

### **School of Pharmacy Newsletter** Volume 3, Issue 3, July-September 2024



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# EDITORIAL

#### Dear readers,

Welcome to another edition of our quarterly newsletter. As UMT School of Pharmacy (SPH) continues to grow, this issue highlights the activities and remarkable achievements of SPH, reflecting our commitment to advancing the pharmacy profession and serving our communities. This newsletter presents the highlights of world pharmacist day celebration that brought together students, faculty members and members of society to highlight and recognise the indispensable role of pharmacists in healthcare systems worldwide.

We are excited to highlight our students' internship experiences at Evercare Hospital, where they had the opportunity to gain hands-on experience in a leading healthcare setting of Pakistan. These experiences are invaluable as our students prepare to become the next generation of healthcare professionals. The education corner provides valuable insight into the importance of incorporating simulation-based learning in pharmaceutical education.



I hope this edition will leave you inspired by the commendable work done by the faculty and students of SPH.

#### Prof. Dr. Ejaz Cheema Founding Dean School of pharmacy, UMT

### **News in Brief**

- 1. Currents in Pharmaceutical Research (CPR) peer reviewed journal: a publication of UMT school of pharmacy gets recognised by HEC as Y category journal for the year 2024-25
- 2. School of pharmacy signs MOU with Citi Pharma, a premier API manufacturer to strengthen academia and industrial linkages. Please see page # 6 for further details.
- 3. School of pharmacy is granted ISPF research funding to work on personalised medicines in collaboration with Ulster school of pharmacy, Ireland.
- 4. School of pharmacy collaborates with Highnoon labs as part of Faculty secondment program (FSP). Please See page # 6 for further details.
- 5. Dr Iram Shahzadi, Assistant Professor School of Pharmacy is included in the top 2% scientists of the world for the year 2024 as per Stanford University and Elsevier.
- 6. Admissions are now open for our Doctor of Pharmacy (Pharm D) and M.Phil. program, offering aspiring pharmacists a comprehensive, patient-centered education designed to equip them with the skills and knowledge to excel in the evolving field of healthcare.

# **SPH Activities**

#### **World Pharmacist Day Celebration**

UMT school of pharmacy celebrated World pharmacist day to acknowledge and highlight the important role of pharmacists in patient care. The event served as an opportunity to pay tributes and respects to all pharmacists who lost their lives while serving humanity including 51 pharmacists who lost their lives during the ongoing Gaza conflict. The highlight of the event were the community pharmacy service projects conducted by students over the last year in collaboration with various NGOs including Alkhidmat foundation, Al Marah foundation and Hamza foundation. The projects included blood donation camps, medical and health awareness camps in schools, orphanages, old homes, hospitals and food donation drives as well as plantation drives. UMT school of pharmacy will keep supporting these students-led projects to instill sense of responsibility towards community and help them develop multiple soft skills including communication and leadership skills, ethics and team working.

Aspecial thanks to MrManzoor Cheema founder of Local to global human development project for generously supporting SPH community service activities.

Let us all recognize and appreciate the invaluable impact of pharmacists on patient lives.







#### Hand hygiene drive by SPH students

Hand hygiene is a fundamental component of an International Patient Safety Goals (IPSG). As health care providers, it is crucial to understand its significance and foster a culture of hand hygiene. As part of their commitment to public health, SPH students recently organized a "Hand Hygiene Drive", aimed at promoting proper handwashing techniques to prevent the spread of infections. This hands-on approach allowed participants to see the immediate impact of proper hand hygiene and reinforced the significance of this simple yet essential practice in preventing the spread of illnesses.



#### Certificate distribution for SPH Internees at Evercare Hospital

SPH organized the closing ceremony and certificate distribution for the pharmacy interns at Evercare Hospital. The ceremony marked the conclusion of an intensive internship program where students had an opportunity to apply theoretical knowledge in real-life scenarios, deepening their understanding of pharmaceutical practice and healthcare systems. The event was attended by hospital executives, faculty members, and students. Senior hospital staff and faculty praised the interns for their dedication, professionalism, and contributions to patient care during the internship tenure. The event closed with a formal certificate distribution as a token of appreciation to students for their hard work.





#### **Faculty Achievement**

SPH is pleased to share that Dr. Iram Shahzadi, Assistant professor of UMT School of Pharmacy has been listed among the top 2% of scientists globally by Stanford University and Elsevier for the year 2024. This achievement is a testament to her dedication to advancing pharmaceutical sciences research. We congratulate Dr Iram on this exceptional achievement.

The Stanford University and Elsevier Scientist Ranking is a highly respected global ranking of scientists based on the impact and influence of their research It evaluates scientists from various disciplines, ranking them based on several metrics that measure their research output and citation impact. This ranking is highly regarded in academia as it helps highlight leading scientists worldwide based on quantitative data, providing a transparent and objective measure of research influence.





#### CTL training session on principles of research ethics and academic integrity by Dr Ejaz Cheema

Dean SPH, Dr Ejaz Cheema facilitated a session on "Principles of research ethics and academic integrity". The session aimed for MS/M.Phil. and PhD supervisors as part of training course organized by CTL at UMT. Dr Ejaz built an understanding of research ethics and concluded with a discussion on ethical dilemmas. The session was informative and interactive with a take home message of autonomy, beneficence, non-maleficence and justice.

#### Role Play activity by SPH students

Students of second semester organized a role play activity, whereby, they took on various healthcare roles such as pharmacists, patients, and doctors thereby representing real-world scenarios that pharmacists might encounter in practice. These role plays helped students practice essential skills like patient counseling, explaining medication use and handling difficult conversations, all while improving their fluency in English. This activity served as an opportunity to boost confidence and enhance communication skills of students to prepare them for professional settings. It not only fostered teamwork and problem-solving but also emphasized the importance of effective communication in delivering quality healthcare.



# **Industry Academia Linkages**

#### **MOU with Citi-Pharma**

A memorandum of understanding was signed between Citi Pharma Limited, a premier API manufacturer in Pakistan and UMT. This collaboration aims to foster innovation and excellence in pharmaceutical research and development. Together, we will create new opportunities for students and researchers, enhance industry-academia linkages and drive advancements in healthcare and pharmaceutical sciences.



Faculty Secondment Program (FSP) in collaboration with Highnoon Laboratories

FSP is a unique opportunity to promote knowledge transfer, joint research and foster meaningful collaboration between academia and pharmaceutical industries. FSP 2024 hosted by Highnoon marks the beginning of a new collaboration between SPH. We look forward to nurturing this partnership.



## **Student Corner**

#### Experience of Internship at Evercare Hospital; students reflection



By: Adan Ali Mir

I am Adan Ali. I completed my internship as an intern pharmacist at Evercare Hospital Lahore. This internship was a transformative journey that not only honed my pharmaceutical knowledge but also instilled essential skills, fostering growth as a future healthcare professional.

Throughout my internship, I had the privilege of rotation through various Dc's, including OT Pharmacy, ICU Pharmacy, IPD Pharmacy, OPD Pharmacy, and ER Pharmacy. Each rotation provided unique insights into the intricacies of pharmaceutical care in diverse settings. I observed firsthand the importance of medication management, patient counselling, and collaboration with healthcare teams.

The weekly visit of our Teachers from UMT and Continuing Medical Education (CME) sessions were particularly enriching, updating me on the latest medical advancements

and best practices. High Alert and LASA medication management sessions heightened my awareness of potential medication risks and strategies for mitigation.

Clinical rotations allowed me to apply theoretical knowledge in real-world scenarios, sharpening my critical thinking and problem-solving skills. Interacting with patients and their families deepened my understanding of the emotional and psychological aspects of healthcare, cultivating empathy and compassion. Working alongside experienced healthcare professionals, including physicians, nurses, and other pharmacists, taught me the value of effective communication, teamwork, and interdisciplinary collaboration.

This internship significantly impacted my future aspirations. Dealing with patients from diverse backgrounds and conditions broadened my perspective, solidifying my commitment to delivering exceptional patient care. In conclusion, my internship at

Evercare Hospital Lahore was a pivotal experience that transformed me into a more compassionate, knowledgeable, and skilled pharmacist. The lessons learned and relationships forged will undoubtedly shape my future practice, empowering me to

make a positive impact in the lives of patients and the healthcare community.



By: Abubakar Siddique

My name is M.Abubaker Siddique from SPH UMT, currently in 4th year. I started a hospital pharmacy internship during my 3rd year of pharmacy school in Evercare hospital Lahore. Before starting the internship I felt intimidated and anxious about the program and what was expected of me. Prior to this job, I had little experience in the hospital inpatient setting. The only experience before this involved dispensing medications to the patients or caregiver. struggled at first because there is so much information to take in, especially if you have not been exposed to the practice of pharmacy. Having little background in pharmacy, I had to learn the pharmacy laws, hospital protocols, hospital policies, different regulatory agencies that oversee pharmacy and the hospital, learn the pharmacy workflow, learn pharmacy technician workflow, and also learn pharmacist workflow. My greatest lesson during my internship were words from one of my supervisors; 'That in life, one's primary focus should be on being good and empathetic." Being good in something automatically spurs you to going the extra mile and gives you the zeal and desire to make a difference no matter how small it is in whatever has been entrusted to you. It makes you want to invest in excellence with the end goal being giving the task 100%. My experience as an internee in Evercare hospital was extremely brilliant and perceptive. I am obliged to the Pharmacy department for giving me this opportunity. My communication and medical perception have been enhanced. This internship has given me new insights and motivation to pursue a profession in the clinical side of pharmacy.



By: Shahroz Mahmood

Greetings! I am Shahroz Mahmood, currently in my 7th semester of Pharm.D. at the University of Management and Technology (UMT). While classroom learning provides knowledge, I believe it is real-world experience that truly makes you a master of your field.

The UMT School of Pharmacy, established by Dr. Ejaz Cheema in 2021, aims to link academia with the pharmaceutical industry, hospitals, and other sectors of pharmacy to better prepare students for the market's needs. In line with this vision, the School of Pharmacy signed an MOU with the internationally recognized Evercare Hospital Lahore, allowing students like me to gain firsthand experience in a hospital setting.

During the summer break, I had the privilege of completing a one-month internship at Evercare Hospital. This experience was eye-opening, teaching me many things that I had not encountered in the classroom. Evercare operates a satellite pharmacy system, with each department having its own pharmacy. I worked in five different pharmacies, gaining insight into various aspects of pharmacy operations.

The pharmacists at Evercare were incredibly supportive, assigning me regular tasks and assignments that challenged me to apply my theoretical knowledge practically. I learned about Medication Management Use, with a particular focus on LASA (Look-Alike, Sound-Alike) medications and high-alert medications.

Weekly CME lectures further enriched my learning, helping me stay updated on hospital practices. One of the most impactful experiences was working under the pressure of the emergency department, where I learned how to manage high-stakes situations effectively.This internship was a transformative learning experience, providing me with practical knowledge that will be invaluable in my future career as a pharmacist.

By: : Zainab Amin



My internship at Evercare Hospital Lahore has been a pivotal experience in my journey to becoming a competent pharmacy professional. Across various departments—including Emergency, Outpatient, Operation Theatre, ICU, and Inpatient pharmacies—I have gained invaluable practical knowledge that has enhanced my understanding of pharmaceutical knowledge. In the Emergency Pharmacy, I learned the importance of effective communication during shift handovers and the critical nature of accurate inventory management through HAIMS software.

Transitioning to the Outpatient Pharmacy allowed me to adopt a patient-centered approach, where I learned to handle prescriptions meticulously while identifying potential medication errors. This experience underscored the importance of patient education in promoting adherence to therapy,

yet it also revealed gaps in medication labeling that could compromise safety. In the Operation Theatre Pharmacy, I was immersed in the fast-paced environment of surgical preparations. Here, I grasped the complexities of anesthesia protocols and witnessed firsthand how pharmacy knowledge translates into patient care during critical procedures.

Participating in clinical rounds provided a deeper understanding of the tailored medication regimens based on patient conditions. My final week in the inpatient pharmacy solidified my skills in managing medication orders and highlighted the significance of precise preparation, especially for high-alert medications.

Overall, this internship has profoundly shaped my professional identity, offering a rich blend of theoretical knowledge and practical application. Each department presented unique challenges that reinforced my commitment to delivering high-quality, patient-centered care. I leave Evercare Hospital not only with a comprehensive understanding of pharmacy operations but also with a renewed passion for making a positive impact in patients' lives. This experience has provided me with a solid foundation as I move forward in my pharmacy career, equipped with the insights and skills passes are to payigate the complexities of healthcare.

with the insights and skills necessary to navigate the complexities of healthcare.

### **Research Corner**

#### Monthly research symposiums organized by SPH



The research symposium, organized by SPH is a monthly event that showcases groundbreaking advancements and innovative research in pharmaceutical sciences. These symposiums provide a platform for faculty to present their latest findings on topics ranging from natural product chemistry, drug development to clinical applications and public health initiatives. The event fosters intellectual exchange, thoughtful discussions and collaborations among faculty, students and researchers from other institutes. This ongoing series not only highlights the impactful contributions of our faculty but also promotes a culture of continuous learning and discovery, inspiring researchers to excel in the evolving field of pharmaceutical science. Different research topics presented in symposiums included "Epigenetic regulations associated with mRNA expression alterations of Schizophereniaassociated genes" by Dr Abdul Qayyum Khan, "Evaluation of antihypertensive and vasorelaxant effects of Phaleria Macrocarpa (Mahkota Deva) extracts" by Dr Rabia Altaf and "Synthesis and Chemical characterization of metal oxide-doped cellulose grafted hydrogel for biomedical applications with evidence of insilico studies" by Dr Iram Shahzadi.

#### Antibacterial potential and dye decolorization with graphitic carbon nitride and eudragit doped CdTe nanostructures evidential molecular docking analysis

Asma Aslam, Muhammad Ikram, Ali Haider, Iram Shahzadi et al

#### Abstract

Co-precipitation procedure was employed to prepare efficient ternary system-based catalysts composed of various concentrations (2 and 4 wt.%) of graphitic carbon nitride (g-C3N4) and fixed amount (3 wt.%) of eudragit (Eud)-doped cadmium telluride (CdTe) nanostructures (NSs). The main objective of this study was to explore and enhance the dye degradation potential by changing the recombination rate of CdTe with doping and improving their multifunctional efficacy as catalysts and antibacterial agents. The dopants have altered the particle size, dispersal and optical properties of CdTe. The different concentrations of g-C3N4 and fixed amount of Eud, reaction temperature, and duration influence these characteristic properties of CdTe. g-C3N4 /Eud-doped CdTe with porous structure showed excellent methyl orange (MO) dye degradation efficiency (98.0 %) in neutral medium. Furthermore, 4 wt.% of g-C3N4 doped NSs exhibited significant inhibition zone as  $9.35 \pm 0.08$  mm against MDR S. aureus bacteria. The molecular docking studies were conducted to elucidate the mechanistic interactions between g-C3N4/Eud-doped CdTe nanostructures and the target enzymes DNA gyrase S. aureus and D alanine-D-alanine ligase (ddlB)S. aureus, in order to justify their microbicidal efficacy.



#### ANTIOXIDANT ASSESSMENT OF SOME THERAPEUTICALLY IMPORTANT PLANTS AS ANTI-AGING AGENTS

Rabia Altaf, Kanwal Mazhar et al

#### Abstract

Skin, the protective outer covering of the body, acts as an insulator between internal and external environments. Skin diseases are a significant concern today, primarily due to oxidative stress. Although synthetic compounds and drugs are available, they often contain toxic and carcinogenic compounds, leading to cancer. Herbal and natural products, rich in natural antioxidants, are preferred as remedies. Objective: To evaluate the antioxidant potential of different solvent extracts at various concentrations from five plants: Aloe barbadensis, Camellia sinensis, Cocos nucifera, Ficus carica, and Rosa indica, using DPPH, Total Phenolic Content (TPC), and Total Antioxidant Assay. Methods: This experimental study was conducted over six months in a laboratory setting. Various solvent extracts (100% v/v) of the five selected plants were prepared, and their antioxidant potentials were evaluated using DPPH radical scavenging assay, TPC assay, and Total Antioxidant Assay. Data were analyzed using ANOVA, and results were expressed as mean ± standard deviation (SD). Results: Among all the plant extracts, the 100% v/v Petroleum ether extract of Aloe barbadensis showed the highest radical scavenging value, i.e., 98.6±0.55. Following the evaluation through DPPH, TPC, and Total Antioxidant Assays, a combination of the five plant extracts was proposed as a potent source of natural antioxidants. Conclusion: The study concluded that the selected plant extracts, particularly the Petroleum ether extract of Aloe barbadensis, possess significant antioxidant potential. These extracts can be utilized in cosmetics and other industries as natural antioxidant sources, offering a safer alternative to synthetic compounds.



# **Education Corner**



The need to introduce simulation-based teaching in pharmacy education

By

#### Prof. Dr Ejaz Cheema MPharm, PhD. Professor and founding Dean UMT School of Pharmacy

The global practice of pharmacy has evolved significantly over the last few decades and continues to evolve in conjunction with patients' expectations. These expectations have gradually moved community pharmacists from the traditional role of dispensing to more patient-oriented roles. For example, in the UK, many community pharmacists are training to be prescribers while others are delivering more urgent-care services. Similarly, in the USA, pharmacists have the opportunity to be part of the multi-disciplinary teams that provide services to the patient-centred medical homes (PCMHs) [1].

The transition of pharmacists from a dispensing role to a more patient-centred clinical role requires the adoption of innovative learning techniques in pharmacy teaching and learning to transform the future pharmacy workforce. One such innovation in pharmacy education is simulation-based pharmacy teaching. Simulation has been defined as '(an) event or situation made to resemble clinical practice as closely as possible' [2]. The use of simulation in pharmacy education allows pharmacy students to not only improve their clinical knowledge and skills, but also serve as a tool to improve their critical thinking that is a pre-requisite in sound clinical decision making [3]. The use of 'standardized patients' in simulation allows students to apply their clinical knowledge to inpatient settings while minimizing the risk to patients [4].

It may be argued that the use of standardized or controlled patients in the simulation may limit students' ability to learn patient empathy. However, a pilot study that assessed the impact of simulation on the clinical skills and knowledge of nursing students in the USA suggested that provision of simulation-based teaching coupled with clinical experience led to an improvement in the clinical knowledge and skills of students [5]. Similarly, another study that aimed to determine the impact of simulation on blood pressure measurement skills of pharmacy students enrolled in a Doctor of pharmacy program (Pharm. D) reported significant improvement in the clinical skills of students [6].

Given the importance of patient-oriented teaching in pharmacy education, the majority of institutions offering pharmacy education in the developed countries have successfully integrated simulation-based teaching in their respective curricula to meet both patient and practice needs. For example, the council responsible for accrediting pharmacy education in the USA has approved up to 20% use of simulation in the practical component of pharmacy practice education [7]. However, most of the universities offering undergraduate pharmacy programs in the developing world have limited application of patient-focused teaching in their respective programs [8].

MyDispense is a simulated learning and teaching tool that is designed to help students develop their skills and competency in dispensing medicinal products systematically, safely and accurately at a level of detail and difficulty corresponding to their knowledge and experience. It simulates the decision-making environment within which dispensing occurs, without reminders and prompts and with the opportunity for students to learn by making mistakes in a safe and secure learning environment. MyDispense is a framework that allows the instructor to create a broad range of exercises and assessments from the simplest to the most demanding. The administrative interface is simple to use while giving the instructor the control and flexibility to create challenging scenarios that best support the curriculum. Students, on completing and submitting the exercise, are able to see the feedback which the instructors have set for them while creating the exercise.

Given the importance and utility of simulation-based teaching in pharmacy practice, academic institutions should move towards integrating simulation in their teaching to better prepare the future pharmacy workforce in the current era of constant change.

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### **Health Corner**



# Seasonal Allergies and their impact on your daily work routine

#### By Dr Rabia Altaf Associate Professor, SPH

Spring equinox or autumn, flower blossoming or leaves withering, hot summers or frozen winters, sniffing and sneezing make their way to those who are allergic to seasonal transitions. Whatever the synonyms and phenomena we use, allergic rhinitis, hay fever, red burning skin, eczema, smoky eyes, allergic reaction etc. etc., it's a troublesome phase to go through. Spring equinox, fall equinox and mid-summer are the high alerts for such allergic reactions.

Seasonal allergies may have a wider range including effect on the nose, eyes, skin, respiratory system, gastrointestinal system and any other. During certain transitional phases of the year, the trees, grasses and weeds release tiny pollen particles into the air to fertilize other plants. These particles are perceived as invaders or allergens in the blood stream of those whose immune system are allergic to them. As an immediate reaction, the immune system releases certain chemicals including histamine in the blood stream to defend against them. The release of these chemicals through a defense mechanism causes allergic symptoms.

Seasonal allergic symptoms may include nasal congestion, hay fever, itchy eyes, runny nose, postnasal dripping, scratchy throat, red dry itchy and inflamed patches on the skin, rounded or flat-topped itchy plaques, atopic dermatitis (red scaly itchy skin), etc.

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How to reduce the exposure to allergy triggering substances:

- 1. Avoid outdoor activities at the maximum and during peak hours of dawn and dusk.
- 2. Stay indoors on dry and windy days to limit the exposure to pollens.
- 3. Keep your gardening chores limited as mowing and weed pulling
- 4. Change dress immediately and take regular baths when go back after work or outside visit.
- 5. Try to wear a face mask in extreme situation.
- 6. Use air purifiers/ heap filters and keep windows and doors shut in odd hours.

Few over the counter medications to nullify the symptomatic effects of seasonal allergy: Some of the over-the-counter medications can be used in case to reduce the severity of the symptoms, few of them include antihistamines, decongestants, nasal corticosteroids, nasal irrigation and eye drops. In case of severity of the subject allergy shots may be given at hospital to desensitize the immune system in the long run.

Natural medication used in history to date:

Along with over-the-counter medications, there are certain natural remedies that may be of great help to sooth the effect of allergic reactions. These may include quercitin, red grape juice, eucalyptus essential oil massage, honey with black pepper, ginger juice with honey etc.

Prevention is better than cure. So, one must avoid the exposure to stay healthy and reduce the risk of getting allergic reactions as much as possible. Keep an eye on updated weather forecasts to witness the adaptability according to climatic transitions throughout the year.





School of Pharmacy

# ADMISSIONS OPEN-FALL 2024 V DOCTOR OF PHARMACY V M.PHIL PHARMACOLOGY

UMT School of Pharmacy is dedicated to producing high-quality pharmacists who can contribute to improving the health of our community through the delivery of safe, effective, and quality healthcare to patients.

#### Why Choose UMT School of Pharmacy?



State-of-the-art Labs Foreign qualified Dean & Faculty Innovative Teaching & Assessment Strategies Experiential Learning through Internships and Community service projects. Focus on Skill development



#### **Career Opportunities:**

We aim to shape learners into skilled pharmacy professionals, aligning with national and global standards. Graduates of this program will take on roles in community pharmacy, pharmaceutical industries, health centers, drug information centers, academia, and cutting-edge laboratories.

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