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School of Pharmacy Newsletter

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EDITORIAL

Welcome to the new issue of our School of Pharmacy quarterly newsletter. In this issue, we showcase some of the achievements of our students and faculty including the engagement of our students in community services and research conducted by our faculty. In the student corner, the students highlight the innovations and achievements of Muslim scientists in the area of pharmaceutical sciences. The health corner focuses on the management of diabetes during fasting in Ramadan. Looking ahead to the rest of the year, we aim to continue our mission of serving as a center of excellence for teaching and research. Furthermore, we will continue to reach out and forge new collaborations with industry and community partners. As always, we welcome your feedback to our newsletter and thank you for your continued support to our School of Pharmacy

Dr Ejaz Ullah Cheema
Dean SPH

News in Brief

- UMT School of Pharmacy is pleased to announce the launch of its International open access peer-reviewed journal to advance the frontiers of pharmacy research.
- The School of Pharmacy would be offering short certification courses to qualified pharmacists and students as part of Continuous Professional Development (CPD).

  The following two programs will be offered in the summer of 2023 :
  - Assessment and feedback strategies in pharmacy education and training
  - Drug discovery and development

SPH Activities

Pharmacy Council of Pakistan (PCP) Visits the UMT School of Pharmacy

The Pharmacy Council of Pakistan visited the UMT School of Pharmacy (SPH) on 29th March 2023. The members were given a detailed presentation by the Dean on the school's progress and achievements over the last year. The council members duly acknowledged and appreciated the school's state-of-the-art lab facilities as well as the innovative teaching and assessment strategies introduced by the school.

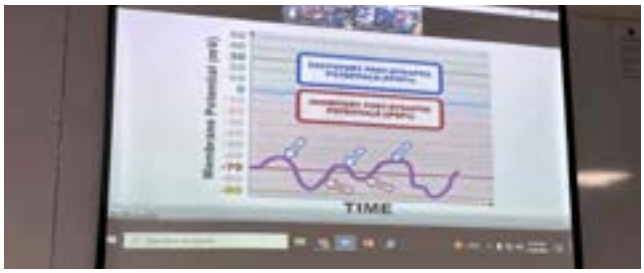



Seminar on "Obesity Facts, Figures and Future"

The School of Pharmacy, in collaboration with Wilshire Labs, conducted a seminar titled "Obesity Facts, Figures and Future" on 1st March 2023. The seminar was attended by senior officials from Wilshire Labs, the Dean, faculty and students of SPH. The guest speaker Prof Dr Memoona Hafeez (Consultant Gynecologist and HOD Sharif Medical Complex) highlighted the causes and the possible risks associated with obesity and guided the audience about a healthy lifestyle. The seminar concluded with a question and answer session.


Webinar on Neuroanatomy

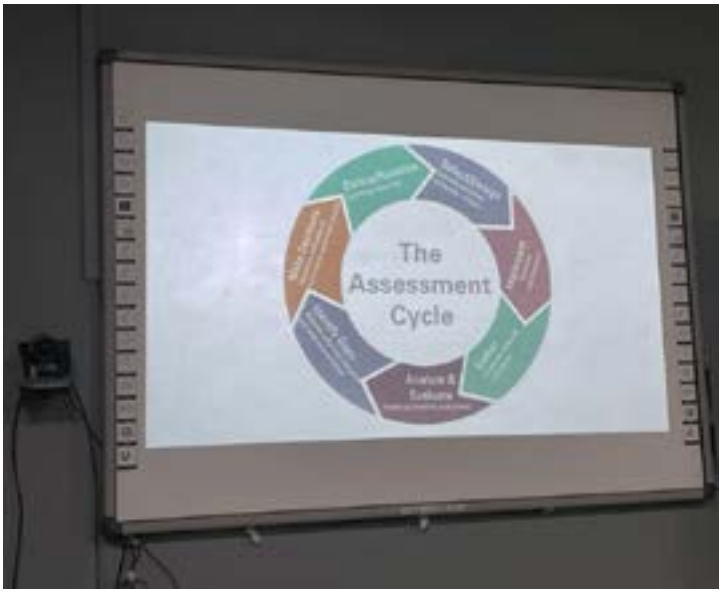
The School of Pharmacy arranged an International Webinar on “Neuroanatomy Signal Reception and Translation in Brain” on 26th January 2023. The guest speaker Dr Mathias Rhein from Hannover Medical School Germany conducted an informative session, thereby guiding the students about different pathways and mechanisms involved in signal reception and their respective translations in the brain. The webinar was attended by the Dean along with the faculty and students of SPH.



Continuous Professional Development

Faculty Development Workshop on “Did They Learn It? Assessing the Assessment”

Faculty development plays an integral part in improving the academic performance of faculty members. A faculty development workshop titled “Did they learn it? Assessing the assessment” was conducted by the UMT School of Pharmacy in collaboration with CTL on 14th January 2023. The workshop started by building an understanding of the need for the development of a valid assessment tool aligned with the course learning outcome, identification of pitfalls in the delivery of effective assessments and concluded with the analysis of the assessment data through basic psychometric analysis in order to revise and improve further assessments. The Dean School of Pharmacy sincerely thanked the guest speaker Dr Majid Ali for delivering such an informative and interactive workshop for the faculty members.



Industry Academia Linkages

MOU with Tigermed

The UMT School of Pharmacy signed an MOU with Tigermed on 2nd March 2023. The MOU will allow SPH to develop collaborations in education and research and will facilitate the provision of CGP (Clinical Good Practices) certifications to SPH faculty and students. Tigermed is a global clinical research organization operating in 54 countries. As a leading clinical Contract Research Organization (CRO), Tigermed fully participated and supported the multicenter phase III clinical study of the Cansino Covid 19 vaccine and was responsible for cross-country coordination and operations, including project management, data management, biometrics, pharmacovigilance, third-party audit, etc. This was also the first China-initiated phase III vaccine clinical study that covered multiple continents, including Asia, Europe and Latin America.

Student's corner

Community Services Led by SPH Students

Shehroz Mehmood, a student in the 4th semester laid the foundation of the Al Maniheen Foundation in 2021 which is working hard towards the betterment of the poor and needy. Al Maniheen Foundation lives up to its name which means "The Gracious Giver".
This foundation is run by capable students in the 4th semester at the School of Pharmacy. The philanthropic spirit of these students has guided them to carry out visits to children's homes. So far the team has visited the SOS Village and Wudduha Foundation, distributing gifts and clothes among the children.
Al Maniheen Foundation has helped countless students by raising funds to provide for their education and collecting donations for people who cannot afford treatment for their medical conditions. Needy families who cannot afford the expenses of marrying their children are also aided by the organization. The foundation now has bigger motives and agendas in mind. Having various projects lined up, their biggest project is Microfinance. The team looks for candidates who need a livelihood and provides them with funds to start a business for them. The spirit of charity is higher than ever in the Holy month of Ramzan. Thus the team has been carrying out Ration Drives by delivering rations to the needy. The organization has distributed rations to over 80 underprivileged families. They

plan to aid more with Iftar and Eid Drives to provide the needy with the necessities with much-needed cheer. The students plan to set up medical camps in areas that lack healthcare awareness and facilities. This is a bright chance for the students to learn their specific roles as healthcare workers in our society as well as benefit the people by giving them healthcare facilities such as blood tests and checkups.
This group of enthusiasts is a guiding light to all the students of the School of Pharmacy. These students keep the spirit of charity alive and strive to be a valued part of our society today.

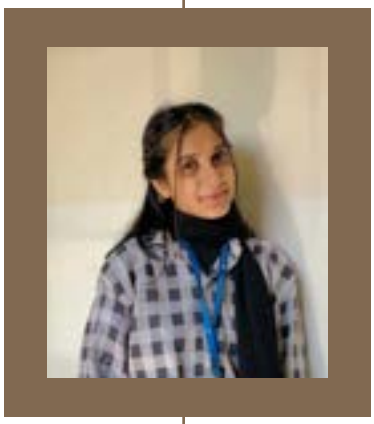


Innovations of Muslim Scientists in the Field of Pharmaceutical Sciences .....through student's Lens

Ayesha Ashraf

Muslim scientists have made significant innovations in pharmaceutical research throughout history. One of the most influential Muslim scientists, and innovators in pharmacy is Jabir ibn Hayyan. He developed new techniques for preparing and refining drugs. Many of the concepts that Jabir developed in his research still influence pharmacy today, including purifying alcohol before using it as medication, developing new methods of drug formulation, and preparing new substances. Another notable Muslim scientist who made significant contributions to the pharmacy is Rhazes. Rhazes was a pioneer in the field of pharmacy, which centered on advancing the use of drugs. Rhazes developed various new remedies, including ointments, oils and tinctures, which contain plant-based compounds. He also introduced the practice of compounding. In conclusion, Muslims have made significant contributions to the field of pharmacy. Innovations like those made by Jabir ibn Hayyan and Rhazes, in drug development, refining and formulation, have had a lasting impact on pharmacy practice to date. Pharmacy professionals today continue to draw from these innovations, appreciation of which is crucialfortheevolutionofpharmacypractice.

Khadija Shafique

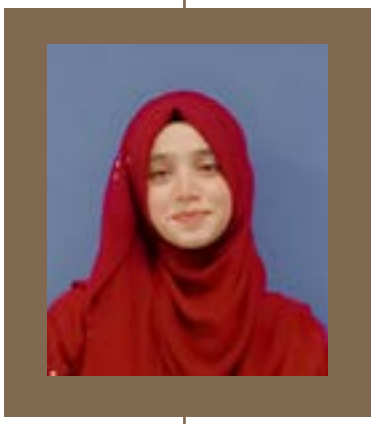


Muslim scientists have played a vital role in advancing pharmacy through their innovative contributions to medication development, drug discovery and healthcare research. A notable figure, Dr Fazlur Rahman Khan is a pharmaceutical scientist. Dr Khan played a vital role in the development of several important drugs, including analgesics and antibiotics. He also conducted research on the synthesis of natural products, which helped in the discovery of several new drugs. Moreover, his contributions have had a significant impact on the growth of the scientific community in the country. Another Muslim scientist who has made significant contributions to pharmaceutical research is Dr Salimuzzaman Siddiqui. Dr. Siddiqui is a Pakistani scientist who is known for his discovery of over 400 natural molecules that have been used in the treatment of infectious diseases, cancer and other health conditions. His research has also led to the development of new drugs and therapies to treat diseases like Parkinson's, Alzheimer's and HIV. In conclusion, Muslim scientists have made major contributions to pharmaceutical research throughout history. Muslim scientists have pushed the boundaries of scientific inquiry and made groundbreaking discoveries in pharmacology and medicine

Faiza Khalid

Muslim researchers have been instrumental in developing pharmaceutical science for centuries, producing significant contributions that have advanced medicine and enhanced the world's health. Numerous of these scientists have produced ground-breaking concepts, findings and advancements due to their research projects by exhibiting exceptional creativity, vision and persistence. For instance, Dr Zafar Iqbal, a Muslim scientist from Pakistan, made essential advances in creating novel drugs for treating cancer. Muslim Bangladeshi scholar Dr Fazlul Sarkar identified a protein that is essential for the growth of prostate cancer. Additionally, a Muslim scholar from Pakistan, Dr Tariq Bhatti, created a breast cancer treatment that shows promise. Muslim researchers have also contributed to creating novel antibiotics, vaccines and drug delivery methods that can improve the efficacy of already available treatments. Their creative work has lowered healthcare costs, enhanced patient outcomes and given more people around the globe access to treatments that could save their lives. As a result of their outstanding contributions to pharmaceutical research and development, Muslim scientists have had a significant positive influence on health worldwide.

Maryam Fatima



The culmination of scholars and scientists from the Medieval Muslim world has led in many ways to the development of modern pharmacy as a profession. The Al-Mamun's caliphate (813-833) in Baghdad encouraged scholars to translate and generate data on natural product-based drugs. Pharmacists, of the time, were otherwise referred to as 'Saydalaneh'. They searched herbal-derived ingredients and extracts for use as remedies and went as far as explaining their physicochemical properties. That eventually led to unprecedented growth within the field. Al-Razi (864–930) was one of the greatest physicians of Muslim civilization. He was also an enthusiastic supporter of alchemy. To a great extent, he influenced the development of pharmacy and alchemy throughout the medieval period. His interest in alchemy and his strong belief in the possibility of the transmutation of lesser metals to silver and gold is observable in his two-best known alchemical texts al-Asrar (The Secrets) and Sirr al-Asrar (Secret of the Secrets). As many Muslim scientists contributed to a great extent and introduced 2000 new substances in pharmaceutical research including cinnamon, cloves, senna, camphor, musk, cassia, tamarind, nutmeg, aconite, etc. Saeed ibn Abd Rabbihi (d.960) was a pharmacist of Cordoba. His Kitab al-Dukkan (The pharmacy shop) consisted of 17 chapters of compound drugs and recipes

Mian Hussain Ahmad

Muslims made the first Pharmacy in the world during the Abassid Caliphate (Baghdad 754). In Baghdad, the first pharmacies, or drug stores, were established in 754, under the Abbasid Caliphate during the Islamic Golden Age. By the 9th century, these pharmacies were state-regulated. Hazrat Muhammad (PBUH) himself insisted people to take medicines for diseases, as people at that time were reluctant to do so. Al-Biruni (973-1050) promoted the idea of academic training for pharmacy students and emphasized that pharmacology and knowledge of medicines book on the organism are more important than mere preparation. He wrote one of the most valuable Islamic works on pharmacology entitled Kitab al-Saydalah fee al-tib (The Book of Drugs). The most enduring work in pharmacy is of Ibn Sena (d. 1048). It was laying down the rules for testing the effectiveness of a new drug or medication. Ali ibn Abbas al-Majusi (died 994), also known as Masoudi, or Latinized as Haly Abbas is most famous for the Kitab al-Maliki (Complete Book of the Medical Art), consisting of 20 treatises on theatrical and practical aspects of medicine. He encouraged the use of native medicinal plants, as well as animal- and mineral-based products. Al-Majusi divided drugs according to their pharmacological properties into hypnotics, sedatives, antipyretics, laxatives, demulcents, diuretics, emetics, emollients, astringents and digest-ants. Sabur bin Sahl wrote a book that includes recipes for compounding the drugs, remedies for ailments, their pathological actions, dosage and the method of administration. It was written as a guidebook for pharmacists.

Research Corner

Integration of pharmacist independent prescribers into general practice: a mixed-methods study of pharmacists' and patients' views, Journal of Pharmaceutical Policy and Practice 2023, Volume 16: Issue 10
Abdullah A alshehri.....Ejaz Cheema

Abstract

Since 2015, the National Health Service (NHS) has funded pharmacists to work in general practice (GP practice) to ease workload pressures. This requires pharmacists to work in new roles and be integrated effectively into GPs. Independent prescribing is a key part of the GP pharmacist role, but little is known about pharmacists' integration into GP practice as well as patients' perceptions and experiences of the care provided by GP pharmacists. This study aims to explore the perceptions of pharmacist-independent prescribers (PIPs) about their integration into GP practice and gain insight into patients' perceptions of the care provided to them by pharmacists. The study concluded that Pharmacist independent prescribers provide a range of clinical services for the management of long-term conditions which appear to be recognized by patients. However, there is a need to address the barriers to PIPs' integration into GP practice to optimize their skill mix and patient-centered care.

Optimization of ranitidine hydrochloride based on stability performance in directly compressible immediate and sustained release formulations, Pakistan Journal of Pharmaceutical Sciences 2023, Volume 36: Issue 2
Ali Aun..... Sobia Razzaq

Abstract

Ranitidine Hydrochloride (RTD), a moisture-sensitive drug, has issues of stability during shelf life especially when formulated through the wet granulation method. In the current study, RTD was blended with non-hygroscopic excipients like ethyl cellulose and compressed using the direct compression method. The physical and physicochemical characteristics were evaluated including hardness, thickness, diameter, friability, weight variation, disintegration, dissolution and accelerated stability study to optimize findings. Subsequently, the optimized formulation was characterized for Fourier Transform Infrared (FTIR) analysis and in vitro drug release kinetics. The physical characterization was unaffected by polymer variation while the friability and weight variation was within the USP limits. In vitro drug release depicted that the release rate was sustained by increasing the amount of ethyl cellulose, with a 10% increase of ethyl cellulose 99.09% drug was released. FTIR analysis exhibited no interaction among the ingredients of the optimized formulation (E2). The optimized formulation followed Hixson-Crowell release kinetics. Formulation A5 displayed immediate release characters as plain uncoated formulation. Accelerated studies showed no significant change in the drug content. The RTD was successfully sustained to be released for up to 6 hours and accelerated stability showed

Health Corner

How to Manage Diabetes during Ramadan

By Dr Rabia Altaf
Associate Professor, SPH

A healthy mature Muslim individual of either gender must observe fasting during Ramadan. While it may be dependent upon certain climatic conditions and the duration of days and nights during equinoxes exchange, fasting duration ranges from approximately 10-20 hours across the globe.

Fasting during Ramadan may affect the circadian and hormonal rhythms imparting a major impact on glucose homeostasis. In both types of diabetes, type-I and type-II, the fasting mode may create a disturbance of glucose balance and energy distribution. Glucagon secretion in type-I diabetics may fail to increase appropriately in response to hypoglycemia. While certain other perturbations may occur in response to prolonged fast in type-2 diabetics leading to either hyperglycemia or ketoacidosis depending upon the extent of insulin resistance or deficiency.

For type-I diabetics, the basal-bolus regimen should be the first choice for the management of diabetes during Ramadan. It may include once-or twice daily injections of intermediate or long-acting insulin along with premeal rapid-acting insulin. An alternative strategy may be a continuous subcutaneous insulin infusion (pump).

For type-II diabetics, distributing calories over two to three smaller meals during the non-fasting interval may help prevent excessive postprandial hyperglycemia. After the sunset meal, the physical activity may be modified. The choice for oral agents may vary ranging from Metformin, Glitazones, Sulfonylureas, Incretin-based therapy, and Glucosidase inhibitors, to an insulin pump providing continuous insulin delivery over 24 hours with basal infusion rates programmed and individualized for each patient.

Extremely individualized care must be taken while observing fasting since the management plan may vary from person to person. A few crucial steps to manage fasting during Ramadan for diabetics may include a balanced dietary pattern, a normal level of physical activity and breaking the fast immediately in case of any mishap.

An awareness campaign may be launched by religious leaders and medical practitioners to guide those suffering from the disease who are still willing to observe the beloved religious component. Furthermore, the delivery of a Ramadan-focused structural education should be ensured by healthcare professionals across all educational institutes.