former Director, AstraZeneca
- Dr. Ramesh Adepu
- Mr. Prabhakaran, Labinduss
- Dr. L. Ramaswamy, SOTAX India

The discussion brought together ten student leaders representing different states of India, enabling a meaningful exchange between experienced professionals and the emerging generation of pharmacy leaders.

The discussion explored the future direction of the pharmaceutical profession, the changing healthcare environment, innovation, technology, industry expectations, employability, entrepreneurship and the need to strengthen the role of pharmacists in India's healthcare system.

The interactive format enabled students to articulate their expectations and concerns while receiving perspectives from experts representing industry, academia and professional practice.

Cultural Programmes and Student Interaction

The cultural programmes were another major attraction of the Congress. Students representing colleges and institutions from different parts of India showcased their artistic talents through a series of vibrant and well-coordinated performances.

The programmes provided an opportunity for students to celebrate India's cultural diversity while strengthening friendship, camaraderie and professional relationships. The participation of students from different states created a truly national atmosphere and contributed significantly to the spirit of the Congress.

FIP-IPA Vaccination Training Programme

As part of the wider academic initiatives associated with the Congress, a two-day FIP-IPA Vaccination Training Programme was conducted on 21 and 22 September 2026 at Amrita School of Pharmacy, Kochi.

Networking and Professional Development

One of the most important outcomes of the Congress was the opportunity it created for students to interact directly with professionals from academia, industry, hospitals, regulatory organizations and healthcare institutions.

The interaction enabled students to gain insights into:

- Emerging pharmaceutical technologies
- Research and development opportunities
- Clinical and hospital pharmacy
- Regulatory affairs
- Pharmaceutical manufacturing
- Medical devices
- Artificial intelligence and digital health
- Entrepreneurship and innovation
- Career opportunities in the pharmaceutical sector
- The changing role of pharmacists in healthcare

The Congress thus served not merely as an academic gathering but as a platform for professional networking, mentorship, leadership development and career orientation.

Valedictory Function

The Congress concluded with a valedictory ceremony inaugurated by Dr. R. N. Gupta, National President, IPA. The function was attended by Dr. T. Bharat Vikas, Dr. Vishal Kumar Gupta, Dean Academic, JSS Academy of Higher Education & Research, Dr. P. Jayasekhar and Dr. Anupriya Mahesh, among other dignitaries and organizers.

Certificates were distributed to the winners of various competitions and mementos were presented to participants and contributors.

The Congress formally concluded at 4:30 p.m. on 20 September 2026, bringing to a close two days of intensive academic engagement, professional interaction, competition, cultural exchange and networking.

The successful organization of the 14th National IPA Pharmacy Students' Congress was the result of the collective efforts of the IPA Education Division, IPA Students' Forum, IPA Kerala State Branch, Local Organising Committee, student volunteers, academic institutions, pharmaceutical and healthcare industry partners, sponsors and numerous professionals and organizations who supported the event.

The Local Organising Committee worked extensively on academic coordination, registration, accommodation and transportation, venue management, competitions, cultural programmes, sponsorship, exhibition, hospitality, student engagement and other logistical requirements to ensure the smooth conduct of the national event.

Conclusion

The 14th National IPA Pharmacy Students' Congress 2026, Kochi, emerged as a significant national platform for the professional and academic development of pharmacy students.

The Congress successfully brought together approximately 1,400 delegates from across India and provided them with opportunities to learn from eminent experts, participate in competitions, explore emerging technologies, engage in professional discussions, interact with industry and healthcare leaders and develop lasting professional networks.

The scientific sessions, Pharma Excellence Awards, skill competitions, round table discussion, cultural programmes, workshops and FIP-IPA vaccination training collectively reflected the rapidly expanding dimensions of the pharmacy profession.

The Congress concluded with a renewed message to pharmacy students and young professionals to embrace innovation, entrepreneurship, digital technologies, research, lifelong learning and patient-centred healthcare, and to assume a more meaningful role in shaping the future of India's pharmaceutical and healthcare sectors.

The successful conduct of the 14th National IPA Pharmacy Students' Congress in Kochi stands as a testament to the commitment of the Indian Pharmaceutical Association and its Kerala State Branch towards empowering the next generation of pharmacists and preparing them to lead India's pharmaceutical future ●

**YOUR BUSINESS
BELONGS WHERE**

HEALTHCARE CONNECTS.



MANUFACTURE IT?



SUPPLY IT?



SERVICE IT?

GET IT DISCOVERED.

Join the **ENMED India**
Healthcare Industry Directory.

**100%
FREE
TO REGISTER**

GET YOUR BUSINESS LISTED — FREE



WWW.ENMEDIN.COM



GET LISTED.

Reach thousands of
healthcare buyers.



GET DISCOVERED.

Increase visibility.
Generate quality leads.



GROW.

More opportunities.
Stronger business.



**CONNECT.
COLLABORATE.
GROW TOGETHER.**



**MEDICAL
EQUIPMENT**



PHARMACEUTICALS



DIAGNOSTICS



**HEALTHCARE
TECHNOLOGY**



**HOSPITAL
SUPPLIES**



**CONSUMABLES
& DISPOSABLES**



**PROFESSIONAL
SERVICES**

Virtual Hospitals

Dr. K.J. Mathew

A Virtual Hospital

A virtual hospital is a digitally connected healthcare model that delivers consultation, diagnosis, treatment, monitoring and follow-up care remotely. It combines telemedicine, electronic health records (EHRs), artificial intelligence (AI), wearable devices, cloud computing and mobile health technologies, so patients can receive timely, continuous care at home or at a nearby facility.

Evolution

Virtual care began with telephone consultations and basic telemedicine in the 1990s, then moved to video consultations and EHRs in the 2000s. Since 2015, AI, cloud computing, wearables and remote monitoring have turned it into integrated digital health platforms, increasingly offering continuous, multidisciplinary and 24/7 care.

Core Components

Teleconsultation: Patients consult specialists through secure video or audio, for example a villager reaching a tertiary-hospital specialist without long travel. **Remote Patient Monitoring (RPM):** Devices such as BP monitors, glucometers, pulse oximeters, ECG patches and smartwatches send data remotely. A wearable ECG can alert the care team to an abnormal rhythm.

Innovations in healthcare

Electronic Health Records: Instant access to prescriptions, lab reports, imaging, allergies and surgical history ensures continuity of care and avoids duplicate tests.

AI-Based Clinical Decision Support: AI helps detect disease early and predict deterioration, for example identifying diabetic retinopathy from retinal images before symptoms appear.

Digital Pharmacy: Electronic prescribing, medication management and home delivery, such as monthly hypertension medicines for an elderly patient.

Virtual Nursing: Video consultations, medication reminders, wound assessment, dietary counselling and rehabilitation guidance without frequent hospital visits.

Services Offered

Services include general medicine, cardiology, diabetology, psychiatry, dermatology and oncology follow-up. Virtual hospitals also support physiotherapy, nutrition and mental health counselling, chronic disease management, home ICU monitoring, post-operative care, and maternal and elderly care.

Practical Examples

Diabetes care: Mr. Rajesh, 58, has his glucose readings uploaded automatically. His diabetologist adjusts medicines electronically and a dietitian counsels him by video, reducing routine hospital visits.

Heart failure: Mrs. Mary uses a digital scale, BP monitor and pulse oximeter at home. A significant weight gain alerts her cardiologist, potentially preventing hospitalisation.

Stroke rehabilitation: After discharge, patients continue video-based physiotherapy, speech and occupational therapy, and neurological reviews at home.

Oncology follow-up: Lab review, side-effect monitoring, nutritional advice, counselling and pain management happen remotely, and hospital visits are kept for procedures.

Maternal healthcare: A rural pregnant woman monitors her BP, consults an obstetrician online and receives digital reports, with early referral if complications arise.

Home ICU: Stable patients needing intensive monitoring use portable ventilators and continuous ECG and oxygen monitoring under remote ICU specialists, with emergency protocols in place.

Technologies Used

Virtual hospitals rely on AI, the Internet of Things (IoT), cloud computing and EHRs. Wearables, 5G, big-data analytics, robotics and mHealth support monitoring and communication, while blockchain may strengthen the security and controlled sharing of records.

Benefits

Patients: Lower travel and treatment costs, faster specialist access, continuous monitoring, better medication adherence and improved quality of life.

Hospitals: Better use of beds and resources, less operational pressure, specialist services extended to remote areas and improved patient experience.

Governments: Wider rural access, efficient use of resources, better public-health surveillance, faster emergency response and potentially lower healthcare expenditure.

Challenges

Limited digital literacy and unreliable internet, especially in underserved areas. Data privacy, cybersecurity, regulation and licensing, which need strong safeguards.

Integration with existing hospital systems and clear reimbursement policies. Ensuring equitable access so technology does not widen healthcare disparities.

Future Trends Likely developments include AI-powered virtual assistants for triage, digital twins for personalised treatment planning and robotic telepresence for remote clinical support. Continuous home ICU monitoring and AR/VR-based rehabilitation may extend specialised care beyond hospitals, while genomics, predictive analytics and personalised medicine could enable earlier risk detection and more individualised care.

Virtual hospitals are shifting healthcare from a hospital-centric to a patient-centric model, delivering safe, continuous and cost-effective care beyond traditional hospital walls. They do not replace physical hospitals for emergencies or complex procedures, but they greatly improve chronic disease management, follow-up, rehabilitation and specialist access, especially for the elderly and people in remote areas.

“The hospital of the future is not merely a building—it is a connected digital ecosystem that reaches patients wherever they are. Virtual hospitals represent the next frontier in healthcare delivery, combining technology with compassionate, continuous care to improve outcomes while making healthcare more accessible and efficient” ●



നിങ്ങളുടെ ഔഷധ സംബന്ധമായ സംശയങ്ങൾക്ക് എഴുതുക.

PHARMA FIRST
Door No.M .P 6/126 T1A1Flat No. 1 A
Nama East Fort Apartment
M C Road, Muvattupuzha Pin: 686673.

Ask The Master



Q.1 സാംപിൾ പരിശോധനയ്ക്കു കൊണ്ടുപോയി ഗുണനിലവാരം കുറഞ്ഞതായി കണ്ടെത്തിയാൽ കടയുടമയ്ക്കു ശിക്ഷ ലഭിക്കുമോ? എസ്സ് ജനാർദ്ദനൻ പിള്ള , കടുത്തുരുത്തി, കോട്ടയം.

Ans. രണ്ടും രണ്ടുതരം വിഷയങ്ങളാണ്. 2025 ഏപ്രിൽ 25 മുതൽ പ്രാബല്യത്തിൽ വന്ന ഡ്രഗ്സ് ആൻഡ് കോസ്മെറ്റിക്സ് (കോസ്മെറ്റിക്സ് ഓഫ് ഫൈൻസൈസ്) റൂൾസ് 2025 പ്രകാരമാണ് കോടതി വഴി കുറ്റപത്രം നൽകേണ്ട ഔഷധ നിയമലംഘനങ്ങൾക്കു പിഴ ശിക്ഷ നൽകി തീർപ്പുകൽപ്പിക്കുന്നത്. അതിലെ വിവിധ ചട്ടങ്ങളിൽ പ്രതിപാദിക്കുന്ന ചില കാര്യങ്ങൾക്കാണ് തടവും പിഴയും നിർദ്ദേശിക്കപ്പെട്ടിരിക്കുന്നത് ഒഴിവാക്കിയിരിക്കുന്നത്. എല്ലാ നിയമ ലംഘനങ്ങൾക്കും ഇത് സാധ്യമല്ല. പ്രസ്തുത നിയമപ്രകാരം കുറ്റാരോപിതർക്കു കുറ്റം കണ്ടെത്തിയ സ്ഥലത്തെ ലൈസൻസിംഗ്/കോൺട്രോളിംഗ് അതോറിറ്റി മുൻപാകെ അപ്പീൽ സമർപ്പിക്കാൻ സാധിക്കും. തുടർന്ന് സമയബന്ധിതമായി അത് പരിശോധിച്ചു പിഴ ചുമത്തി തീർപ്പാക്കുകയോ നിരസിക്കുകയോ ചെയ്യും. വിശദ വിവരങ്ങൾ അതാതു സ്ഥലത്തെ ഡ്രഗ്സ് ഇൻസ്പെക്ടർമാർ നൽകും.

കടയിൽ നിന്നും മരുന്ന് സാംപിളിലെടുത്തു പരിശോധിക്കുമ്പോൾ അവയുടെ ഗുണനിലവാരം കുറവാണെന്നു കണ്ടെത്തിയാൽ, നടപടികളെടുക്കാൻ വ്യക്തമായ മാർഗ്ഗനിർദ്ദേശങ്ങളുണ്ട്. ഡ്രഗ്സ് ഇൻസ്പെക്ടർമാർ നൽകുന്ന നോട്ടീസുകൾക്കു, രേഖാമൂലമുള്ള മറുപടികൾ നൽകണം. വാങ്ങൽ, വിൽപ്പന, സ്റ്റോക്ക് വിവരങ്ങൾ നൽകുക. കൂടാതെ, വാങ്ങിയ സ്ഥാപനത്തിനും നിർമ്മാതാക്കൾക്കും ഡ്രഗ്സ് ലൈസൻസ് ഉണ്ടെന്നു ഉറപ്പു വരുത്തണം. അങ്ങനെ വരുമ്പോൾ കടയുടമയ്ക്കു ഒന്നും പേടിക്കേണ്ട. വാങ്ങൽ രേഖകൾ ഇല്ലാതെ വരുമ്പോൾ അതിന്റെ ഗൗരവ സ്വഭാവമനുസരിച്ചു വകുപ്പുതല നടപടികളുണ്ടാകും. അതിനാൽ ബില്ലു

കൾ നൽകുമ്പോൾ, കൃത്യമായി മരുുന്നിന്റെ പേര്, ബാച്ച് നമ്പർ, കാലാവധി, നിർമ്മാതാവിന്റെ പേര് എന്നിവ സഹിതം നൽകുക. കത്തുകൾക്ക് മറുപടി സമയ ബന്ധിതമായി നൽകുക.

Q.2 കേരളത്തിൽ സർക്കാർ മെഡിക്കൽ കോളേജുകളിൽ ഫാർമസി പി.എച്ച്.ഡി കോഴ്സ് ചെയ്യാൻ സൗകര്യമുണ്ടോ? അതിനുള്ള ഗൈഡുകളെ ലഭിക്കുമോ?

ഐശ്വര്യ എം , ലലവക്കോട്.

Ans. കേരള ആരോഗ്യ സർവ്വകലാശാല/ എം ജി സർവ്വകലാശാല എന്നിവ നടത്തുന്ന ഫാർമസി പി.എച്ച്.ഡി മൂന്നു വർഷ കോഴ്സുകളിൽ പഠിക്കാൻ സർക്കാർ സ്ഥാപനങ്ങളിൽ വളരെ കുറച്ചു വിഷയങ്ങൾ മാത്രമേയുള്ളൂ. സർക്കാർ മെഡിക്കൽ കോളേജുകളിലെ ഫാർമക്കോളജി വകുപ്പിൽ അതുമായി ബന്ധപ്പെട്ട പി.എച്ച്.ഡി ചെയ്യാനാകും. മഹാത്മാ ഗാന്ധി സർവ്വകലാശാലയുടെ കീഴിലെ ഫാർമസി വകുപ്പിന്റെ ചെറുവാങ്ങൂർ ക്യാമ്പസിൽ പി.എച്ച്.ഡി ചെയ്യാം. എം.ഫാം കഴിഞ്ഞവർക്ക് സർവ്വകലാശാലകൾ നടത്തുന്ന പി.എച്ച്.ഡി പ്രവേശന പരീക്ഷയിൽ നല്ല സ്കോറുണ്ടാകണം. അല്ലെങ്കിൽ ദേശീയതലത്തിൽ നടത്തുന്ന GPAT-2026, NET സ്കോറുകൾ അല്ലെങ്കിൽ ICMR/CSIR-JRF ഫെല്ലോഷിപ്പുകൾ നിർണ്ണയമാണ്. വിഷയത്തിന്റെ രീതിയ്ക്കനുസരിച്ചു ആവശ്യമായ റിസർച്ച് ഗൈഡുകളെ തിരുവനന്തപുരം/കോട്ടയം/ കോഴിക്കോട്/ ആലപ്പുഴ കോളേജ് ഓഫ് ഫാർമസ്യൂട്ടിക്കൽ സയൻസസിൽ ലഭ്യമാണ്.

Pharma Quiz Answers

1. Osteoarthritis
2. Rheumatoid arthritis
3. HLA-B27
4. Anti CCP
5. TNF
6. JAK
7. ULTRA SOUND
8. Salmonella
9. Microbiome
10. Precision



ഉപഭോക്താക്കളുമായുള്ള അനാവശ്യ തർക്കങ്ങൾ

ഒരു മരുന്നുകളുടെ പ്രാഥമിക കർത്തവ്യം രോഗികളുടെ ആവശ്യമറിഞ്ഞു അവർക്കുള്ള മരുന്നുകൾ ഒരു ഡോക്ടറുടെ പ്രിസ്ക്രിപ്ഷൻ പ്രകാരം കരുണയോടെ വിവരങ്ങൾ നൽകിക്കൊണ്ട് വിതരണം ചെയ്യുകയെന്നുള്ളതാണ്. ഒരു കച്ചവടത്തെക്കാൾ സേവനമായിക്കണ്ടു ചെയ്യേണ്ട ഒരു പുണ്യപ്രവർത്തിയാണിത്. പലതരം സ്വഭാവത്തോടെയുള്ള ആളുകളാണ് ഒരു കടയിലെത്തുന്നത്. അവരെ സാഹചര്യമനുസരിച്ചു അവരുടെ അപ്പോഴത്തെ മാനസികനില മനസ്സിലാക്കി സ്നേഹപൂർവ്വം മരുന്നുകൾ തിരിച്ചയക്കുകയെന്നത് വലിയ വെല്ലുവിളിയാണ്.

ഇന്നത്തെ സാഹചര്യത്തിൽ വർദ്ധിച്ചുവരുന്ന ചെറുകിട മരുന്നുകൾക്കിടയിൽ ലാഭേകരമായി ബിസിനസ് നടത്തുന്നത് വലിയ വെല്ലുവിളിയാണ്. ഉപഭോക്താക്കളുടെ ആവശ്യങ്ങൾ മനസ്സിലാക്കി മാനുഷമായ പെരുമാറ്റവും മികച്ച സേവനവും ഉറപ്പാക്കണം. എന്നാൽ ഉപഭോക്തൃ സംതൃപ്തിക്കായി നിയമപരമായ ബാധ്യതകൾ മറക്കരുത്. നിയന്ത്രിത മരുന്നുകൾ പ്രിസ്ക്രിപ്ഷൻ പ്രകാരം മാത്രം വിൽക്കുകയും മയക്കുമരുന്നുകളുടെ അനിയന്ത്രിത വിതരണം ഒഴിവാക്കുകയും വേണം.

രോഗികളോട് മാനുഷികവും സൗഹൃദപരവുമായ സമീപനം സ്വീകരിക്കുന്നത് അവരുടെ ബുദ്ധിമുട്ടുകൾ മനസ്സിലാക്കാനും ആവശ്യമായ ആശ്വാസവും മാർഗനിർദ്ദേശവും നൽകാനും സഹായിക്കും. അവരുടെ സംശയങ്ങളും ന്യായമായ ആവശ്യങ്ങളും ശ്രദ്ധയോടെ കേട്ട്, മരുന്നുകളുടെ ശരിയായ ഉപയോഗം, മുൻകരുതലുകൾ, പാർശ്വഫലങ്ങൾ എന്നിവ വിശദീകരിക്കുന്നത് വിശ്വാസം വളർത്തും. രോഗികളുടെ സ്വകാര്യതയും പ്രൊഫഷണൽ പരിധികളും മാനിച്ചുകൊണ്ട് നൽകുന്ന മികച്ച സേവനം സ്ഥിരമായ ഉപഭോക്തൃബന്ധം

വളർത്താൻ സഹായകമാകും. വിലക്കുറവിനൊപ്പം വിശ്വാസവും വ്യക്തിഗത പരിഗണനയും ഉറപ്പാക്കുന്ന ഇത്തരം സമീപനങ്ങളാണ് പഴയ മരുന്നുകളുടെ നിലനിൽപ്പിനും ജനപ്രീതിക്കും ഒരു പ്രധാന കാരണം.

സൗഹൃദപരമായ ഇടപെടലുകൾക്ക് പ്രാധാന്യം നൽകാതെ വിലക്കുറവും കച്ചവടവും മാത്രം ലക്ഷ്യമിടുന്ന ചില മരുന്നുകളിലും തിരക്ക് കാണാം. എന്നാൽ പ്രിസ്ക്രിപ്ഷൻ ലഭിച്ചയുടൻ മരുന്നുകൾ തിരിച്ചറിഞ്ഞ് വിലയും ഡിസ്കൗണ്ടും അറിയിക്കുകയും, ബില്ലിംഗിന് ശേഷം മരുന്നുകളുടെ ഉപയോഗത്തെക്കുറിച്ചുള്ള നിർദ്ദേശങ്ങളും രോഗി കൗൺസലിങ്ങും നൽകുകയും ചെയ്യുന്നത് അവരുടെ പ്രൊഫഷണൽ സമീപനത്തിന്റെ ഭാഗമാണ്. ഇത്തരം സേവനം സ്ഥിരമായി ലഭിക്കുമ്പോഴാണ് രോഗികളുടെ വിശ്വാസവും തുടർസന്ദർശനവും ഉറപ്പാക്കാൻ കഴിയുന്നത്.

പ്രൊഫഷണൽ സമീപനവും കൃത്യമായ സാമ്പത്തിക ഇടപാടുകളുമാണ് മരുന്നുകളുടെ വിജയത്തിനും നിലനിൽപ്പിനും അടിസ്ഥാനം. വ്യക്തിബന്ധങ്ങളുടെ പേരിൽ അമിതമായി കടം നൽകുന്നത് ഭാവിയിൽ സാമ്പത്തിക നഷ്ടത്തിനും ബന്ധങ്ങളിൽ വിള്ളലുകൾക്കും കാരണമാകാം. അതിനാൽ കടയുടെ വലുപ്പം പരിഗണിക്കാതെ എല്ലാ രോഗികളോടും ഉപഭോക്താക്കളോടും ഒരുപോലെ മാനുഷവും സൗഹൃദപരവുമായ പെരുമാറ്റം പുലർത്തണം. സാമ്പത്തിക ഇടപാടുകളിൽ വ്യക്തമായ നയം പാലിക്കുകയും ആവശ്യമായ പരിധികൾ നിലനിർത്തുകയും ചെയ്യുന്നത് വിശ്വാസവും ദീർഘകാല ബന്ധങ്ങളും സംരക്ഷിക്കാൻ സഹായിക്കും. തുടരും

POPULAR NUTRITIONAL SUPPLEMENTS

COLLAGEN PEPTIDES

Dr. B.Jayakumar

Collagen peptides, also called hydrolysed collagen or collagen hydrolysate, are small protein fragments produced by breaking down collagen from sources such as bovine, porcine, marine and chicken collagen. Their smaller size makes them easier to digest and absorb. Collagen peptide supplements are commonly used to support skin, joints, bones, hair and nails.

After oral intake, collagen peptides are digested into amino acids and small peptides, which are absorbed through the gastrointestinal tract. These provide building blocks for collagen and other structural proteins. Some collagen-derived peptides may also stimulate fibroblasts and chondrocytes, supporting collagen and extracellular matrix production, although the precise mechanisms remain under investigation.

Health Benefits

Skin Health -Clinical studies suggest that collagen peptide may improve skin hydration, elasticity, and firmness, while reducing the appearance of fine lines and wrinkles. Benefits are generally observed after 8–12 weeks of regular use and may vary among individuals.

Joint Health-It may help reduce joint pain and stiffness, particularly in individuals with osteoarthritis or those who engage in regular physical activity. They may also support the health of cartilage, tendons, and ligaments.

Bone Health -Evidence indicates that collagen peptides may contribute to bone strength and bone mineral density, especially when combined with adequate calcium, vitamin D, and weight-bearing exercise.



Hair and Nail Health- Some studies suggest that collagen may reduce nail brittleness and improve nail growth. Evidence for promoting hair growth or preventing hair loss is less robust, and additional high-quality research is required.

Dosage & Vitamin C

A commonly studied daily intake of collagen peptides is about 2.5–15 g, depending on the intended use and product formulation. Users should follow the manufacturer's instructions or advice from a healthcare professional.

Vitamin C supports collagen synthesis by acting as a cofactor in collagen formation and stabilisation. Adequate vitamin C can be obtained from citrus fruits, guava, amla, strawberries, kiwi, bell peppers and leafy green vegetables.

Possible Side Effects

Mild digestive symptoms such as bloating, fullness or indigestion may occur in some individuals. People with allergies to fish, shellfish, bovine, chicken or porcine products should carefully check the source of collagen before use. Pregnant or breastfeeding women and individuals with chronic medical conditions should consult their healthcare provider before starting supplementation. Individuals with kidney disease who require protein restriction should seek medical advice before using collagen supplements.

Common Homeopathic Remedies

Part- 63

Dr. Anilkumar. V.

ANACARDIUM ORIENTALE

Symphytum officinale, commonly known as Comfrey or “Knitbone,” is a homeopathic preparation derived from the comfrey plant. In homeopathic practice, it is traditionally used for bone fractures, joint injuries and soft-tissue trauma, with practitioners claiming benefits for pain relief and tissue repair.

Important: The therapeutic uses of homeopathic Symphytum are based on traditional practice. Current scientific evidence does not establish its effectiveness in accelerating bone healing or treating fractures. It should not replace medical evaluation or standard orthopedic treatment.

Traditional Homeopathic Indications

Homeopaths commonly recommend Symphytum officinale for the following conditions:

Bone Fractures - Symphytum is traditionally regarded as one of the principal homeopathic remedies for fractures prescribed after proper alignment and stabilization of the bone, with the aim of relieving bone pain and supporting the natural healing process.

Joint and Tendon Injuries - It is used to help alleviate discomfort associated with sprains, ligament injuries, tendon strains, and trauma to joints. Some practitioners also recommend it during rehabilitation following orthopedic injuries.

Bone Bruises and Periosteal Pain - The remedy is traditionally used for persistent pain resulting from bone bruises, injury to the periosteum (the membrane covering bones), or delayed recovery after trauma.

Amputation Stump Pain - In homeopathic practice, Symphytum is sometimes prescribed to reduce tenderness and persistent discomfort in healed amputation stumps.

Eye Injuries - Some homeopathic practitioners recommend Symphytum following blunt trauma to the eye, particularly after initial medical evaluation has ruled out serious ocular injury. Any eye injury should be assessed promptly by an ophthalmologist.

Dosage

Symphytum officinale is available in various homeopathic preparations, including Mother Tincture (Q). Dosage recommendations vary, and its safety and effectiveness for fracture healing are not established. Use only under qualified professional guidance, and do not replace standard orthopedic care.

Homeopathic Dilutions

Symphytum officinale is available in potencies such as 6C, 30C, 200C and 1M. Traditional administration involves placing 3–5 medicated globules or liquid drops on the tongue.

Homeopathic preparations are commonly taken approximately 30 minutes before or after meals, following traditional practice.

Safety and Precautions

Bone fractures require prompt medical diagnosis, imaging, reduction (if necessary), and immobilisation. Homeopathic remedies should not replace evidence-based orthopedic treatment. Self-medication is not advisable for severe injuries, displaced fractures, or persistent pain. Patients should consult a qualified physician before using Symphytum officinale. Persistent swelling, deformity, numbness, severe pain, or loss of function requires immediate medical attention. Pregnant or breastfeeding women and individuals with chronic illnesses should seek professional advice before using any medicinal product.

Adverse Effects

Highly diluted homeopathic preparations are generally considered well tolerated when used as directed, although allergic reactions and unusual symptoms may occur. Patients should discontinue use and consult a healthcare professional if any adverse symptoms develop. Raw comfrey preparations and concentrated herbal extracts differ from homeopathic preparations. Comfrey contains pyrrolizidine alkaloids, which can cause serious liver damage when taken internally and are generally not recommended for oral use.

Symphytum officinale remains one of the most frequently cited remedies in traditional homeopathic practice for fractures, bone bruises, ligament injuries, and musculoskeletal trauma. However, it should be viewed only as a complementary approach where appropriate and not as a substitute for conventional medical care. Proper diagnosis, timely orthopedic management, and rehabilitation remain the cornerstone of successful recovery from bone and joint injuries ●

Baricitinib

Baricitinib, marketed under the brand name Olumiant, is an oral prescription medicine belonging to the Janus kinase (JAK) inhibitor class. It is an immune modulatory drug that helps reduce inflammation by suppressing overactive immune responses. It is approved for the treatment of several autoimmune and inflammatory conditions and has also been used in selected hospitalized patients with severe COVID-19.

Mechanism of Action

The drug selectively inhibits Janus kinase (JAK) 1 and JAK2 enzymes, which play a key role in transmitting inflammatory signals within immune cells. By blocking these pathways, the drug reduces inflammation and prevents the immune system from attacking healthy tissues such as joints and hair follicles.

Approved Uses

Baricitinib is indicated for the treatment of moderately to severely active rheumatoid arthritis in adults who have an inadequate response to one or more disease-modifying antirheumatic drugs (DMARDs). It is also used for severe alopecia areata, an autoimmune condition that causes patchy or extensive hair loss. In selected cases, baricitinib may be used for hospitalised adults with severe COVID-19, according to applicable regulatory approvals and clinical guidelines.

Dosage

Baricitinib is available as 2 mg and 4 mg oral tablets and is usually taken once daily, with or without food. The dose may be adjusted based on the patient's medical condition, kidney function, and response to treatment.

Important Safety Warnings

Baricitinib suppresses the immune system and may increase the risk of serious infections. Patients should seek medical attention if they develop fever, persistent cough, unexplained weight loss, or other signs of infection.

Regulatory agencies have issued boxed warnings for JAK inhibitors concerning an increased risk of serious infections, including tuberculosis and opportunistic infections; major adverse cardiovascular events such as heart attack and stroke; venous thromboembolism, including deep vein thrombosis and pulmonary embolism; certain malignancies, including lymphoma; and increased mortality in selected high-risk patients. The benefits and risks should be carefully assessed before initiating treatment.

Pre-treatment Evaluation

Before initiating baricitinib, healthcare providers should conduct tuberculosis screening, hepatitis B and C screening where appropriate, complete blood count (CBC), liver function tests, and kidney function assessment. Vaccination status should also be reviewed, as live vaccines should generally be avoided during treatment. Regular laboratory monitoring is recommended throughout therapy to assess safety and detect potential adverse effects early.

Drug Interactions

Baricitinib should generally not be used in combination with other JAK inhibitors, potent immunosuppressive medicines such as azathioprine or cyclosporine, or certain biologic disease-modifying antirheumatic drugs (biologic DMARDs). Patients should inform their healthcare provider about all prescription medicines, over-the-counter drugs, and herbal supplements they are taking to prevent potential interactions and ensure safe treatment.

Common Side Effects

Common adverse effects of Baricitinib include upper respiratory tract infections, sore throat, nasal congestion, nausea, headache, and cold sores caused by herpes simplex infection. Patients may also experience increased cholesterol levels and mild elevations in liver enzymes, requiring appropriate clinical monitoring ●

രോദയാർണവ രസം ആയുർവേദത്തിലെ ഹെർബോ മിനറൽ വിഭാഗത്തിൽപ്പെടുന്ന ഒരു ക്ലാസിക്കൽ ഔഷധ യോഗമാണിത്. ഇത് ഹൃദയ രോഗങ്ങൾ, ഹൃദയമിടിപ്പ് വർദ്ധിക്കൽ, നെഞ്ചുവേദന, ശ്വാസതടസ്സം, ബലഹീനത എന്നിവയ്ക്ക് ഉപയോഗിച്ചുവരുന്നു..

വിവിധ ഗ്രന്ഥങ്ങളിൽ നിർമ്മാണരീതിയിലും ചേരുവകളിലും വ്യത്യാസങ്ങൾ കാണാമെങ്കിലും, പരിചയസമ്പന്നനായ ആയുർവേദ വൈദ്യന്റെ മേൽനോട്ടത്തിൽ മാത്രമേ ഈ മരുന്ന് ഉപയോഗിക്കാവൂ..

പ്രധാന ചേരുവകൾ (15 മില്ലിക്സ്)

ചെമ്മരം/അകിൽ	Aphanamixis rohituka	2. 373 g
താതിരിപ്പൂവ്	Woodfordia fruticosa	0. 380 g
പിപ്പൽ	Piper longum	0. 024 g
തിപ്പലി	Piper longum	0. 024 g
ചവ്യം	Piper chaba	0. 024 g
വെള്ളക്കൊടുവേലി	Plumbago zeylanicum	0. 024 g
ചുക്ക്	Zingiber officinale	0. 024 g
ഇലവങ്ങം	Cinnamomum zeylanicum	0. 024 g
വഴനയില	Cinnamomum tamala	0. 024 g
പേരേലം	Amomum subulatum	0. 024 g
കടുക്ക	Terminalia chebula	0. 024 g
താന്നിക്ക	Terminalia belerica	0. 024 g
നെല്ലിക്ക	Emblica officinalis	0. 024 g
ശർക്കര		4. 748 g

2.373 g ചെമ്മരത്തിൽ നിന്നും ഏകദേശം 12. 152 മില്ലി aqueous extract ലഭിക്കുന്നു

തയ്യാറാക്കൽ രീതി (ക്ലാസിക്കൽ ആരിഷ്ഠ നിർമ്മാണ പ്രക്രിയ)

1. ക്വാഥം (കഷായം) തയ്യാറാക്കൽ

ചെമ്മരം ഉൾപ്പെടെയുള്ള പ്രധാന ഔഷധ ദ്രവ്യങ്ങൾ ആവശ്യമായ അളവിൽ വെള്ളത്തിൽ ഇട്ട് തിളപ്പിച്ച്, മൂലഘൃത ലഃഘൃതരേ തയ്യാറാക്കുന്നു. ഇത് അരിച്ചെടുത്ത് തണുപ്പിക്കുന്നു.

2. ജീവനീയ ദ്രവ്യങ്ങൾ ചേർക്കൽ

തണുപ്പിച്ച ക്വാഥത്തിൽ ശർക്കര ചേർത്ത് നന്നായി അലിയിക്കുന്നു. ഇത് പഞ്ചസാരയായി പരിവർത്തനം ചെയ്യപ്പെടുകയും, ഫെർമെന്റേഷനാവശ്യമായ അടിസ്ഥാന മാധ്യമം ഒരുക്കുകയും ചെയ്യുന്നു.



3. താതിരിപ്പൂവ് ചേർക്കൽ

താതിരിപ്പൂവിലെ സാഭാവിക യീസ്റ്റുകളും പഞ്ചസാരയും ചേർന്ന് ഫെർമെന്റേഷൻ ആരംഭിക്കുന്നു. ഇതിലൂടെ സാഭാവികമായി ആൽക്കഹോൾ രൂപപ്പെടുകയും ഔഷധസത്തകളുടെ ആഗിരണത്തിന് സഹായകമാകുകയും ചെയ്യുന്നു.

4. സുഗന്ധദ്രവ്യങ്ങളും മറ്റ് ഔഷധങ്ങളും ചേർക്കൽ

പിപ്പലി, പിപ്പലമൂൽ, ചവ്യ, ചിത്രകമൂലം, ചുക്ക് , ഇലവങ്ങം, വഴനയില, , ത്രിഫല തുടങ്ങിയ ഘടകങ്ങൾ ചെറിയ ക്ഷണങ്ങളാക്കി മിശ്രിതത്തിലേക്ക് ചേർക്കുന്നു.

5. Fermentation

മുഴുവൻ മിശ്രിതവും ഒരു വലിയ മൺ കുടത്തിലേക്ക് മാറ്റി, വായുക്കടക്കാത്ത വിധം അടച്ച് സൂക്ഷിക്കുന്നു. ഇത് ഏകദേശം 30 ദിവസത്തോളം ഫെർമെന്റേഷൻ ചെയ്യുന്നു. ഈ കാലയളവിൽ ശർക്കര സാഭാവികമായി ആൽക്കഹോളായി പരിവർത്തനം ചെയ്യപ്പെടുകയും, ഔഷധ ഗുണങ്ങൾ ദ്രാവകത്തിലേക്ക് പൂർണ്ണമായി അലിഞ്ഞു ചേരുകയും ചെയ്യുന്നു. തുടർന്ന് മിശ്രിതം നന്നായി അരിച്ചെടുത്ത്, തെളിഞ്ഞ ദ്രാവകം രൂപത്തിലാക്കി ബോട്ടിലുകളിലാക്കി സൂക്ഷിക്കുന്നു..

ഉപയോഗ രീതി

ഭക്ഷണത്തിന് ശേഷം 36 ടീസ്പൂൺ (1530 മില്ലി) തുല്യ അളവ് വെള്ളത്തിൽ ചേർത്ത് ദിവസത്തിൽ രണ്ട് നേരം കഴിക്കാം, അല്ലെങ്കിൽ ഡോക്ടറുടെ നിർദ്ദേശപ്രകാരം.

ശരീരീണികൾ, മറ്റ് മരുന്നുകൾ കഴിക്കുന്നവർ ഏതെങ്കിലും ആരോഗ്യപ്രശ്നത്തിനായി ഇത് ഉപയോഗിക്കുന്നതിന് മുൻപ് യോഗ്യതയുള്ള ആയുർവേദ ഡോക്ടറെ സമീപിക്കുന്നത് നല്ലതാണ്.

സൂക്ഷിക്കേണ്ട വിധം

തണുപ്പുള്ളതും വരണ്ടതും ശുചിത്വമുള്ളതുമായ സ്ഥലത്ത് സൂക്ഷിക്കുക. നേരിട്ടുള്ള ചൂടും സൂര്യപ്രകാശവും ഏൽക്കാതെ നോക്കുക ●

PATIENT SAFETY LAWS IN INDIA

LEGISLATIVE FRAMEWORKS,
ACHIEVEMENTS & LIMITATIONS

Dr. Manoj Kumar G

The WHO Patient Safety Framework defines patient safety as the prevention of errors and adverse effects associated with healthcare. India has enacted several laws and regulatory mechanisms to protect patients from unsafe medicines, unethical practices, hospital-acquired infections and medical negligence. These have strengthened healthcare governance, but practical limitations still hinder the goal of “Zero Preventable Harm.”.

1. The Drugs and Cosmetics Act, 1940

Together with the Drugs Rules, 1945, this Act forms the backbone of pharmaceutical regulation in India.

Contributions: It regulates the manufacture, import, distribution and sale of drugs and cosmetics, and prescribes Good Manufacturing Practices (GMP). It prevents adulterated, spurious and misbranded medicines, controls prescription-only drugs through Schedules G, H, H1 and X, and uses licensing and inspection to ensure compliance. Clinical trials and new drug approvals are governed by the New Drugs and Clinical Trials Rules, 2019, and drug inspectors can seize unsafe medicines and prosecute offenders.

Patient safety benefits: Fewer counterfeit medicines, consistent drug quality, curbs on irrational drug use, stronger pharmacovigilance and greater confidence in the supply chain.

Limitations: Enforcement varies across states & there are too few drug inspectors. Prosecutions are often delayed, online pharmacies are poorly monitored, and biologics, gene therapies and personalised medicines add regulatory complexity. Under-reporting of adverse drug reactions and weak post-marketing surveillance further limit safety.

2. The Clinical Establishments (Registration and Regulation) Act, 2010

This Act sets minimum standards for hospitals, nursing homes, clinics, laboratories and diagnostic centres.

Contributions: It mandates registration and minimum infrastructure, requires qualified personnel, promotes infection control, and obliges establishments to display service charges and maintain medical records.

Patient safety benefits: Standardised care, better infection prevention, greater transparency and accountability, and protection from unsafe environments.

Limitations: Not every State and Union Territory has adopted it, so implementation varies. Small private hospitals may escape monitoring because of limited inspection manpower. Standards focus on infrastructure rather than outcomes,

and quality indicators are weakly enforced.

3. Consumer Protection Act, 2019

Medical services are recognised as “services” under this Act.

Contributions: Patients can seek compensation for negligence, misdiagnosis, surgical errors, delayed treatment, deficiency in service and failure to obtain informed consent. Consumer Commissions offer a more accessible alternative to civil courts.

Patient safety benefits: It encourages accountability, accurate documentation and better communication, and discourages negligence.

Limitations: Litigation can be lengthy and costly. Fear of legal action encourages defensive medicine and unnecessary investigations, and compensation does not always lead to systemic improvement.

4. The Transplantation of Human Organs and Tissues Act, 1994

This Act regulates organ donation and transplantation to promote ethical practice and protect donors and recipients.

Contributions: It provides a framework for deceased donation, regulates living donor transplants, prohibits commercial organ trading and establishes Authorisation Committees

Patient safety benefits: Prevents donor exploitation, promotes donor safety and supports transplant quality and ethical standards.

Limitations: Organ shortages and long waiting lists persist. Implementation varies by state, illegal organ trading is occasionally reported and public awareness is limited.

5. The National Medical Commission Act, 2019

This Act regulates medical education and professional conduct.

Contributions: It sets standards for medical education, promotes ethics, regulates practitioner registration and encourages competency-based training.

Patient safety benefits: Better-trained doctors, ethical practice and standardised education.

Limitations: Continuing Medical Education is

inconsistent, ethical violations and limited disciplinary capacity remain concerns, and institutional quality varies.

6. Biomedical Waste Management Rules, 2016

These Rules govern the handling, transport, treatment and disposal of biomedical waste.

Contributions: They mandate segregation, safe transportation and scientific disposal, and promote occupational safety for healthcare workers.

Patientsafetybenefits: Help prevent healthcare-associated infections, protect workers and reduce environmental contamination.

Limitations: Poor segregation, non-compliance in smaller facilities, inadequate monitoring and infrastructure gaps in rural areas.

7. National Patient Safety Implementation Framework (NPSIF)

The NPSIF takes a systems-based approach, covering medication safety, infection prevention, safe surgery, incident reporting, workforce competency, patient engagement and quality improvement.

Benefits: It promotes a safety culture, learning from adverse events and integration of patient safety into care delivery.

Limitations: It is largely advisory rather than legally enforceable. Awareness among healthcare workers is limited, implementation is inconsistent across states, and fear of blame weakens incident reporting.

8. NABH Accreditation Standards

Although voluntary, the standards of the National Accreditation Board for Hospitals & Healthcare Providers (under the Quality Council of India) are benchmarks for quality and safety.

Contributions: They address medication safety, patient identification, surgical safety checklists, infection control, quality indicators, clinical audits and continuous improvement.

Benefits: Fewer medical errors, better outcomes, evidence-based practice and patient-centred care.

Limitations: Accreditation is voluntary for many hospitals and resource-intensive. Smaller facilities struggle to meet the standards, and sustaining compliance after accreditation is difficult.

Common Challenges Across Patient Safety Laws

Fragmented regulatory oversight across multiple agencies Shortages of trained professionals and inadequate staffing in rural and public hospitals Fear of punishment leading to under-reporting of errors, and a weak safety culture No integrated electronic health records, and limited patient awareness of rights

Financial constraints, uneven enforcement across states and delays in resolving disputes

Future Directions

Enact a comprehensive National Patient Safety Act and a mandatory national adverse event reporting system Strengthen pharmacovigilance and materiovigilance Expand interoperable digital health records Make patient safety education mandatory for healthcare professionals Build a “Just Culture” that promotes learning rather than blame Improve accreditation, periodic quality audits and coordination among regulators Raise public awareness of patient rights and informed consent Invest more in infrastructure and workforce capacity.

India has built a strong legal and regulatory foundation for patient safety through the Drugs and Cosmetics Act, Clinical Establishments Act, Consumer Protection Act, Transplantation of Human Organs and Tissues Act, NABH Standards and the NPSIF. Legislation alone, however, cannot eliminate preventable harm. Effective implementation, stronger regulatory capacity, trained professionals, reliable adverse event reporting and a culture of continuous learning are essential. Achieving “Patient Safety First” needs coordinated national action across governance, digital health, workforce development, quality improvement and patient engagement ●

PHARMACY STUDENTS CORNER

Dr. M.S. Vishnu.Pharm D

**ഫാർമസി പ്രൊഫഷണലുകൾക്കായി
ഉന്നത പഠനവും കരിയർ വികസനവും -
അക്കാദമിക് വെബ്സൈറ്റുകളുടെ ഫലപ്രദമായ ഉപയോഗം**

ഫാർമസി മേഖല ഇന്ന് മരുന്ന് വിതരണത്തിലും നിർമ്മാണത്തിലും മാത്രം ഒതുങ്ങുന്നില്ല. ക്ലിനിക്കൽ ഫാർമസി, ഫാർമ കോവിജിലൻസ്, റെഗുലേറ്ററി അഫയേഴ്സ്, ബയോടെക്നോളജി, ക്ലിനിക്കൽ റിസർച്ച്, ഡ്രഗ് ഡിസ്കവറി, ഡാറ്റാ സയൻസ്, ഹെൽത്ത്കെയർ ടെക്നോളജി തുടങ്ങിയ പുതിയ മേഖലകളിലേക്ക് ഈ പ്രൊഫഷൻ വളരുകയാണ്. അതിനാൽ ശരിയായ ഉന്നത വിദ്യാഭ്യാസ പരിപാടി തിരഞ്ഞെടുക്കുന്നത് ദീർഘകാല കരിയർ വളർച്ചയ്ക്ക് നിർണ്ണായകമാണ്.

ഇന്ത്യയിലും വിദേശത്തും അനുയോജ്യമായ പഠനാവസരങ്ങൾ കണ്ടെത്താൻ അക്കാദമിക് വെബ്സൈറ്റുകൾ ഏറ്റവും പ്രധാന ഉപകരണങ്ങളിലൊന്നാണ്. പ്രവേശന വിജ്ഞാപനങ്ങൾ നോക്കാൻ മാത്രമല്ല, ക്രമബദ്ധമായി ഉപയോഗിക്കണം.

വ്യക്തമായ കരിയർ ലക്ഷ്യത്തോടെ തുടങ്ങുക

കോഴ്സ് തിരഞ്ഞെടുക്കും മുമ്പ് താൽപര്യം, കഴിവുകൾ, ഭാവിയിലെ തൊഴിൽസാധ്യതകൾ എന്നിവ പരിഗണിച്ച് ഏത് മേഖലയിൽ വളരണമെന്ന് തീരുമാനിക്കുക.



പ്രധാന മേഖലകൾ:

M.Pharm / Pharm.D / PhD: അക്കാദമിക രംഗം, ഗവേഷണം, സ്പെഷ്യലൈസ്ഡ് പ്രാക്ടീസ്

Clinical Research / Pharmacovigilance: ക്ലിനിക്കൽ ട്രയലുകൾ, മരുന്നുസുരക്ഷ, പ്രതികൂലഫല നിരീക്ഷണം

Regulatory Affairs: കംപ്ലയൻസ്, മരുന്ന് അനുമതി നടപടികൾ

MBA / Pharmaceutical Management: മാനേജ്മെന്റ്, ബിസിനസ് വികസനം, നേതൃത്വം

Biotechnology / Pharmaceutical Sciences: ഗവേഷണം, പുതിയ മരുന്നുകളുടെ വികസനം

Public Health / Health Administration: ആരോഗ്യനയം, പൊതുജനാരോഗ്യം

Data Science / AI in Healthcare: ഡാറ്റാ വിശകലനം, കൃത്രിമബുദ്ധി

വെറുമൊരു അധിക യോഗ്യതയല്ല, സ്വന്തം കരിയർ ലക്ഷ്യത്തെ പിന്തുണയ്ക്കുന്ന കോഴ്സാണ് തിരഞ്ഞെടുക്കേണ്ടത്.

അക്കാദമിക് വെബ്സൈറ്റുകൾ തന്ത്രപരമായി ഉപയോഗിക്കുക

ആദ്യം സർവകലാശാലകളുടെയും സ്ഥാപനങ്ങളുടെയും ഔദ്യോഗിക വെബ്സൈറ്റുകൾ പരിശോധിക്കുക. തുടർന്ന് അംഗീകൃത പോർട്ടലുകളിൽ കോഴ്സുകൾ താരതമ്യം ചെയ്യുക. ഇന്ത്യയിൽ പഠിക്കാൻ Study in India പോലുള്ള ഔദ്യോഗിക പോർട്ടലുകൾ സഹായിക്കും. വിദേശപഠനത്തിന് അതത് രാജ്യത്തെ ഔദ്യോഗിക വിദ്യാഭ്യാസ പോർട്ടലുകളും സർവകലാശാലാ, സ്കോളർഷിപ്പ് പോർട്ടലുകളുമാണ് കൂടുതൽ വിശ്വസനീയം.

എന്തൊക്കെ താരതമ്യം ചെയ്യണം?

പരസ്യമോ റാങ്കിംഗോ മാത്രം നോക്കി സ്ഥാപനം തിരഞ്ഞെടുക്കരുത്. ഇവ താരതമ്യം ചെയ്യണം:

കരിക്കുലം → അംഗീകാരം → അധ്യാപകരുടെ യോഗ്യതയും ഗവേഷണ പരിചയവും → ഗവേഷണ സൗകര്യങ്ങൾ → വ്യവസായ ബന്ധം → ഇന്റേൺഷിപ്പ് → -പ്ലേസ്മെന്റ് → ഫീസ് → സ്കോളർഷിപ്പ് → സ്ഥലം → കരിയർ സാധ്യതകൾ

ഗവേഷണാധിഷ്ഠിത കോഴ്സുകളിൽ അധ്യാപക

രുടെ പ്രസിദ്ധീകരണങ്ങൾ, ലബോറട്ടറി സൗകര്യങ്ങൾ, നിലവിലെ ഗവേഷണ പദ്ധതികൾ, ഗൈഡുകളുടെ വിദഗ്ധത എന്നിവയും പരിശോധിക്കണം.

ഓൺലൈൻ വിവരങ്ങൾ സ്ഥിരീകരിക്കുക

ഓൺലൈൻ വിവരങ്ങൾ തെറ്റായതോ അപൂർണ്ണമായതോ ആകാം. അപേക്ഷിക്കും മുമ്പ് അംഗീകാരം, യോഗ്യതാ മാനദണ്ഡങ്ങൾ, പ്രവേശന പരീക്ഷകൾ, കോഴ്സ് കാലാവധി, ആകെ ചെലവ്, സ്കോളർഷിപ്പ്, അവസാന തീയതി, ഇന്റേൺഷിപ്പ്, പ്ലേസ്മെന്റ്, പ്രൊഫഷണൽ അംഗീകാരം എന്നിവ സ്ഥാപനത്തിന്റെ ഔദ്യോഗിക വെബ്സൈറ്റിൽ ഉറപ്പാക്കുക.

വിദേശപഠനം: പ്രവേശനത്തിനപ്പുറം ചിന്തിക്കുക

പ്രവേശനം മാത്രമല്ല, ഇവയും പരിശോധിക്കണം: പ്രൊഫഷണൽ ലൈസൻസിംഗ്, യോഗ്യതയുടെ അംഗീകാരം, വിസാ വ്യവസ്ഥകൾ, ജീവിതച്ചെലവ്, ഭാഷാ ആവശ്യകതകൾ, പഠനാനന്തര തൊഴിൽ അവസരങ്ങൾ. പഠിച്ച രാജ്യത്ത് ജോലി ചെയ്യാൻ ആഗ്രഹിക്കുന്നവർ അവിടത്തെ ഫാർമസി രജിസ്ട്രേഷനും ലൈസൻസിംഗും റെഗുലേഷനും മുൻകൂട്ടി മനസ്സിലാക്കണം.

വെബ്സൈറ്റുകൾ അഡ്മിഷൻ ട്രസാത്സ് മാത്രമല്ല

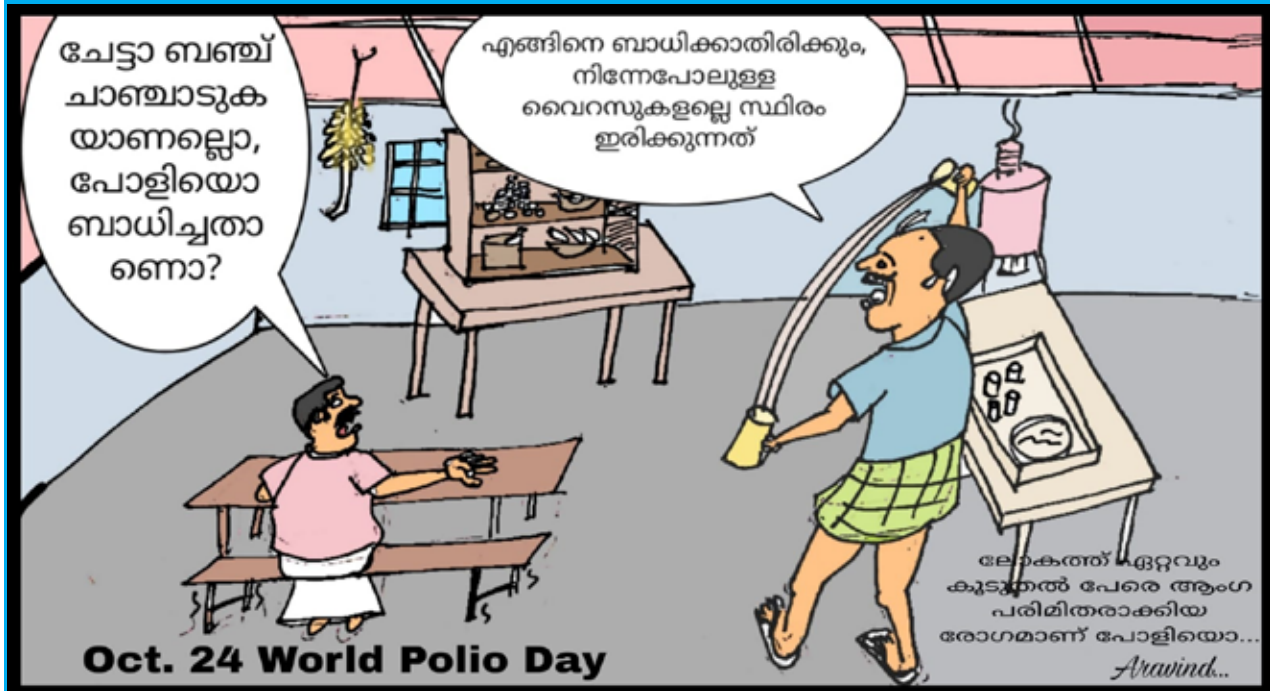
പുതിയ സ്പെഷ്യലൈസേഷനുകൾ, ഗവേഷണ മേഖലകൾ, ഫെല്ലോഷിപ്പുകൾ, കോൺഫറൻസുകൾ, ഇന്റേൺഷിപ്പുകൾ, ഗവേഷണ ഗൈഡുകൾ, വ്യവസായ സഹകരണങ്ങൾ എന്നിവയും ഇവയിലൂടെ കണ്ടെത്താം. 5-10 അനുയോജ്യമായ കോഴ്സുകൾ ഷോർട്ട്ലിസ്റ്റ് ചെയ്ത് ഒരേ മാനദണ്ഡങ്ങളിൽ താരതമ്യം ചെയ്യുന്നതാണ് നല്ല രീതി.

ഉപസംഹാരം

‘എവിടെയാണ് എനിക്ക് അഡ്മിഷൻ ലഭിക്കുക?’ എന്നതിന് പകരം ഇങ്ങനെ ചോദിക്കണം:

‘അടുത്ത 10-20 വർഷത്തെ എന്റെ കരിയറിന് ആവശ്യമായ അറിവും കഴിവും പ്രൊഫഷണൽ പരിചയവും തൊഴിൽ അവസരങ്ങളും നൽകുന്ന യോഗ്യത ഏത് സ്ഥാപനത്തിൽ നിന്ന് നേടണം?’

അക്കാദമിക് വെബ്സൈറ്റുകളുടെ ഫലപ്രദമായ ഉപയോഗം വിവരാധിഷ്ഠിത തീരുമാനങ്ങൾക്കും തെറ്റായ തിരഞ്ഞെടുപ്പ് ഒഴിവാക്കാനും സഹായിക്കും. ശരിയായ ഉന്നത വിദ്യാഭ്യാസം ഒരു അധിക സർട്ടിഫിക്കറ്റല്ല, പ്രൊഫഷണൽ കഴിവിലും തൊഴിൽ സാധ്യതയിലും ദീർഘകാല കരിയർ വളർച്ചയിലും നടത്തുന്ന നിക്ഷേപമാണ് ●



Why Pharma First?



Here's why Pharma First's solutions come perfectly aligned to keep your business on the right side of the country's benchmarks. Pharma First is directed by Mr. M. R. Pradeep, M. Pharm, Retd. Deputy Drug Controller, Govt. of Kerala.

His 38-year long career in multi-verticals — Pharmaceutical Education & Research, Industrial Pharmacy, Formulation Technology, Regulatory affairs enabled him to gain hands-on experience and in-depth exposure in the industry. In his position as Enforcement Officer, Dept. of Drugs Control, Govt. of Kerala. for a period of 27 years dealing with problems and issues connected with drug formulation, legal compliances both at national and global levels, pharma R&D evolution and the like poised him as a globally acknowledged industry expert. This wide and in-depth exposure enables Pharma First to offer superior consultancy services and knowledge contribution which help our clients realize their organizational visions and goals while remaining growth focused.

THE SOLUTIONS SPECTRUM

The origin of Pharma First is inspired by the deep understanding that the segment needs professional consultancy services to make the industry growth-focused while remaining people and patient-friendly. Hence, the company's objective is to simplify the involved processes, while transparently imparting the latest industry happenings and developments taking place across the world.

- Advisory solution for legal policies.
- Aiding expansion drive for new products, securing the mandatory licence.
- Comprehensive guidance to start pharmaceutical firms right from location selection to commencement as per legal and regulatory guidelines.
- Conducting auditing of running shops for business development.
- Conducting training programmes for the community / Hospital Pharmacy staff.
- Counselling for running a community / Hospital Pharmacy successfully.
- Extending support in overcoming legal / regulatory procedures in running shop.
- Guidance to proper management of a community / Hospital Pharmacy.
- Help in obtaining Drugs licence and other requirements to start a sales / distribution firm.
- Medicine formulation and ingredient combination norm advisory solutions.
- Offering professional assistance in creating websites, software development and online trading.

Any queries please contact:

PHARMA FIRST
Muvattupuzha

+91 8289856081
+91 9446056081

enquiry@pharmafirstconsulting.com
rdipradeep@gmail.com

UTHEGENTM

ENRICHED WITH CORDYCEPS



**ENERGISE
YOUR DAY,**
**ANY TIME ANYWHERE
WITH OUR NEW
CORDYCEPS
FORMULA**

E-mail: crosscountrycures@gmail.com

The images shown are for illustration purposes only and may not be an exact representation of the product.