



APOTHECO

PA COLLEGE OF PHARMACY

FEB 2022



Editorial



The Indian Pharmaceutical Industry has emerged hero in the last couple of years with its resilience to work under pressure and deliver the goods. India has supplied 235 million vaccines to about 98 countries around the world after meeting the internal requirements. The honorable Prime Minister of India, therefore, referred India as 'Pharmacy of the world'. The hospital and community Pharmacists have relentlessly worked to maintain the drug supply chain and dared the pandemic to make the medicine available for the public. The pharmaceutical institutions found innovative methods to teach their students at their homes and supply teaching materials to them. It was a tough task for the pharmacy teachers, as it was, for all other teachers. However, pharmacy teaching posed a special challenge as it is a practical based subject which was addressed effectively. As the pandemic subdued, the Pharmaceutical institutions reopened with a fresh optimism and enthusiasm. The P.A. College of Pharmacy is no different. Many programs like Medical camps, offline lectures, sports and other events were organized to boost the confidence of the students who were still apprehensive about the situations. I am confident that we will continue with same zeal to bring pharmacy profession upfront to the world.

As a part of our efforts to make students, faculty and other stake holders aware of the institutions' and pharmaceutical fraternity's success stories, we decided to launch a quarterly newsletter under the name "Apotheca" which means 'The Pharmacist'. I am happy to present the first newsletter of the year.

Dr.Saleemulla Khan
Principal

PATRON

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P.A. COLLEGE OF PHARMACY

WELCOMES



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Dept. of Pharmaceutics



Dr. Navya Narayanan

Asst. Professor

Dept. of Pharmacology



Dr. Zainaba Ajmajashy

Asst. Professor

Dept. of Pharmacology



P.A. COLLEGE OF PHARMACY

DEPARTMENT OF TRAINING AND PLACEMENT



CONGRATULATIONS!
on your placement with



Fathima Amreen UI



Nafeesath Nuha



Nakwa Fathima Sadaf



Fathima Sana B

Aster
PHARMACY



Fathima Amani



Aneesha A



Nikhil N



Shahnaz



Fathima Zuhra KH



Ayisha Helen K

PLACEMENTS

Aster Pharmacy has conducted Campus recruitment drive in P.A College of Pharmacy, Mangalore.

Around 43 students participated in the campus interview drive, 14 student's qualified aptitude test. Qualified students were then interviewed, results were declared after the interview round was completed.

Ten students were shortlisted by the HR team.

Overall experience and feedback of the recruitment team was very positive as the need of their organization to search the right talent to drive its business objectives is fulfilled by our students.

APPROVALS& ACCREDITATIONS

The Pharmacy Council of India (PCI), Government of Karnataka and Rajiv Gandhi University of Health Sciences has given approval to raise the intake capacity up to 100 students for B.Pharmacy Program.

FACULTY ACHIEVEMENT

Dr.Saleemulla Khan has participated as Poster Evaluator in the Scientific Session at 72nd Indian Pharmaceutical Congress held at Nagpur during January 2022-23

Dr. Rajisha K , HoD – Department Of Pharmacognosy has successfully completed Eight weeks of +online course on “ Cell Culture technology “ which was conducted by NIPTEL.

PATENTS FILED

- Dr.Marina Koland , Mr.Sharath H P and Dr.Sindhoor S M have been granted a patent titled Taste Masked Fast Dissolving oral films of fenugreek seed on 23/12/2022

PUBLICATIONS

Serial No	Title of the Publication	Authors	Name of the Journal	Month and Year of Publication
1.	'Pharmacognostic evaluation & <i>in vitro</i> anti-inflammatory activity of <i>Exacum bicolor</i> Roxb."	Rajisha K ; Jennifer Fernandez*	Jordan Journal of Biological Sciences	Dec 2022
2.	Design and Development of Deflazacort pH Transition Injectable <i>in-situ</i> implant for Rheumatoid Arthritis	Ashwathi ; Sindhoor SM; Prashant Nayak; Natasha Agarwal; Mohammed Gulzar Ahmed; Prajitha Biju	International Journal of Pharmaceutical Investigation	Jan 2023

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Orientation Day

P.A. College of Pharmacy conducted the orientation program for first year B.Pharm and D.Pharm students and parents on 14/01/2023. The major objective of the program was to make the parents and students aware of the academic aspects of the course, the rules and regulations of the institute and ensuring parental participation in monitoring the performance and progress of students. Various Dignitaries had joined for the program. The Principals from the Sister Institutions were also invited. The students and the parents were addressed by the dignitaries



National Voters Day

National Voters Day was celebrated in PACP on 25/01/2023 to encourage the young voters especially the new and first time voters. The Principal addressed the gathering and spoke about the importance of voting and also encouraged the students to vote during elections. It was concluded by the administration of Voters Day Oath by The Principal.

Expert Lecture

P.A College of Pharmacy conducted an expert talk on the topic "Career opportunities in abroad and foreign education prospectus" by Mr. Imran S M, Marketing executive Planet Education Karnataka on 25/01/2023 at 10.00am.

Antimicrobial resistance



Dr. Zainaba Ajmajashy
Asst. Professor
Dept. of Pharmacology

Antimicrobial Resistance (AMR) is a condition in which bacteria, viruses, fungi, and parasites evolve over time and fail to respond to drugs, making infections more difficult to cure and raising the risk of disease transmission, severe illness, and death. Standard therapies are often ineffective when germs develop resistance to antimicrobial medication and in certain circumstances, no medications are effective. Eventually, treatment fails.

AMR develops over time, typically as a result of genetic mutations. Antimicrobial resistant organisms are found in humans, animals, food, plants and the environment. They can transmit from person to person, between humans and animals, or even through animal-based foods. Antimicrobial resistance is primarily caused by the misuse and overuse of antibiotics, as well as a lack of clean water, sanitation, inadequate infection and disease prevention and control in hospitals and farms, poor access to high-quality, reasonably priced pharmaceuticals, vaccines and diagnostics, ignorance of the issue and a lack of legal enforcement.

AMR is an alarming global concern as it can increase treatment failures, morbidity and mortality, risk of hospitalization, length of hospital stays and need for expensive and broad- spectrum antibiotics.

There are two approaches to prevent the emergence and spread of resistant bacteria. The first is to use minimal antimicrobial medication to prevent germs from developing resistance. Increasing hygiene standards to stop the spread of resistant germs is the second important strategy for combating resistance. Experts should be in charge of developing strict antibiotic policies and preventing cross infection effectively in hospitals. Antibiotic stewardship Programme in hospital appear useful in reducing rates of antibiotic resistance.

The World Health Organization has promoted the first World Antibiotic Awareness Week running from 16 to 22 November 2015. Since 2020, it has been called World Antimicrobial Awareness Week to include all antimicrobials including antibiotics, antifungals, antiparasitics and antiviral drugs. It has been an annual event since 2015 with the goal of increasing public awareness of antimicrobial resistance and promoting best practices among the general public, healthcare professionals, and policymakers to slow the emergence and spread of drug- resistant diseases.

The Trending Role of Artificial Intelligence in the Pharmaceutical Industry



Dr. Rajisha K
H.O.D
Dept. of Pharmacognosy

Over the last several years, the use of artificial intelligence (AI) in the pharma and biomedical industry has gone from science fiction to science fact. AI has found its way for application in the field of medicinal chemistry and health care. The conventional methods of drug design have been replaced by computer-aided designs of drugs in recent times. AI is being used extensively to improve the design techniques and required time of the drugs.

How AI is Helping Pharmaceutical Companies to Stay Competitive?

1. Artificial Intelligence can improve the drug discovery and development process:

AI holds the potential to improve the R&D process. From designing and identifying new molecules to target-based drug validation and discoveries, AI can do it all. According to an MIT study, only 13.8% of drugs are successful in passing clinical trials. To top that, a pharma company has to pay anywhere between US\$ 161 million to US\$ 2 billion for a drug to get through the complete process of clinical trial and get FDA approval.

2. AI can provide diagnostic assistance and empower physicians to deliver personalized treatment:

Doctors can use advanced Machine Learning systems to collect, process, and analyze vast volumes of patients' healthcare data. Healthcare providers around the world are using ML technology to store sensitive patient data securely in the cloud or a centralized storage system. This is known as electronic medical records (EMRs). Since ML technologies possess the ability to process and analyze massive amounts of data quickly, they can help quicken the diagnosis process, thereby helping save millions of lives.

3. Artificial Intelligence can help predict epidemic outbreaks

According to a study conducted in Maharashtra, a data mining classification algorithm—Support Vector Machine (SVM)—was used to successfully predict the onset of malaria in the early stages with a lower error rate. This type of AI/ML tool can empower organizations to engage in early preventive care and put the right measures in place to combat it.

4. AI can enable pharma companies to 'sell and market' better as well as smarter

AI can help to map the customer journey, thereby allowing companies to see which marketing technique led visitors to their site (lead conversion) and ultimately pushed the converted visitors to purchase from them. AI tools can be used to:

- Collect customer data in real-time, map out the customer journey and understand the customer's needs, preferences, behaviour, etc. better
- Curate unique marketing strategies that are aligned with the customer's distinctive needs as well as the company's business goals
- Measure the efficacy of marketing campaigns and analyze key performance indicators conversion rates, retention rates, etc.
- Analyze previous marketing campaigns and engage in a comparative analysis, to eliminate any inefficiencies in existing strategies. It can also help predict the success rate of marketing campaigns.

5. Drug Adherence and Dosage

The use of Artificial Intelligence in pharmacy is growing at an unprecedented pace. AI in pharma is now being used to identify the right amounts of drug intake to ensure the safety of drug consumers. It not only helps to monitor the patients during clinical trials but also suggests the right amount of dosage at regular intervals.

Conclusion

Artificial intelligence is a reality in today's world. The pharma sector is not an exception to the rule that almost no industry has been left unaffected by AI. In the modern pharma product lifecycle, AI is used in almost every aspect. So, it stands to reason that the pharma business will continue to embrace artificial intelligence in the near future. According to study, by 2025, 50% of all healthcare organizations worldwide are expected to actively implement AI plans and use this cutting-edge technology.

FDA approves LEQEMBI TM for Alzheimer's disease Treatment



Ms. Dhanya K Iyer
Asst Professor
Dept. of Pharmaceutics

The U.S. Food and Drug Administration approved Leqembi (lecanemab) via the Accelerated Approval pathway for the treatment of Alzheimer's disease. Leqembi is the second of a new category of medications approved for Alzheimer's disease that target the major pathophysiology of the disease. These medications represent a significant advancement in the ongoing fight to effectively treat Alzheimer's disease.

Alzheimer's disease is an irreversible, progressive brain disorder that slowly destroys memory and thinking skills and, eventually, the ability to carry out simple tasks. While the specific causes of Alzheimer's are not fully known, it is characterized by changes in the brain—including amyloid beta plaques and neurofibrillary tangles—that result in loss of neurons and their connections. These changes affect a person's ability to remember and think.

Researchers assessed Leqembi's efficacy in a double-blind, placebo-controlled, parallel-group, dose-finding study of 856 patients with Alzheimer's disease. Treatment was initiated in patients with mild cognitive impairment or mild dementia stage of disease and confirmed presence of amyloid beta pathology. Patients receiving the treatment had significant dose- and time-dependent reduction of amyloid beta plaque, with patients receiving the approved dose of lecanemab, 10 milligram/kilogram every two weeks, having a statistically significant reduction in brain amyloid plaque from baseline to Week 79 compared to the placebo arm, which had no reduction of amyloid beta plaque.

These results support the accelerated approval of Leqembi, which is based on the observed reduction of amyloid beta plaque, a marker of Alzheimer's disease. Amyloid beta plaque was measured using positron emission tomography (PET) imaging to estimate the brain levels of amyloid beta plaque in a composite of brain regions expected to be widely affected by Alzheimer's disease pathology compared to a brain region expected to be spared of such pathology.

The prescribing information for Leqembi includes a warning for amyloid-related imaging abnormalities (ARIA), which are known to occur with antibodies of this class. ARIA usually does not have symptoms, although serious and life-threatening events rarely may occur. ARIA most commonly presents as temporary swelling in areas of the brain that usually resolves over time and may be accompanied by small spots of bleeding in or on the surface of the brain, though some people may have symptoms such as headache, confusion, dizziness, vision changes, nausea and seizure. Another warning for Leqembi is for a risk of infusion-related reactions, with symptoms such as flu-like symptoms, nausea, vomiting and changes in blood pressure. The most common side effects of Leqembi were infusion-related reactions, headache and ARIA.

Precision medicine



Nahima Naz
3rd B.Pharm.

Pharmaceutical industry has been traditionally slow to embrace new technology, but the recent and latest pharma health trends are showing signs of a massive shift in the industry. One such is 'Precision Medicine'.

Precision Medicine offers a new way to disease diagnosis, treatment, and prevention. This technology uses the patient's genes and lifestyle to help doctors make accurate, data backed decisions. By analyzing a patient's DNA, researchers develop personalized treatments that are tailored to their specific needs.

Precision Medicine technology in action is used in the development of targeted therapies of cancer. These therapies are designed to attack cancer cells while leaving healthy intact, reducing the side effects associated with traditional chemotherapy. Precision Medicine technology is also being used to develop preventive measures for diseases such as Alzheimer's and Parkinson's. By analyzing a patient's genetic risk factors and environmental exposures, researchers identify individuals who are at high risk for these diseases and develop targeted interventions to prevent or delay their onset.

When fully implemented, Precision Medicine will revolutionize oncology, making possible personalized treatment for every patient. The successful implementation of Precision Medicine will require a new regulatory, clinical, economic and technical structure. That way, doctors can administer the right therapy to the right patients at the right time.
