

PHARMA EPISTLE



Dear Readers,

It gives us immense pleasure to present the January–June 2026 edition of *Pharma Epistle*. This publication reflects the intellectual curiosity, creativity, and academic excellence that define our institution.

Education today extends beyond textbooks and classrooms. It nurtures analytical thinking, fosters innovation, and prepares individuals to face the evolving challenges of healthcare and society. This e-magazine serves as a vibrant platform where ideas flourish, creativity is expressed, and achievements are celebrated.

Within these pages, you will discover scientific insights, reflective thoughts, artistic talent, and student perspectives. Each contribution showcases dedication and originality.

As we step into a new academic session, let us continue striving for excellence in academics, research, and professional growth.

I encourage every reader to actively contribute to future editions and continue building a culture of knowledge and innovation.

HAPPY READING !

Warm Regards,

Nidhi Sharma

Editor

I.T.S College of Pharmacy

VISION

To be a leading institution in Pharmaceutical education and research, committed to nurturing innovative and compassionate healthcare professionals through excellence in teaching, research and community engagement

MISSION

Achieving Academic Excellence: To excel in Pharmaceutical education through innovative teaching methods that inspire a deep understanding of the subject

Building a Strong Knowledge Foundation: To equip students with robust foundational and conceptual knowledge and subsequently preparing them to meet current and future challenges in the field of Pharmacy

Cultivating Ethical Professionals: To nurture responsible pharmacist with strong value system and professional integrity essential for success in diverse practice settings

Advancing Pharmaceutical Sciences: To contribute to the field of Pharmaceutical sciences through innovative research and continuous professional development, ensuring our students and faculty remain at par with the industry

Leadership Development: To foster strong leadership qualities in students by creating a positive and inclusive learning environment that encourages growth and collaboration

Serving the Community: To actively contribute to the well-being of the community through dedicated service, outreach initiatives and a commitment to public healthcare system

Program Educational Objectives (PEOs)

- To produce pharmacists with strong fundamental concepts and in-depth technical knowledge in pharmaceutical sciences.
- To equip the students with concepts from various fields of pharmacy so that they can face challenges in the area of health sciences.
- To facilitate them to be good pharmacists by strengthening their human values, professional ethics and communication skills and to make them work effectively as a team.
- To train the students and to develop a mind frame to undertake research for developing new drugs to cure and prevent diseases for serving the society.
- To encourage them to take part in lifelong learning process to be highly productive and effective pharmacists.

Arts Corner



Kapil

(D.Pharm 1st year.)

Photography



Kartik Verma

B.Pharm 2nd Year.

Poetry Corner

जो गिरकर संभल गया, वही इंसान खास है,
जो हार से न डर पाया, वही जीत के पास है।
अंधेरों से जो लड़ जाए, वही सूरज बनता है,
खुद पर जो यकीन रखे, वही इतिहास रचता है।
थकना मना है पथिक, सफ़र अभी बाकी है,
हर रात के बाद ही तो, सवेरे की तैयारी है।
छोटे कदम सही लेकिन, रुकना गुनाह है,
क्योंकि चलने वालों का ही, ऊँचा आसमान है।
जो आज दर्द सह लेता है, कल वही मुस्काएगा,
मेहनत का हर एक क़तरा, रंग ज़रूर लाएगा।
खुद से जो जीत गया, वो दुनिया जीत जाएगा,
अपने ही इरादों से, तक़दीर बदल जाएगा।

Every journey worth taking includes setbacks.
Failure is not proof that you're incapable; it's evidence that you're trying. Each
mistake carries a lesson, and each lesson brings you closer to mastery.
Those who succeed are not the ones who never fall—
they are the ones who learn how to rise faster, stronger, and wiser each time.
When you stop fearing failure, you unlock your true potential.

Sakshi Gautam

(D.Pharm 1st Year)

रुकने का नाम ज़िंदगी नहीं,
झुकने का नाम बंदगी नहीं।
जो तूफ़ानों से टकरा जाए,
वही असली आदमी सही।
कदमों में आग, आँखों में ख़्वाब,
दिल में बस एक ही ज़िद हो—कामयाबी।
जो आज चल पड़ा अकेला,
कल वही बनेगा मिसाल सभी।

Doubt will knock and test your flame,
Tell you you're not built for change.
But courage grows when you say yes,
And try again despite the stress.
Believe louder than your fear,
Your voice is strong—your path is clear.
Those who bet on who they are,
Are the ones who truly go far.

Kapil

(D.Pharm 1st year)

SCIENCE CORNER

Antibiotic Resistance: A Silent Global Threat

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Introduction:

What if a simple infection such as a urinary tract infection or pneumonia becomes impossible to treat in the near future? This frightening possibility is no longer hypothetical. Antibiotic resistance is steadily increasing across the world, threatening the very foundation of modern medicine. Since the discovery of penicillin in 1928, antibiotics have revolutionized healthcare by making previously fatal infections curable. They enabled safe surgeries, organ transplants, cancer chemotherapy, and intensive care treatments. However, decades of irrational, excessive, and inappropriate use of antibiotics have led to a serious global crisis known as antimicrobial resistance (AMR). Today, AMR is considered one of the most significant public health threats of the 21st century.

Mechanism of Resistance:

Antibiotic resistance develops when bacteria undergo genetic changes that allow them to survive exposure to antimicrobial drugs. These changes may occur through spontaneous mutation or through horizontal gene transfer, where bacteria share resistance genes via plasmids and transposons. Under selective pressure from antibiotic exposure, susceptible bacteria die while resistant ones survive and multiply. Bacteria use several mechanisms to resist antibiotics. They may produce enzymes such as betalactamases that inactivate beta lactam antibiotics. Some alter the drug's target site, reducing binding affinity. Others decrease membrane permeability to prevent drug entry or actively expel antibiotics using efflux pumps. These adaptive mechanisms collectively reduce drug effectiveness and complicate treatment.

Clinical Impact:

The clinical consequences of antibiotic resistance are severe. Multidrug-resistant organisms such as Methicillin-resistant *Staphylococcus aureus* (MRSA), Vancomycin-resistant *Enterococci* (VRE), and drug-resistant *Mycobacterium tuberculosis* are increasingly reported worldwide. These infections require second-line or third-line drugs that are often more expensive, less effective, and associated with greater toxicity. Patients infected with resistant organisms often experience prolonged hospital stays, higher healthcare costs, and increased morbidity and mortality. Furthermore, routine procedures such as cesarean sections, joint replacements, and chemotherapy rely heavily on effective prophylactic antibiotics. If resistance continues to rise, even minor surgical procedures may become high-risk interventions.

Causes and Contributing Factors:

Several factors contribute to the growing burden of antibiotic resistance. Overprescribing by healthcare professionals, patient demand for antibiotics, self-medication, and incomplete treatment courses significantly accelerate resistance. The inappropriate use of antibiotics for viral infections, such as the common cold or influenza, further worsens the problem.

In addition, antibiotics are extensively used in agriculture and livestock farming for growth promotion and disease prevention. This practice promotes the emergence of resistant bacteria that may spread to humans through the food chain or environmental contamination. Poor infection control practices in hospitals and lack of public awareness further facilitate the spread of resistant organisms.

Prevention and Control Strategies:

Addressing antibiotic resistance requires a comprehensive and coordinated approach. Rational prescribing based on clinical guidelines and culture sensitivity testing is essential. Antimicrobial stewardship programs help optimize antibiotic selection, dosage, and duration of therapy. Strict regulation of antibiotic sales, public education campaigns, and improved infection prevention measures can significantly reduce misuse. Pharmacists play a crucial role in promoting rational drug use, counseling patients about adherence, and preventing over-the-counter misuse. Additionally, continuous research into novel antibiotics, bacterio-phage therapy, and alternative treatment strategies is vital to stay ahead of evolving pathogens.

Satyam Sagar
B.Pharm 4th Year