Volume 6, Issue 2, July-Decenber 2025

Pharma Insight

Newsletter

A Biannual Newsletter from Department of Pharmacy Practice, KLE College of Pharmacy, Bengaluru

About College

KLE College of Pharmacy, Bengaluru is the constituent unit of KLE Academy of Higher Education & Research (Deemed to be University), Belagavi which is Re-Accredited by NAAC "A Plus" grade by UGC. We are running D.Pharm, B.Pharm, M.Pharm, Pharm.D and PhD courses in a spacious well-equipped building of its own with hostel, library and sports facilities. The pharmacy curriculum is approved by Pharmacy Council of India (PCI).

Department of Pharmacy Practice

KLE Academy of Higher Education and Research (KAHER), Belagavi has started Doctor of Pharmacy course in its constituent college, KLE College of Pharmacy, Bengaluru in the year 2014. To impart education, the pharmacy practice department is having adequate infrastructure and facilities as per the requirement of statutory bodies for the students from Doctor of Pharmacy course and PhD programme. All the faculty members have rich experience to make the student excel in her/his studies and to suit the professional opportunities in the hospital, clinical research and pharmaceutical industries.

Our department is associated with Aster RV Hospital, JP Nagar, Bengaluru, which is located 12 kilometres away from the college premises. In addition, it is associated with Prakriya Hospital, Nagasandra, Bengaluru, which is 10 kilometres away from the institution. Moreover, KLE bus facility is available from KLE Hostel, College and Hospital.

The department is keen to have collaboration with other hospitals, clinical research organizations and pharmaceutical industries towards the pharmacy practice related research projects and services.

ADVANCING TREATMENT THROUGH BIOTECHNOLOGY AND BIOLOGIC MEDICINES

Biotechnology has transformed contemporary medicines by developing biological drugs, which are large and complex molecules obtained from living organisms. In contrast to conventional small molecule drugs, biological drugs like monoclonal antibodies, recombinant proteins, vaccines, and gene therapies possess highly specific and targeted mechanisms of action. The literature over the past ten years has emphasized their growing applications in the treatment of cancer, diabetes, autoimmune diseases, and infectious diseases.

Monoclonal antibodies are one of the most successful groups of biologics. These molecules target specific proteins that cause diseases, thus improving the efficacy of treatments while reducing side effects. Recombinant biologics like insulin help replace the missing hormones in the body and greatly improve the quality of life for patients with chronic diseases. The recent success of mRNA vaccines also shows that biotechnology can be used to develop effective treatments during global health crises.

Biosimilars are highly similar versions of already approved reference biologics with no clinically meaningful differences in safety, purity, or efficacy. Due to their lower development costs and abbreviated regulatory pathways, biosimilars significantly reduce treatment expenses and improve patient accessibility. They serve as effective therapeutic alternatives to innovator biologics, promote market competition, and help healthcare systems manage the economic burden of chronic diseases such as cancer and autoimmune disorders.

However, biologics have some challenges such as complex production processes, storage at refrigerated temperatures, high treatment costs, and the possibility of inducing immunogenic responses. Pharmacists are therefore essential in the handling, storage, patient counseling, therapeutic drug monitoring, and pharmacovigilance reporting of biologics to ensure the safe and rational use of these innovative drugs.

Clinical Pharmacist Monitoring Responsibilities:

Clinical pharmacists play a critical role in monitoring patients receiving biologics. They must assess therapeutic response, infusion or injection-site reactions, hypersensitivity, immunogenicity, infection risk, and organ function parameters such as liver and renal tests. Regular monitoring of laboratory markers, adherence, storage conditions, and adverse drug reactions ensures early detection of safety issues and optimization of therapy outcomes.

Conclusion:

In conclusion, biotechnology and biological drugs are changing the face of pharmacy practice from traditional dispensing to precise and patient-centric practices. Research and development in these areas will help increase their applications. Regulatory authorities such as the Food and Drug Administration and the World Health Organization have established strict biosimilar guidelines, and in India, the adoption of biosimilars is steadily increasing with government support and domestic manufacturing, indicating that availability is improving and is no longer a major limitation to patient access.

- U.S. Food and Drug Administration. New Drug Therapy Approvals Annual Reports.
- Nature Reviews Drug Discovery. Advances in mRNA vaccine technologies.
- World Health Organization. Guidelines on evaluation of biosimilars.
- Recent peer reviewed reviews on monoclonal antibodies and therapeutic biologics.

Mr. Aditya C.
V Pharm D.

Section Editor : Dr. Usha D.S.

DEPARTMENT SERVICES

Adverse Drug Reactions Reported*

Generic name	Dosage form	Adverse Drug Reactions
Metronidazole	Injection	Gastrointestinal upset, Increase in metallic taste
Amiodarone	Injection	Liver enzymes elevation
Linezolid	Oral	Thrombocytopenia
Acetaminophen	Oral	Itching, Rashes
Atorvastatin	Oral	Muscle pain, Black discoloration of urine, Rhabdomyolysis (Suspected)
***July to December 2025**		

Case, Journal and New Drug / Medical Device Club Presentation*

Type of Presentation	College
Case Presentation	58
Journal Club Presentation	61
New Drug Presentation	46
***July to December 2025**	

Departmental Publications*

SN	Type	Published	Accepted	Communicated
1	**Research article**	**04**	**00**	**01**
2	**Review article**	**01**	**00**	**03**

Workshops and Short Term Courses Attended*

Type of workshop	Number
Webinar	18
Workshop	17
Guest talk	04
Short term program	12
Conference attended	29
***July to December 2025**	

NEW DRUGS / DRUG FORMULATIONS APPROVED IN INDIA

SN	Generic Name, Dosage form, Route & Strength	Indications	Approved Date
1	Tegoprazan, Tablets PO, 25 mg	Gastroesophageal reflux disease	08-07-2025
2	Relugolix (40 mg) + Estradiol (1 mg) + Norethindrone acetate (0.5 mg), Tablets, PO	Heavy menstrual bleeding associated with uterine fibroids	16-07-2025
3	Lutetium Lu-177 vipivotide tetraxetan, Infusion, IV, 1000 MBq/mL	PSMA - positive metastatic castration - resistant prostate cancer	23-07-2025
4	Stamicis Kit, Powder for injection IV, 1mg	Myocardial perfusion imaging, ventricular function assessment, breast cancer detection, hyperparathyroidism localization	23-07-2025
5	Upadacitinib, ER Tablets PO, 15mg, 30 mg, 45 mg	Moderately to severely active ulcerative colitis	19-08-2025
6	Pitolisant, Tablets PO, 4.45mg, 17.8 mg	Excessive daytime sleepiness, Cataplexy in narcolepsy	27-08-2025
7	Etrasimod, Tablets PO, 2mg	Ulcerative colitis	16-09-2025
8	Erdafitinib, Tablets PO, 3mg, 4mg, 5mg	Locally advanced or metastatic urothelial carcinoma	01-10-2025
9	Vorasidenib, Tablets PO, 10mg, 40mg	Grade 2 IDH-mutant astrocytomas and oligodendrogliomas	15-10-2025

- https://cdsco.gov.in

Ms. Boomika S.B.
VIII B. Pharmacy

NEW DRUGS APPROVED BY FDA

Brand Name	Generic Name	Route and Dose	Indications	Approval Date
Anzupgo	Delgocitinib	Topical: 2% cream applied twice daily	Chronic hand eczema	23-07-2025
Vizz	Aceclidine	Ophthalmic: 2 drops in each eye once daily	Presbyopia	31-07-2025
Wayrilz	Rilzabrutinib	PO: 400 mg twice daily	Immune thrombocytopenia	29-08-2025
Forzinity	Elamipretide	SC: 40 mg once daily	Barth syndrome	19-09-2025
Inluriyo	Imlunestrant	PO: 400 mg once daily on empty stomach	ER+/HER2- breast cancer	25-09-2025
Lynkuet	Elinzanetant	PO: 120 mg once daily at bedtime	Menopausal hot flashes	24-10-2025
Komzifti	Ziftomenib	PO: 600 mg once daily	Acute myeloid leukemia	13-11-2025
Voyxact	Sibeprenlimab-szsi	SC: 400 mg every 4 weeks	IgA nephropathy	25-11-2025
Cardamyst	Etripamil	Nasal Spray: 70 mg (1 spray per nostril)	Paroxysmal Supraventricular tachycardia	12-12-2025
Nereus	Tradipitant	PO: 85 mg single dose as needed	Motion sickness vomiting	30-12-2025

- http://www.fda.gov/drugs

Mr. Harsha V.
VIII B. Pharmacy

NEW MEDICAL DEVICES APPROVED BY FDA

DEVICE NAME	CATEGORY & APPLICATIONS	APPROVAL DATE
Cobas HIV-1 Quant & Qual NA Tests	Molecular diagnostic tests for detection/quantification of HIV-1 RNA in human plasma.	21-11-2025
Elecsys Syphilis	In-vitro diagnostic immunoassay for detection of antibodies to Treponema pallidum for syphilis testing	10-12-2025
"HsingChi" Lipo Selector Disposable Fat Collection System	Disposable surgical fat collection device used during liposuction to harvest adipose tissue.	23-12-2025
PRiSM PRP	Platelet-Rich Plasma preparation system used to process autologous blood sample for clinical platelet concentrate preparation	23-12-2025

- https://www.fda.gov/drugs

ERYTRA IN BLOOD BANK: AN EFFICIENT INSTRUMENT FOR PATIENT SAFETY

Erytra is a fully automated immunohematology analyzer used in blood banks and clinical laboratories for performing blood grouping and compatibility testing. The system is designed to improve the efficiency, accuracy, and safety of blood transfusion procedures by automating various immunohematological tests. It is widely used for routine blood bank testing due to its high throughput and reliable performance.

The analyzer works based on column agglutination technology using gel cards. In this method, red blood cells and antibodies interact within microtubes containing gel media. When antigen–antibody reactions occur, agglutinated red blood cells are trapped within the gel column while non-agglutinated cells pass through to the bottom. This clear separation allows easy detection and interpretation of reactions, thereby improving test accuracy and reproducibility.

Erytra is capable of performing several important blood bank tests including ABO and Rh blood grouping, antibody screening, antibody identification, cross-matching, and direct antiglobulin tests. These tests play a crucial role in determining compatibility between donor and recipient blood, thus helping to prevent transfusion reactions and ensuring patient safety. One of the key advantages of the Erytra analyzer is its high level of automation. The instrument can automatically handle sample identification, reagent dispensing, incubation and centrifugation and result interpretation. This reduces manual intervention and minimizes the chances of human error. The system also improves laboratory workflow by allowing simultaneous processing of multiple samples.

- Chang C. et al. Transfusion Medicine 2014: 24: 33-38.

Mr. Swaraj V.
VIII B. Pharmacy

INVITED ARTICLE

ROLE OF CLINICAL PHARMACOLOGISTS IN PREVENTING SELF-MEDICATION

Introduction

Self-medication has become a common and widely prevalent practice, particularly in developing countries, due to easy availability of medicines, prior prescriptions, increased access to health-related information, and socio-economic barriers to medical consultation. Self-medication refers to the use of medicines without professional supervision for the treatment of self-diagnosed illnesses. While responsible self-care for minor ailments may reduce health care burden, irrational-medication poses serious risks to patient safety and public health.

Inappropriate drug use can lead to adverse drug reactions (ADRs), drug–drug interactions, masking of serious diseases, treatment failure and increased healthcare costs. Indiscriminate use of antibiotics, analgesics, corticosteroids, and sedatives contributes to antimicrobial resistance, organ toxicity and drug dependence. Addressing these challenges requires a multidisciplinary approach, with clinical pharmacologists playing a pivotal role.

Clinical pharmacologists are uniquely positioned to prevent self-medication due to their expertise in pharmacotherapy, rational drug use and pharmacovigilance. They serve as a vital link between clinicians, patients and the healthcare systems to ensure safe and effective medicine use.

Patient education is a key responsibility of clinical pharmacologists. Through outpatient counseling, ward rounds and community-based programs, they educate patients on the risks of unsupervised drug use, proper dosing, duration of therapy, and potential adverse effects. Special focus is given to vulnerable groups such as elderly, children, and patients with chronic illnesses.

Clinical pharmacologists promote rational use of medicines by contributing to standard treatment guidelines, hospital formularies, and essential medicine lists. These measures encourage evidence-based prescribing and reduce polypharmacy, thereby minimizing reuse of old prescriptions for self-medication. Their role in antimicrobial stewardship programs is particularly important in optimizing antibiotic use and combating antimicrobial resistance.

Pharmacovigilance is another major area of involvement. Clinical pharmacologists actively monitor, assess, and report adverse drug reactions, many of which result from self-medication. Analysis of ADR data helps to identify commonly misused drugs and unsafe practices. Issuing ADR alert cards and maintaining accurate medication histories further help prevent recurrence.

They also contribute to healthcare policy and regulation through participation in drug and therapeutics committees and prescription audits, advocating for controlled drug dispensing and improved medication safety. In academic institutions, clinical pharmacologists educate health care students on rational prescribing and patient counseling, ensuring long-term impact.

Conclusion

Self-medication remains a significant threat to patient safety and public health. Clinical pharmacologists play a central role in preventing this practice through patient education, promoting rational prescribing, pharmacovigilance, antimicrobial stewardship, policy advocacy, and academic training. Strengthening their role within healthcare systems is essential to reduce medication-related harm and promote safe, responsible use of medicines. Integrating clinical pharmacologists more actively into patient care and public health initiatives can significantly curb irrational self-medication practices.

- World Health Organization. Geneva: World Health Organization; 2000.
- Hughes CM, McElnay JC, Fleming GF. Drug Saf. 2001;24(14):1027–1037.
- CDSCO. Pharmacovigilance Programme of India: operational guidelines. MoHFW, GoI.

Dr. Ramya R.
Pediatric Clinical Pharmacologist
Aster CMI Hospital, Hebbal, Bengaluru

ALUMNI EXPERIENCE

I'm Dr. Purvick H.M. from Pharm D outgoing batch of 2024-25. My time at KLE College of Pharmacy, Bengaluru was an important part of my journey and helped me to shape how I look at healthcare today. The course gave me a strong base in clinical pharmacy, and the faculties were always supportive and encouraged us to think beyond textbooks.

The hospital postings were where the course really started to make sense. Working with different teams of doctors and healthcare professionals gave me a better understanding of patient care and the role we play as clinical pharmacist. It showed me the unique position we are in, understanding both medicines and patient care, and how we can support doctors in making safer and better treatment decisions.

I'm grateful to the college for the learning, guidance, and experiences that helped me grow both professionally and personally.

Dr. Purvick H.M.
Research Associate
St. John's Research Institute, Bengaluru

Joining KLE College of Pharmacy, Bengaluru was both exciting and intimidating. Like many students, I stepped in with dreams, but also with a lot of uncertainty about the future. Those early worries soon disappeared as I experienced the warmth, dedication, and expertise of our faculty members. Their constant guidance not only helped me to excel academically but also shaped my confidence as a healthcare professional. The college is well-equipped, advanced laboratories and strong academic resources provided me with every tool needed to learn without limitations. What I valued most was the opportunity to bridge the gap between theory and practice, applying classroom knowledge to real-life situations. KLE has always been a hub of activity and growth. Along with academic excellence, the institution offers its students opportunities to engage in cultural fests, sports events, and other extracurricular activities making the campus lively and enriching for everyone.My clerkship and internship were among the most transformative parts of my journey. The exposure to hospital settings, along with the chance to work under outstanding mentors, doctors, and guides, broadened my knowledge especially in pharmacology and strengthened my skills in pharmacy practice.

Today, I am proud to be working as a Clinical Pharmacologist in a reputed hospital. Looking back, I feel immense gratitude towards my alma mater for providing me with the right platform to learn, grow, and succeed. My heartfelt thanks go to the faculty of the Pharmacy Practice department and my hospital mentors for walking with me in this journey. For me, KLE College of Pharmacy will always be more than an institution, it is where I discovered my path, found my confidence, and built the foundation for my career.

Dr. Misfal M.
Clinical Pharmacist
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CLINICAL ROLE OF ALPHA-BLOCKERS IN THE MANAGEMENT OF BENIGN PROSTATIC HYPERPLASIA

Alpha-adrenergic blockers remain a cornerstone in the pharmacological management of benign prostatic hyperplasia (BPH), particularly for patients with moderate to severe lower urinary tract symptoms (LUTS). BPH is characterized by both a static component related to prostate enlargement and a dynamic component mediated by increased smooth muscle tone in the prostate, bladder neck, and prostatic urethra. Alpha-blockers primarily target this dynamic component by inhibiting α1-adrenergic receptors, leading to smooth muscle relaxation and reduced bladder outlet resistance.

Clinically, alpha-blockers are valued for their rapid onset of action, with significant symptom improvement often observed within days to weeks of therapy initiation. Patients commonly report relief from LUTS such as urinary frequency, nocturia, hesitancy, weak urinary stream, and sensation of incomplete bladder emptying. Widely used agents include tamsulosin, silodosin, and alfuzosin, which exhibit greater uroselectivity and are associated with a lower incidence of systemic adverse effects such as orthostatic hypotension. This favorable safety profile makes them particularly suitable for elderly patients and those with cardiovascular comorbidities.

Although alpha-blockers do not reduce prostate volume or prevent disease progression, extensive clinical evidence supports their efficacy in improving international prostate symptom score, maximum urinary flow rate, and overall quality of life. They are recommended as first-line therapy in men with symptomatic BPH who do not require immediate surgical intervention and may be used alone or in combination with other pharmacological agents. Overall, alpha-blockers continue to play a vital role in individualized, symptom-oriented BPH management. Another important consideration in the use of alpha-adrenergic blockers is their role in combination therapy for patients with more advanced or progressive benign prostatic hyperplasia. In individuals with larger prostate volumes or a higher risk of disease progression, alpha-blockers are often combined with 5-alpha reductase inhibitors such as Finasteride and Dutasteride. These drugs decrease the conversion of testosterone to dihydrotestosterone, thereby reducing prostate size over time. Clinical trials have demonstrated that this combination approach can significantly reduce the risk of acute urinary retention and the need for surgical intervention compared with monotherapy, particularly in patients with enlarged prostates and severe lower urinary tract symptoms.

Despite their favourable efficacy and safety profile, alpha-blockers may still be associated with certain adverse effects that clinicians must consider during pharmacotherapy. Common side effects include dizziness, fatigue, nasal congestion, and ejaculatory dysfunction, particularly with highly selective agents such as Tamsulosin and Silodosin. A notable clinical concern is intraoperative floppy iris syndrome, which has been reported in patients receiving alpha-blocker therapy who undergo cataract surgery. Therefore, careful patient counselling and coordination with ophthalmologists are recommended when surgical procedures are planned. Overall, appropriate patient selection, monitoring of therapeutic response and awareness of potential adverse effects contribute to the safe and effective use of alpha-blockers in the long-term management of benign prostatic hyperplasia.

- Gravas S, et al. European Association of Urology; 2023.
- Roehrborn CG, et al. Urologic Clinics of North America. 2006; 33(3):417–425.
- McVary KT, et al. The Journal of Urology. 2011; 185(5):1793–1803.

Mr. Palash M.
Pharm D. Intern

STUDENTS DESK

LATEST PHARMACY PRACTICE APPROACHES

In an era marked by rapid advancements in biomedical science and evolving healthcare demands, the pharmacy profession stands at a pivotal crossroads. The traditional role of pharmacists is transforming into that of medication therapy experts, integrators of digital health technologies, and active participants in precision medicine. Modern pharmacy approaches now embrace innovations such as pharmacogenomics, telepharmacy, artificial intelligence (AI) - driven drug discovery, and patient-centric care models. All aimed at optimizing therapeutic outcomes while ensuring safety, efficacy, and accessibility. This article explores the latest trends redefining the pharmaceutical landscape, shedding light on groundbreaking methodologies and their implications for clinical practice, drug development, and public health policy.

India's healthcare system is grappling with a critical shortfall of family physicians and general practitioners, especially in rural and underserved areas, therefore pharmacists are increasingly recognized as vital contributors to team-based care, enhancing access and improving health outcomes. Evidence from integrated healthcare systems such as the Department of Veterans Affairs, USA demonstrates that pharmacists can reduce primary care provider revisit rates, improve access to same-day appointments, and lower wait times for new patients.

Collaborative care models are giving pharmacists greater authority in patient management. In the U.S., Collaborative Practice Agreements permit pharmacists to initiate or modify treatment plans for conditions like diabetes, hypertension, asthma, and oncology leading to improved clinical metrics such as glycemic and pulmonary control. In ambulatory care environments as seen in Saudi Arabia's Johns Hopkins Aramco Healthcare, pharmacists deliver medication management in specialized clinics supported by patient portals and telepharmacy tools.

Gene and cell therapies represent groundbreaking advancements in treating rare and chronic diseases. However, their high costs often exceeding $1 million per patient, which pose significant challenges for healthcare systems. These therapies require specialized expertise, and payment models to ensure equitable access and financial sustainability. Outcomes-based payment models are emerging as a solution, linking reimbursement to patient outcomes. Clinical pharmacists play a pivotal role in managing ultra high-cost drugs by ensuring their safe, effective, and economically sustainable use.

Medication Therapy Management (MTT) programs are standard in U.S. Medicare Part D plans and are increasingly recognized for optimizing medication regimens in chronic disease patients. Globally, pharmacists led Comprehensive Medication Management (CMM) models are gaining traction, emphasizing appropriateness, safety, efficacy and adherence through teamwork with other healthcare providers. Pharmacists are also active in chronic disease protocols such as initiating Glucagon-like peptide-1 receptor agonists like Semaglutide for diabetes, reducing care delays and improving outcomes in outpatient settings.

As digital services proliferate, equitable access becomes vital. Recent research introduces "Pharmacocybernetics", focusing on integrating informatics, human–computer interaction, and behaviour–driven design to enhance digital pharmaceutical care. A concurrent study promotes the development of accessible digital pharmacy platforms, telehealth services, and wearable health apps that comply with Web Content Accessibility guidelines (WCAG) and American Diabetes Association (ADA) standards for users with cognitive, visual or motor impairments.

The integration of AI and data analytics into pharmacy is emerging as a game changer. It is revolutionizing healthcare by automating tasks such as documentation, prior authorizations, and patient referrals. AI-driven tools and autonomous pharmacy systems together streamline operational workflows, reduce cognitive demands, and improve medication access and safety through automated processes, and seamless clinical integration.

The concept of "Pharmacointelligence" marries AI, clinical decision support systems (CDSS), and informatics to optimize medication management processes. Talking about its existing usage in healthcare is the ability to detect ADRs via electronic health records and suggest precise dosing adjustments. Example is insulin dosing using electronic data. These technologies are increasingly being piloted to assist pharmacists in making real time, data-driven clinical decisions.

Expanding on the previous approach is automation and autonomous pharmacy. Automation continues to reshape pharmacy operations. Robotic systems at institutions like University of California, San Francisco (UCSF) have achieved 100% dose accuracy across hundreds of thousands of doses. Autonomous pharmacy frameworks apply advanced robotics, predictive analytics, and workflow automation to relieve pharmacists of repetitive tasks by enabling a shift towards clinical, patient-focused roles. Beyond dispensing, pharmacies are exploring 3D and 4D printing for personalized dosage forms, which supports tailored regimens and decentralized manufacturing of medications. Since pharmacy is evolving rapidly, ongoing professional development and interprofessional education (IPE) are essential. A global scoping review emphasizes lifelong learning via blended modalities for face-to-face training complemented by digital resources to maintain competency.

The trajectory of pharmacy practice is clear: Expanding roles in primary care, management of ultra high-cost drugs, robust MTM/CMM services in chronic disease management, pharmacocybernetics, pharmacointelligence & AI/CDSS. These trends are interconnected, provides a roadmap for pharmacy leaders to navigate these emerging trends, ensuring the profession remains at the forefront of innovation and patient-centred care.

- Ali et al. Saudi Pharmaceutical Journal 2024
- Dipiro JT, et al. Am. J Health Syst Pharm 2025; 82(2): 17-47.

Ms. Rupali J.
IV Pharm D.

Section Editor : Dr. Kavya M.

DEPARTMENTS PROFESSIONAL ACTIVITY

Date	Topic	Activity	Speaker and Organization
23/08/2025	Biotechnology in Diagnostics: Point-of care Testing and Biomarkers	Guest talk	Mr. Shreyas M.B. Co-founder and Director, Auxochromofours
13/09/2025	From Charts to Care: A Clinical Pharmacist's Journey in Patient Management	Guest talk	Dr. Sana N. Clinical Pharmacist, Sparsh Hospital Bengaluru
13/09/2025	Ayush Regulatory Affairs – A Brief Review with respect to Ayurvedic Formulations	Guest talk	Dr. K. Venkateshwarlu Founder & Head, AyurLife Health Solutions
14/09/2025	Role of Nutraceuticals in Health care	Guest talk	Mr. Karthik K Business Development Head, Herbochem
16/09/2025	Validation of Pharmaceutical products	Guest talk	Mr. Deepak U. Senior Manager-QA, Hetero Labs Limited
17/09/2025-23/09/2025	National Pharmacovigilance Week 2025	Outreach	Dr. Lakshmi GM KLE College of Pharmacy, Bengaluru
19/09/2025 20/09/2025	Novel Techniques in Scientific Writing & Communications	Workshop	UDEHP KLE College of Pharmacy, Bengaluru
22/09/2025	Drug Design in the Digital age: Harnessing Computational Tools for Success	Guest talk	Dr. Anil M. TL-Material Science, Prescience Insilico Pvt Ltd
27/09/2025	cGMP Guidelines in Herbal Industry	Guest talk	Mr. Rajesh R Assistant Manager, Natural Remedies Pvt. Ltd
06/10/2025	Orientation for Newly Joined Faculty Members	Online Orientation	KLE Academy of Higher Education and Research, Belagavi
16/10/2025	Molecular Basis of Cognitive disorders driven by Calcination: From Bench to Bedside	Guest talk	Dr. Devaraju Professor & Chairman, Dept of Biochemistry Karnataka University, Dharwad
7/10/2025	Prospects of Medicinal and Aromatic Plant Cultivation	Guest talk	Dr. Ashok K. Assistant General Manager Bioresearch Division, Natural remedies
25/10/2025	Herbal Horizons: Exploring Emerging Industry Trends	Guest talk	Mr. Tahir H.S. Chief of RND Herbal Products & Nutraceuticals, Greenspace
07/11/2025	Optimizing Patient Outcomes: The Clinical Pharmacist's Role in the Healthcare Team"	Guest talk	Dr. Zainab K.E. Clinical Pharmacologist Manipal Hospital, Hebbal
08/11/2025	Stability Studies as per ICH guidelines	Guest talk	Mr. Harish Kumar Senior Manager, Biocon Ltd
15/11/2025	Intellectual Property Rights	Guest talk	Dr. Omprakash C Technical Director and Partner, Vyomus
22/11/2025	Clinical Characterization in Drug Discovery	Guest talk	Dr. Shankara Director, Chromatogen Analytical Solutions
06/12/2025	Programmable Cures: mRNA-Enabled CRISPR Editing in Modern Therapeutics	Guest talk	Mrs. Hemalatha R. Tata Institute for Genetics and Society, National Center for Biological Sciences
23/12/2025	Improving Patient Outcomes Through Clinical Pharmacist Interventions	Guest talk	Dr. Ramya R. Clinical Pharmacist, Aster CMI Hospital, Hebbal

SCHOLAR'S DESK

Look-Alike Sound-Alike Drugs: A Major Cause of Medication Errors

Medication errors remain a significant challenge in healthcare systems worldwide. Among the various causes, **Look-Alike Sound-Alike (LASA) drugs** represent a critical and preventable source of error. LASA drugs are medications that have similar names (sound-alike) or **similar packaging and physical appearance (look-alike),** which can result in incorrect prescribing, dispensing, or administration.

Introduction

Safe medication practices are essential to ensure optimal patient outcomes. However, similarities in drug names, labels, and formulations can easily confuse healthcare professionals, particularly in high-pressure clinical environments. Recognizing and addressing LASA-related risks is therefore a vital responsibility of pharmacists and other healthcare providers.

LASA drugs fall into two main categories:

1. Sound-Alike drugs: Medicines with similar pronunciation or spelling that may be confused during verbal or handwritten communication.
2. Look-Alike drugs: Medicines that have similar packaging or dosage forms.

Packaging-Related Issues in LASA Drugs:

- Similar color schemes, fonts, and label layouts
- Identical container shapes such as vials, ampoules, or bottles
- Inadequate prominence of generic names and drug strength
- Poor contrast and small font size reducing readability
- Absence of warning labels for high-risk medications

Formulation-Related Issues in LASA Drugs:

- Tablets or capsules with similar color, shape, and size
- Different strengths of the same drug appearing identical
- Injectable formulations with similar concentration and volume
- Oral and injectable formulations packaged in similar containers

Impact of LASA Medication Errors on Pharmacotherapy:

- Adverse drug reactions
- Overdose or underdose
- Therapeutic failure
- Increased morbidity and mortality
- Loss of patient trust and increased healthcare costs
- High-alert medications involved in LASA errors can have life-threatening consequences

Role of Pharmacists in Preventing LASA Medication Errors:

- Careful verification during dispensing
- Patient counseling and education
- Participation in medication safety committees
- Reporting and analysis of medication errors

Preventive Strategies for LASA Medication Errors:

- Use of Tall Man lettering to differentiate drug names
- Clear and distinctive labeling and packaging design
- Barcode scanning and electronic prescribing systems
- Physical separation of LASA drugs in storage areas
- Staff training and awareness programs
- Standard operating procedures for high-risk medications

Conclusion

LASA drugs represent a preventable cause of medication errors that can compromise patient safety. Similarities in drug names, packaging, and formulation significantly increase the risk of confusion during prescribing, dispensing, and administration. Through improved packaging design, robust safety systems, and active involvement of pharmacists, LASA-related medication errors can be effectively minimized.

- Institute for Safe Medication Practices.Horsham (PA): ISMP; 2023.
- U.S. Food and Drug Administration. Silver Spring (MD): FDA; 2022.
- National Coordinating Council for Medication Error Reporting and Prevention. NCC MERP; 2021.
- World Health Organization. Geneva: WHO; 2016.

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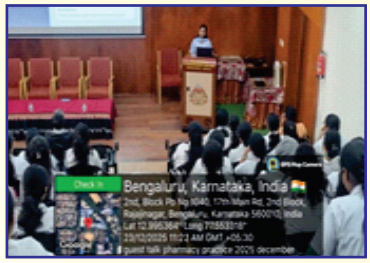

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Feedback Link: **https://forms.gle/sy6fkH2oAs1tx6F66**

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