

School of Pharmacy Newsletter Volume 4, Issue 2, April – June 2025



Editor in Chief: Prof Dr Ejaz Ullah Cheema Editorial Board: Ms. Asra Shanzeh Ms. Raeesa Ahmad Advisory Board Dr. Sarah Rehman



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EDITORIAL

Dear readers,

It is with great pleasure that we present the volume 4 Issue 2 of the UMT School of Pharmacy (SPH) quarterly Newsletter. This issue represents a vibrant quarter of academic activities, student's achievements, research milestones and collaborative growth. SPH has proudly achieved key institutional milestones including Inauguration of Cell Culture Lab and successful execution of second Objective Structured Clinical Examination (OSCE). SPH Activities bring a rich blend of academic engagements including keynote talks, workshops, seminars, webinars and guest lectures aimed to bridge theory with clinical and research-based practice.

Industry Academia linkages highlight the industrial visit to Highnoon Laboratories and MoU inked with My Pharmacy retail chain. The student corner proudly showcases the academic achievements and accomplishments of SPH students in terms of Rector's and Dean's awards, clinical role play activity, community pharmacy services and project exhibition. The research corner brings scholarly contributions of SPH faculty members. Health Corner features awareness initiatives addressing obesity, mental health and heatwave-related risks.



I hope you enjoy reading this issue and find it both informative and inspiring.

Prof. Dr. Ejaz Cheema Founding Dean-SPH Editor-in-Chief

News in Brief

- UMT School of Pharmacy inaugurated its first fully equipped Cell Culture Laboratory, a major advancement in pre-clinical pharmaceutical research, supporting cytotoxicity assays, disease modeling, and toxicological evaluations.
- The second Objective Structured Clinical Examination (OSCE) was successfully conducted by SPH, evaluating students' clinical, communication, and decision-making skills through simulated healthcare scenarios.
- Prof. Dr. Ejaz Cheema delivered a keynote on AI in Simulation-Based Clinical Pharmacy Education at Forman Christian College, showcasing the potential of artificial intelligence in modernizing clinical training.
- SPH signed an MoU with My Pharmacy, a leading retail pharmacy chain, to strengthen community pharmacy academia linkages and facilitate internship opportunities for students.
- Faculty member Dr. Amber Sharif received the prestigious Research Innovation Award at the 10th Invention to Innovation Summit 2025 held at UMT.

SPH Activities

Inauguration of Cell Culture Lab

UMT School of Pharmacy proudly inaugurated its first fully equipped Cell Culture Laboratory representing a significant milestone in strengthening the institution's pharmaceutical research capabilities. This advanced facility is purpose-built to support pre-clinical evaluation of drug candidates, enabling in vitro studies such as cytotoxicity assays on cancerous and inflammatory cell lines, infectious disease modeling (MIC, IC₅₀), and toxicological assessments of both synthetic and natural therapeutic agents, including anticancer, antimicrobial and anti-inflammatory compounds. Strategically integrated with UMT's in-house animal research facility, this lab provides a comprehensive platform for bioactivity screening and hands-on training.





Second Successful OSCE Conducted by SPH: Advancing Clinical Competence in Pharmacy Education

The UMT School of Pharmacy proudly conducted its second successful Objective Structured Clinical Examination (OSCE), marking a significant advancement in the training and assessment of future pharmacists. This structured, performance-based evaluation was designed to rigorously assess students' clinical skills, decision-making abilities, communication and professionalism through a series of simulated healthcare scenarios. The OSCE included interactive case-based stations, real-time patient counselling simulations and direct evaluation by experienced faculty followed by constructive feedback aimed at fostering continuous improvement.





Keynote Address on Al-Driven Simulation in Clinical Pharmacy Education

Prof. Dr. Ejaz Cheema delivered a compelling keynote address at the 1st International Forman Pharmaceutical Conference held at Forman Christian College, Lahore. His presentation, titled "Integration of AI in Simulation-Based Clinical Pharmacy Education," highlighted the transformative potential of artificial intelligence in enhancing clinical training for pharmacy students. The session emphasized how AI-powered simulations can offer personalized, adaptive learning environments, enabling students to apply theoretical knowledge to complex, real-world clinical scenarios.



Workshop on Effective Research Supervision Delivered at UBAS

Prof. Dr. Ejaz Cheema conducted a focused workshop on "Effective Research Supervision" at the Lahore University of Biological and Applied Sciences (UBAS). The session offered practical insights into the core responsibilities of research supervisors, including mentoring strategies, project oversight, constructive feedback and ethical research conduct. Aimed at faculty and early-career researchers, the workshop emphasized the importance of structured supervision in achieving meaningful and high-quality research outcomes. It was a valuable academic engagement promoting collaboration and capacity-building across institutions.



Seminar on International Standards Vital for **Pharmaceutical Business**

SPH hosted an engaging and informative talk titled "International Standards Vital for Pharmaceutical Business" by Prof. Dr. Muhammad Usman Awan, Director at the Institute of Quality and Technology Management, University of the Punjab, Lahore. The session provided participants with a comprehensive understanding of how international standards and quality benchmarks play a critical role in the growth, credibility and global competitiveness of pharmaceutical businesses.



Guest Lecture on Physiology of the Autonomic Nervous System

UMT School of Pharmacy arranged an academic session on the Physiology of the Autonomic Nervous System, by Prof. Dr. Humaira Majeed Khan, Dean and Chairperson, Faculty of Pharmaceutical and Allied Health Sciences, Lahore College for Women University.

Prof. Dr. Humaira delivered an insightful and engaging lecture, offering an in-depth exploration of the autonomic nervous system's structure, function and clinical relevance.





Contact Person: Dr. Rabia Altaf



Quick Glance at SPH Activities



Seminar on Structure Elucidation of Organic Compounds Using Proton NMR



Seminar on Long-term Use of Prescribed Medicine and Complications



The Evolving Pharmacology of Anti-Cancer Drugs and Real-World Research



Guest Lecture on Hospital Pharmacy Procurement and Inventory Management



Web Development Workshop



Web Development Workshop



Industry Academia Linkages

Visit to Highnoon Laboratories:

The UMT School of Pharmacy organized an industrial visit for 8th semester Pharm.D. students to Highnoon Laboratories, one of Pakistan's leading pharmaceutical manufacturing facilities. The visit was designed to provide students with first-hand exposure to industrial pharmacy practices, reinforcing theoretical knowledge through real-world application. During the guided tour, students observed critical aspects of pharmaceutical operations, including formulation development, in-process quality control, packaging technologies and GMP-compliant production lines.



Visit to Indus Hospital:

As part of its commitment to experiential learning and clinical exposure, SPH organized a structured academic visit to Indus Hospital, where students were accompanied by the Dean and faculty members. This immersive visit was designed to enhance students' understanding of integrated healthcare systems, with a particular focus on the role of hospital pharmacy in multidisciplinary patient care.



Student Innovation: MedSafe Disposal Project Showcased at PINTECH Expo 2025

SPH students from 8th semester participated in the PINTECH Expo 2025, where they presented their innovative project titled "MedSafe Disposal Initiative" guided by Ms. Sonia Gondal, Lecturer at SPH. The project addressed a critical need for safe and environmentally responsible disposal of unused and expired medications. The innovative project served as an inspiring example of pharmacy students contributing meaningfully to real-world challenges.



MoU between SPH and My Pharmacy

SPH signed a Memorandum of Understanding (MoU) with My Pharmacy, a well-established retail pharmacy chain. This collaboration aims to provide academic training with real-world community pharmacy practice by providing students with structured internships, on-site learning opportunities, and direct interaction with patients and pharmacy professionals.



Student Corner

Rector's Merit Award for Academic Excellence

SPH proudly congratulates its exceptional students on receiving the prestigious Rector's Merit Award—a distinguished recognition of outstanding academic performance, dedication and consistent pursuit of excellence. This achievement not only highlights the students' hard work and perseverance but also reflects the unwavering support and mentorship provided by the faculty. The school celebrates this proud moment and remains committed to fostering a culture of academic excellence, encouraging all students to aim higher in both their scholarly and professional journeys.



Dean's Merit Award Ceremony

The UMT School of Pharmacy proudly organized the Dean's Award Ceremony to honour students who demonstrated exceptional academic performance and commitment to scholarly excellence. Attended by faculty, students and their families, the ceremony recognized top-performing individuals who contributed to the academic reputation of the school through their hard work and consistency.



UMT Pharmacy Students Shine as Runner-Up in Inter-University Quiz Competition

SPH proudly celebrates the success of its students who secured the Runner-Up position in the Inter-University Quiz Competition hosted by the University of Lahore (UOL). The school congratulates all participants for their outstanding performance and remains committed to fostering academic excellence and competitive spirit among its students. We extend heartfelt appreciation to Ms. Saba Ashraf, Lecturer at SPH, for her guidance in preparing the team.



Poster Competition Among SPH Students

SPH organized an intellectually engaging poster competition designed to showcase the scientific creativity and academic excellence of its students. The exhibition served as a vibrant platform for students to translate theoretical knowledge into visually compelling and conceptually sound models, posters and research-based displays.



Hands-On Training: Intravenous Administration Techniques in Rodent Models

The UMT School of Pharmacy recently conducted a hands-on training session on Intravenous (IV) administration in rodents, providing students and young researchers with practical exposure to essential preclinical techniques. The session covered key aspects of animal handling, vein identification, injection techniques and safety protocols, emphasizing the importance of precision and ethical compliance in laboratory procedures.



Clinical Role Play Activity

The UMT School of Pharmacy conducted a clinical role-play activity aimed at enhancing students' communication skills in real-world patient care scenarios. The session provided students with a platform to simulate pharmacist-patient interactions, fostering confidence, empathy, and professionalism skills essential for clinical pharmacy practice. Special appreciation to Ms. Sobia Malik for her unwavering dedication and commitment to student-centred learning.



Research Corner

Research Symposium on Developing Nutraceuticals for Preventive Therapy

UMT School of Pharmacy organized a Research Symposium titled "Developing Nutraceuticals for Preventive Therapy: Insights from Pharmacy and Food Science". The symposium brought together scholars, researchers and students to explore the interdisciplinary potential of nutraceuticals in addressing modern health challenges through prevention-focused strategies.

School of Pharmacy

Research Symposium

DEVELOPING NUTRACEUTICALS FOR PREVENTIVE THERAPY: INSIGHTS FROM PHARMACY AND FOOD SCIENCE



Wednesday, 16 April 2025 02.00 PM - 03:00 PM

2s-05, SHS CAMPUS UMT, Raiwind Road, Lhr.

Research Symposium on Gene Therapy using Cell Penetrating Peptides as Carriers

The UMT School of Pharmacy organized a Research Symposium focusing on the topic "Gene Therapy using Cell Penetrating Peptides as Carriers." The session was delivered by Dr. Imran Sajid, Associate Professor at the Faculty of Pharmaceutical Sciences, University of Central Punjab (UCP). Dr. Sajid provided valuable insights into the innovative use of cell-penetrating peptides (CPPs) for gene delivery, discussing their role in overcoming cellular barriers and advancing therapeutic applications. The symposium offered participants an excellent opportunity to explore cutting-edge strategies in targeted gene therapy. UMT SPH

RESEARCH SYMPOSIUM

"Gene Therapy using Cell Penetrating Peptides as carriers."



Associate Professor Faculty of Pharmaceutical Sciences, UCP

Friday, 23rd May, 2025 11:30 am - 1:00 pm 2s-05, SHS Campus, UMT, Raiwind Road Lahore.

Research Innovation Award

SPH proudly congratulates Dr. Amber Sharif, Assistant Professor, on receiving the prestigious Research Innovation Award at the 10th Invention to Innovation Summit 2025, held at UMT. This recognition, presented during the Innovation Awards Ceremony organized by UMT ORIC in collaboration with the Triple Helix Association, honors Dr. Amber's outstanding contributions to advancing pharmaceutical research.



Create like an artist. Solve like an engineer. Act like an entrepreneur.

SPH Research Abstracts

Mapping Gestational Diabetes Mellitus –A Narrative Review of Key Determinants and Epidemiology

Sana Sarfaraz, Nazia Rizwan, Amber Sharif, Rabia Altaf, Abdul Qader

Abstract:

Gestational diabetes mellitus (GDM) is a glucose intolerance disorder that arises during pregnancy, posing significant risks to both maternal and neonatal health. The global burden of GDM is increasing, reflecting changes in demographic, genetic, and lifestyle factors. Objective: This narrative review aims to explore the epidemiology, risk factors, diagnostic criteria, and current preventive and management strategies associated with GDM, with an emphasis on its public health implications. Methods: This review utilized a comprehensive literature search of international databases including PubMed, Scopus, and Google Scholar. Relevant articles published in English over the last ten years were included. Keywords such as "gestational diabetes," "GDM risk factors," "insulin resistance in pregnancy," and "maternal outcomes" were used. Epidemiological trends, diagnostic approaches, and evidence-based prevention and treatment methods were synthesized from cohort studies, meta-analyses, and clinical guidelines. Results: The global prevalence of GDM varies significantly, ranging from 1% to 28%, largely influenced by screening protocols, lifestyle, and ethnic composition. Risk factors for GDM include maternal obesity, advanced maternal age, family history of diabetes, polycystic ovarian syndrome (PCOS), and ethnicity. The pathophysiology involves insulin resistance, exacerbated by placental hormones. Lifestyle interventions—particularly dietary modifications and physical activity—remain the cornerstone of management. Continuous glucose monitoring (CGM) and early screening contribute to improved glycemic control and better maternal-fetal outcomes. The link between GDM and future development of type 2 diabetes mellitus highlights the importance of postpartum follow-up. Conclusion: GDM is a growing public health concern due to rising obesity and type 2 diabetes rates. Early detection, individualized care plans, lifestyle interventions, and postpartum monitoring are critical to minimizing complications and improving long-term outcomes for both mothers and offspring.

Evaluation of Metabolic Dysfunction-Associated Fatty Liver Disease-Related Pathogenic Mechanisms in Human Steatotic Liver Cell-Based Model: Beneficial Effects of Prunus domestica L. subsp. syriaca Extract

Laura Comi, Claudia Giglione, Hammad Ullah, Maria Daglia, Paolo Magni https://pubmed.ncbi.nlm.nih.gov/40219006/

Abstract:

Disrupted glucose uptake, oxidative stress, and increased de novo lipogenesis are some of the key features of metabolic dysfunction-associated fatty liver disease (MASLD). The modulation of these pathogenic mechanisms using extracts from natural and sustainable sources is a promising strategy to mitigate disease progression.

This study aimed to evaluate the effects of Prunus domestica L. subsp. syriaca extract on these processes, taking advantage of a cell-based model of steatotic hepatocytes (HepG2-OA) that recapitulates some key pathophysiological features of MASLD. The HepG2-OA cell model was generated by treating cells for 7 days with 100 µM oleic acid (OA). The effect of different concentrations (0.01, 0.1, 0.5, and 1 mg/mL) of P. domestica extract was assessed through MTT assay (cell viability), flow cytometry (glucose uptake and reactive oxygen species, ROS, production), spectrophotometry (lipid accumulation), and qRT-PCR (expression of selected genes).

P. domestica extract exhibited no cytotoxicity at any tested concentration after 24 and 48 h in the HepG2-OA cells. The extract increased glucose uptake in a dose-dependent fashion after both 6 and 24 h. Additionally, the extract reduced lipid accumulation and downregulated the expression of key lipogenic genes (DGAT1 and FASN). Furthermore, in the HepG2-OA cells, P. domestica extract reduced ROS production and downregulated the expression of oxidative stress-related genes (SOD and CAT).

In conclusion, P. domestica extract positively modulated some key molecular mechanisms associated with glucose metabolism, lipogenesis, and oxidative stress, supporting its potential as a nutraceutical candidate for MASLD management.

Health Corner

Guest Lecture on Obesity and Body Shaping for Youth

The UMT School of Pharmacy, in collaboration with Evercare Hospital Lahore, organized an awareness session titled 'Obesity and Body Shaping for Youth'. The session was led by Dr. Hamad Ashraf, Consultant in Gastroenterology and Endo-Bariatrics, who shared expert insights on managing obesity and emphasized the importance of early lifestyle interventions for long-term health benefits.

evercare UMT SPH





OBESITY AND BODY Shaping for youth

Dr. Hamad Ashraf MBBS, FRCP (London), FRCP (Edin), FRCP (Glasg), FESBGH (EU), CCT (UK). Consultant in Gaastroenterology and Endo-bariatrics

📰 June 03ª, 2025 ⓒ 09:00 am – 10:00 am 💡 School of Pharmacy, UMT SHS Campus, Lahore

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Awareness session on Heatwave

SPH organized an awareness session on "Heatwave-Related Health Issues and Adolescent Mental Health", featuring Dr. Sharjeel, Consultant in Family Medicine and Community Health at Indus Hospital & Health Network (IH&HN). Dr. Sharjeel highlighted the growing risks of heatwave exposure, its health complications, and the often-overlooked impact on mental health, particularly among adolescents.



Mental Health and Pakistan



By: Muhammad Muaaz Munir (Lecturer, SPH)

Approximately 20 million Pakistanis (about 10% of the population) are affected by mental health issues. Unfortunately, many are unable to access support due to stigma, lack of awareness, and limited services.

Among university students, 14% report severe stress and anxiety, while 8.2% face severe depression4. Depressive disorder is the most reported mental health issue, contributing 3.13% of total disability-adjusted life-years (DALY's).Females experience higher rates of depressive disorder (3.89%) compared to males (2.37%).

During the pandemic, stress, anxiety, and depression prevalence among young people (aged 15–24) reached 38.1%, 40.5%, and 57%, respectively.

Mental health indicates emotional, psychological, and social well-being. It affects how one think, feel, and act. It encompasses various aspects, including stress management, coping skills, self-esteem, and resilience. Common Mental Health issues includes:

- Anxiety Disorders: These comprise generalized anxiety disorder, panic disorder, and social anxiety. Common symptoms may involve excessive worry, fear, and avoidance.
- Depression: Mood disorder characterized by persistent sadness, loss of interest, and changes in sleep and appetite.
- Bipolar Disorder: Involves extreme mood swings between depression and mania (elevated mood).
- Schizophrenia: A severe mental illness affecting perception, thinking, and behavior.

Risk Factors:

Genetics, trauma, environment, substance abuse, life style, relationships, diet, losses and chronic stress. Unfortunately, stigma around mental health persists. People may hesitate to seek help due to fear of judgment.



Reducing stigma about mental health is vital for fostering understanding and empathy. Few effective strategies to alleviate this stigma are given below:

1. Awareness and Education:

Launch awareness campaigns to educate people about mental health, dispel myths, and challenge stereotypes. Include mental health education in school curricula to promote early understanding.

2. Media Representation:

Encourage media outlets to depict mental health issues accurately and sensitively. Share stories of recovery and resilience to counter negative stereotypes.

3. Language Matters:

Use respectful language when discussing mental health. Avoid terms like "crazy" "retarded" or "psycho". Put the person before the condition (e.g., "a person with depression" instead of "a depressed person").

4. Celebrate Success Stories:

Highlight successful individuals who have overcome mental health challenges. Show that recovery is possible.

5. **Promote Open Conversations:**

Encourage open discussions about mental health in families, workplaces, and communities. Be empathetic and listen without judgment when someone shares their experiences.

6. Support Mental Health Services:

Advocate for better access to mental health services, counselling, and therapy. Support organizations working to reduce stigma and provide resources and emphasize that "seeking professional help is essential".

7. Self-Care Strategies:

Prioritize self-care: Get adequate sleep, exercise, and maintain a balanced diet. Practice mindfulness, meditation, or deep breathing to manage stress. Connect with loved ones, engage in hobbies you enjoy and don't forget you are not alone.

Remember

Mental health issues are not a sign of weakness it means you have been strong for far too long.



References:

1.National Alliance on Mental Illness (NAMI): nami.org

2.World Health Organization (WHO) Mental Health Resources: who.int/mental_health 3.<u>https://www.cambridge.org/core/journals/bjpsych-bulletin/article/burden-of-mental-disorders-by-gender-in-pakistan-analysis-of-global-burden-of-disease-study-data-for-19902019/17C0C828C05A230A0906EFBA166C5061</u>

4.<u>https://www.britishasiantrust.org/our-work/mental-health/mental-health-in-pakistan/</u> 5.https://borgenproject.org/mental-health-in-pakistan/

6. https://www.emerald.com/insight/content/doi/10.1108/AGJSR-12-2022-0309/full/html

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