



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



The material in the book may not be copied or reproduced without permission of authors.

Book of Abstracts

November 25–27, 2025

Published by: Faculty of Pharmacy

Jinnah University for Women



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ACKNOWLEDGEMENT

We extend our heartfelt gratitude to all individuals and organizations who have contributed to the success of the JUW ICSPA 2025. This event would not have been possible without the dedication, collaboration, and unwavering support of numerous stakeholders. Our sincere appreciation goes to the organizing committees, advisory boards, and focal persons whose tireless efforts and meticulous planning have brought this vision to life. Special thanks to the faculty of Pharmacy and staff of Jinnah University for Women for their commitment to excellence and teamwork in making this event a resounding success. We are deeply grateful to the distinguished national and international Keynote speakers and panelist that have collaborated with us, sharing their expertise and encouraging the exchange of innovative ideas. A special note of thanks to our esteemed sponsors—AGP, AD Instruments, Topline International, Techtron technologies and Premium solution for their generous support. Your contributions have been instrumental in ensuring the smooth execution and wide-reaching impact of this event. Finally, we express our gratitude to the speakers, presenters, and participants whose contributions of knowledge and expertise have elevated this conference to an exceptional platform for interdisciplinary dialogue and innovation.

With gratitude,

Conference Organizing Committee, JUW ICSPA 2025

Jinnah University for Women



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



Message from the Conference Patron in Chief

It is a matter of great satisfaction to reflect on the successful organization of JUW–ICSPA 2025: International Conference on Sustainable Practices in Pharmaceutical Advancement, hosted by Jinnah University for Women.

The conference brought together a diverse community of scholars, researchers, and professionals who engaged in thoughtful discussions on advancing pharmaceutical sciences through sustainable and responsible practices. The enthusiasm and scholarly contributions witnessed during the event clearly demonstrated the growing commitment toward innovation aligned with global healthcare needs.

This abstract book stands as a valuable record of the scientific work presented during the conference. It highlights the intellectual efforts of participants and serves as a testament to the quality and relevance of research being conducted in this field.

I commend the Faculty of Pharmacy and the organizing committee for their dedication in successfully conducting the conference and compiling this publication. I am confident that the knowledge shared will continue to inspire future research, collaboration, and progress.



Mr. Wajeesh Uddin Ahmed

Patron in Chief,
JUW-ICSPA 2025
Chancellor,
Jinnah University for Women



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW-ICSPA 2025)



Message from the Conference Patron

I am pleased to acknowledge the successful completion of JUW-ICSPA 2025, which provided a meaningful platform for academic exchange and professional engagement in pharmaceutical sciences.

The conference facilitated insightful discussions and showcased a wide range of research contributions focused on sustainable practices. The active participation of researchers, students, and professionals greatly enriched the academic environment and strengthened collaborative opportunities.

This abstract book reflects the collective efforts of all contributors and preserves the key scientific insights presented during the event. It will serve as a useful reference for continued learning and future research endeavors.



I appreciate the commitment of the organizing team and the valuable contributions of all participants who made this conference a success.

Prof. Dr. Naeem Farooqui
Patron,
JUW-ICSPA 2025
Vice Chancellor,
Jinnah University for Women



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



Message from the Conference Chair & Chief Organizer

It is with great pride and pleasure that I welcome you to JUW–ICSPA 2025: International Conference on Sustainable Practices in Pharmaceutical Advancement, hosted by the Faculty of Pharmacy, Jinnah University for Women.

This conference serves as a dynamic platform for researchers, academicians, practitioners, and students to engage in meaningful dialogue on sustainable innovations shaping the future of pharmaceutical sciences. The theme underscores our collective responsibility to integrate scientific advancement with environmental stewardship, ethical practices, and global health priorities.

The enthusiastic participation and valuable contributions of distinguished speakers, presenters, and delegates have enriched the scientific discourse of this conference. The abstract book reflects the diversity of research, innovation, and critical thinking that defines contemporary pharmaceutical advancement.

I extend my sincere gratitude to our keynote speakers, resource persons, organizing committees, collaborators, and sponsors for their unwavering support and dedication in making this event a success. Special appreciation goes to the participants whose research and engagement have truly elevated the academic value of this conference.

It is my hope that the knowledge shared and connections formed during JUW–ICSPA 2025 will inspire continued collaboration, foster innovation, and contribute meaningfully to sustainable healthcare solutions worldwide.

Thank you for being a part of this significant academic endeavor.

Sincerely,

Prof. Dr. Humera Khatoon,
Conference Chair & Chief Organizer,
JUW–ICSPA 2025,
Former Dean, Faculty of Pharmacy
Jinnah University for Women





Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW-ICSPA 2025)



Message from the Conference Secretary

It is a matter of great satisfaction that the International Conference on Sustainable Practices in Pharmaceutical Advancements (JUW-ICSPA 2025), held from 25th–27th November 2025, concluded with remarkable success.

The conference was successfully hosted by the Faculty of Pharmacy, Jinnah University for Women, which played a pivotal role in fostering academic excellence, research innovation, and professional collaboration in pharmaceutical sciences. The University continues to demonstrate its strong commitment to empowering women through quality education, capacity building, and the promotion of inclusive academic opportunities.

I extend my sincere appreciation to the organizers, all contributors, and participants, and express profound gratitude to the University and our valued sponsors for their unwavering support in making this conference a success.



Prof. Dr. Subia Jamil

Conference Secretary,
JUW-ICSPA 2025
Dean, Faculty of Pharmacy
Jinnah University for Women



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW-ICSPA 2025)



Message from the Conference Steering Chair

It gives me great pleasure to present this abstract book as Steering Chair of the International Conference on Sustainable Practices in Pharmaceutical Advancement. It showcases the combined efforts, inventiveness, and scientific rigor of our international research community.

The timing of this conference is crucial because the pharmaceutical industry is being asked to strike a balance between long-term sustainability, ethical behavior, environmental responsibility, and scientific advancement. The abstracts included here present a wide variety of innovative research, progressive approaches, and workable solutions meant to tackle these issues. They stand for both academic distinction and a common dedication to creating a healthcare system that is more resilient and sustainable in the future.



I would want to express my gratitude to all of the reviewers, contributors, and members of the organizing and scientific committees whose hard work made this compilation possible. Their efforts guarantee that this abstract book is a useful tool for inspiration, cooperation, and information sharing. I also want to express my gratitude to our partners and participants for their ongoing participation and assistance. We can all work together to make significant advancements in pharmaceutical sciences while keeping sustainability at the center of our efforts thanks to these cooperative platforms. It is my goal that this abstract book will spark thought-provoking conversations, encourage fresh partnerships, and inspire significant research that goes beyond this conference.

Regards

Prof. Dr. Huma Dilshad

Steering Chair,

JUW- ICSPA 2025

Dean Research, Director DASR,

Jinnah University for Women



Jinnah University for Women
**International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW-ICSPA 2025)**



CONFERENCE COMMITTEE MEMBERS



Mr. Wajeeh Uddin Ahmed
Chancellor, JUW
Patron in Chief



Prof. Dr. Naeem Farooqui
Vice Chancellor, JUW
Patron



Ms. Waniya Wajeeh
Honorary Conference Chair



Prof. Dr. Humera Khatoon
Conference Chair / Chief Organizer
Former Dean, Faculty of Pharmacy, JUW



Prof. Dr. Subia Jamil
Conference Secretary
Dean, Faculty of Pharmacy, JUW



Prof. Dr. Huma Dilshad
Steering Chair,
JUW- ICSPA 2025
Dean Research, Director DASR, JUW



Dr. Sidra Zubair
Associate Professor,
Conference Liaison,
Head of the Seminar Committee



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW-ICSPA 2025)



Department of Pharmacy Practice, JUW

Focal Persons / Seminar Committee



Ms. Mahrukh Khurshid



Ms. Tahoorah Iqbal



Ms. Fehmida Banaras



Ms. Maria Rahat



Ms. Nabgha Zafar



Ms. Mahnoor Jamil



Ms. Mariyam Fatima



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW–ICSPA 2025)



ABOUT CONFERENCE

The conference will examine how interdisciplinary research is being promoted and the potential for developing stronger and deeper collaborations between medicine & health. It will also highlight the role of pharmacist in the design and development of pharmaceuticals across various domains of pharmaceutical sciences

An important aspect will be the impact of technology on the overall curriculum including clinical experiences, emphasizing the need for innovative methodologies in pharmaceutical education. The indigenous development of new medications or drug design will be a theme with discussions on modern drug design and discovery of new product.

Our Goals

- To promote pharmaceutical innovation and research for global well-being and sustainability
- To provide a platform for experts to share their knowledge and experiences
- To facilitate collaboration and networking among pharmaceutical professionals and researchers
- To discuss latest trends, challenges, and opportunities in pharmaceutical research and development

Key Objectives

- To discuss innovative approaches in pharmaceutical research and development and present groundbreaking advancements in Pharmacy
- To explore sustainable practices in pharmaceuticals and Unite experts from diverse fields to explore and develop innovative solutions for sustainable Development
- To identify opportunities for collaboration and knowledge sharing, provide a platform for sharing actionable strategies and practical solutions through keynote speeches, presentations, and workshops.
- To showcase latest research and developments in pharmaceuticals, offering mentorship opportunities, and promoting professional growth to motivate active contributions to the ICSPA



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW–ICSPA 2025)



CONFERENCE THEMATIC AREAS

1. Pharmacology

- Innovations in Drug Discovery & Design
- Personalized Medicine & Pharmacogenomics
- Neurological & Cardiovascular Disorders
- Infectious Diseases
- Application of AI in Pharmacology for Advancing Precision Medicine

2. Pharmacognosy

- Natural Products & Traditional Medicines
- Plant-Based Drug Discovery
- Ethnopharmacology & Sustainable Sourcing
- Cosmeceuticals: Herbal & Organic Approaches
- Phytochemical Screening & Bioactivity

3. Pharmaceutical Chemistry

- Molecular Modelling & Drug Design
- Synthetic & Analytical Techniques in Drug Development
- Stability Testing & Impurity Profiling
- Green Chemistry in Pharmaceuticals
- Medicinal Chemistry Approaches for Emerging Diseases

4. Pharmaceutics

- Advances in Nanotechnology & Targeted Drug Delivery
- Smart Drug Packaging & Track-and-Trace Systems
- Innovations in Pharmaceutical Manufacturing
- Cosmetic & Topical Formulations
- Formulation Challenges in Pediatric & Geriatric Populations

5. Pharmacy Practice

- Role of Pharmacists in Patient-Centered Care
- Digital Health, AI & Telepharmacy
- Clinical Trials: Ethics & Regulatory Challenges
- Evidence-Based Practice & Community Pharmacy Models
- Pharmaceutical Supply Chain & E-Pharmacy Solutions



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW–ICSPA 2025)



Abstracts of Oral Presentation



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW–ICSPA 2025)



A Polyherbal Approach to Diabetes Management: Formulation and
Experimental Evaluation of NTF-011 capsules

Iqra kanwal

Supervisor: Dr .Nudrat Fatima

Faculty of Pharmacy and Pharmaceutical Sciences, Ziauddin University

Abstract:

Diabetes is a disease that spreads very fast globally. Pakistan is one of the most affected countries in the top three and the prevalence rate of diabetes has been estimated at approximately 30%. There are many side effects linked to synthetic anti diabetic drugs thus, the need to find safer and natural alternatives. The purpose of the research was to design and test a safe and effective poly herbal formulation of diabetes management with the help of the selected medicinal plants that possess anti diabetic properties. A rigorous literature analysis was used to select four plants namely, Fagonia arabica, Moringa oleifera, Nigella sativa and Trigonella foenum-graecum. The herbs were obtained through verified sources and were put through quality tests through standardized procedures. Hit-and-trial was used to get the optimum formulation that was filled into capsules in different combinations. The methodology used to determine the safety of the formulation was acute oral toxicity testing, and the efficacy was determined using oral glucose tolerance test (OGTT). The prepared capsules were successful in reducing high blood glucose level, met the pharmacopeial criteria and did not exhibit any indications of toxicity in the test subjects. The poly herbal capsule developed is safe, effective, and can be used as a natural oral remedy in management of Diabetes Mellitus which is an alternative to synthetic anti diabetic drugs.



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW–ICSPA 2025)



Hydroxyurea treatment and reduction in transfusion demand in β -thalassemia major: Evidence from the hospital-based study in Karachi

Uzma Bano¹, Aisha Aziz², Humera Khatoon³, Minza Seher⁴

Abstract

β -thalassemia major is a hereditary hemoglobin disorder caused by mutations in the β -globin gene, leading to ineffective erythropoiesis and transfusion dependence. Blood transfusions are the primary treatment of this disorder, but are associated with complications including iron overload and alloimmunization. Hydroxyurea (HU), through production of fetal hemoglobin (HbF), has emerged as a promising therapeutic option to produce better therapeutic outcomes in managing the severity of disease. **Objective:** This study was aimed to evaluate the effectiveness of hydroxyurea in reducing transfusion requirements among patients with β -thalassemia major in a welfare hospital in Karachi, Pakistan. A cross-sectional survey-based study was conducted on 150 patients diagnosed with β -thalassemia major in AL-Mustafa hospital, Karachi. Data was retrieved from diagnostic laboratory records of patients, aged between 3 months and above 26 years. Hematological parameters, transfusion frequency, treatment regimens, and adverse effects were assessed and compared between patients receiving conventional transfusion therapy, those on hydroxyurea. Statistical evaluation was performed by applying chi-square and frequency distribution. The mean age of patients was 2.17 ± 0.918 years. Hydroxyurea therapy demonstrated a significant improvement in hemoglobin profiles and clinical status. A reduction in transfusion frequency was observed in the majority of patients, while a subset achieved transfusion independence. Additionally, hydroxyurea use was associated with fewer transfusion-related complications. The results were statistically significant showing $p < 0.05$. Hydroxyurea showed considerable efficacy in improving hematological outcomes and reducing transfusion dependency in β -thalassemia major patients. These findings support the potential role of hydroxyurea as an effective therapeutic alternative, particularly in resource-limited settings where transfusion-related complications remain a major clinical burden.

Keywords:

Thalassemia, β -thalassemia major, Hydroxyurea



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW–ICSPA 2025)



From Womb to Wellness: The Role of Maternal Nutrition and Mental Health in Preventing NCDs

Noor us Saba Mansoor^{1*}, Javeria Sheikh², Anum Sattar³, Rasheeda Fatima⁴

¹Faculty of Pharmacy, Faculty of Pharmacy, Jinnah University for Women, Karachi, Pakistan

²Faculty of Pharmacy, Faculty of Pharmacy, Hamdard University, Karachi, Pakistan

³Faculty of Pharmacy, Faculty of Pharmacy, Ziauddin University, Karachi, Pakistan

Abstract

Maternal malnutrition is a serious public health issue because it can elevate the chance of maternal morbidity, affect fetal growth, and have a potential negative impact on pregnancy outcomes. Psychosocial stress is increasingly recognized as a major factor influencing maternal health, metabolic responses, dietary intake, and the duration of pregnancy, followed by inadequate nutrition. However, in developing countries, where available resources are limited and out of reach, few investigations divulge on how food insecurity, poverty, and social pressures combine to lead to malnutrition and chronic stress. This study is designed in a qualitative fashion, which included 12 pregnant and postpartum women confirmed as undernourished, enrolled based on of their mid-upper arm circumference <23cm and body mass index <18.5kg/m². Antenatal clinics were selected as data collection points located in underprivileged rural areas. The data collection tools selected were anthropometric measurements, in-depth surveys, the Perceived Stress Scale (PSS-10), and a 24-hour dietary recall. Details of every instance were documented meticulously, comprising food habits, sociodemographic, and traumatic events in selected patients. Expected outcomes in these cases were assumed to be major contributing factors, and arrays linking malnutrition with psychosocial stress were evaluated using thematic analysis. Analysis presented >20 perceived stress scores uncovering its strong association with maternal nutrition. Additionally, factors such as marital clashes, economic strains, food constraints, and no social support were also identified as lead contributors. Nutritional challenges as a result of food unavailability is also thought to be causing stress-induced anorexia leading to bizarre eating. On the other hand, women representing strong social support may exhibit better nutritional outcomes proving it as a shield against stress-anorexia. This study describes the need for structured goals for prenatal care, defining mental safety and nutritional demands. This case-study presented an in-depth knowledge of individual disputes, highlighting the need of tailored strategies to improve the both baby and mother's health.

Keywords: Maternal malnutrition, NCD, mental health, pregnant and post-partum women



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW–ICSPA 2025)



Red Alert, Green Cure: Tackling Hypertension with Natural Products

Fatima Umoodi, JUW

Abstract:

Cardiovascular diseases (CVDs) are a major public health challenge in Pakistan, contributing significantly to mortality and morbidity. The age-standardized incidence of CVDs in Pakistan is 918 per 100,000 populations, which is markedly higher than the global average 684 per 100,000). Hypertension is the most prevalent risk factor, with data from the National Diabetes Survey of Pakistan (2016-17) reporting a 46.2% prevalence among adults, a sharp increase compared to the earlier National Health Survey (19%). This indicates a rapidly growing burden that threatens healthcare systems and the economy.

While synthetic drugs remain the cornerstone of hypertension and CVD management, their long-term use is associated with side effects, affordability issues, and limited adherence. In this context, many patients turn towards herbal medicine, which is perceived as safer, accessible, and culturally familiar. In Pakistan, reliance on traditional and herbal medicine is widespread. Surveys report that over 50% of the population uses complementary and alternative medicine (CAM), with some studies showing that more than 60% of respondents reported herbal medicine use in the past 6 months. Such patterns highlight the importance of scientifically evaluating and validating herbal remedies for cardiovascular disease management.

Various parts of *P. dactylifera* contain functional compounds such as vitamins, minerals, flavanols, carotenoids, phenolics, and tannins, which contribute to its medicinal benefits. This study aimed to identify the bioactive constituents of a combination extract (pulp + seed) of Ajwa date fruit. A methanolic extract, found to be effective in a biological assay, was analyzed using LC-ESI-MS/MS and Nuclear Magnetic Resonance (NMR). NMR studies revealed α -glucose and β -glucose, while LC-ESI-MS/MS identified hydrocarbons, fatty acid esters, steroids, and vitamins in the active fractions. The extract demonstrated a considerable amount of total polyphenols and flavonoids, indicating a rich presence of phenolic and flavonoid compounds. Antioxidant activity, assessed through the FRAP assay, also showed notable effectiveness when compared with standard references. In addition, the extract exhibited significant anti-inflammatory activity, further supporting its therapeutic potential. These findings indicate that Ajwa date fruit extract, rich in bioactive compounds, offers promising therapeutic benefits for managing hypertension, oxidative stress, and inflammation.



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW-ICSPA 2025)



Protective Effect of Myricetin against Chemically Induced Seizures in Mice

Dr. Mehwish Murad Ali

Zia Uddin University, PhD Scholar

Abstract

Epilepsy is a neurological disorder characterized by recurrent, unprovoked seizures, which may lead to long-term cognitive and psychological deficits. The currently available medication only provide the symptomatic relief and also associated with many side effects that urge to reinvestigate the disease and its treatment. In this regard the natural compounds including flavonoids found in plants have a better therapeutic option encompassing both safety and toxicity. These flavonoids, possess medicinal properties including antioxidant, anti-inflammatory, neuroprotective and modulation of neurotransmitter, implicated in epilepsy pathophysiology. In the present study, we will evaluate the anti-epileptogenic properties of myricetin by targeting TGF- β receptors signaling pathways known to be involved in epilepsy. Objective: Does the Myricetin have a potential to inhibit the TGF- β receptors? Myricetin was assessed in a Pentylentetrazole (PTZ)-induced acute seizure model in mice.

1. Control: Normal Saline 0.2 ml was administered orally to animals in both Acute and Chronic studies.
2. Pentylentetrazole (PTZ): 70mg/Kg dose was given intraperitoneally.
3. Test Compound: Three successive doses of test compound (Myricetin 5mg/Kg) was given orally 30-45 mins prior to the PTZ injection.
4. Standard: Repsox (TGF- β receptor blocker)
10mg/Kg dose was given intraperitoneally 30-45 mins prior to the PTZ injection.

Seizure onset latency, severity, and survival rate were monitored and compared with a standard group that received Repsox in order to assess the anti-seizure potential of the tested compounds. The results of test compound were comparable to those observed with Repsox, showing a promising anticonvulsant effect. The anticonvulsant effect of Myricetin is likely attributed by targeting TGF- β receptors and inhibit TGF- β signaling pathway thus inhibiting inflammatory mediators. No mortality was observed in the Myricetin treated group. Minimal sedation was noticed in animals. Our findings suggest that Myricetin shows significant anticonvulsant action in the acute PTZ induced model and may serve as a promising compound by targeting TGF- β signaling pathway for further studies in management of Epilepsy. Future investigations should delve into mechanism of action in detail and assess its efficacy in chronic seizure model.

Keywords: Anticonvulsant, Myricetin, TGF- β receptors, Neuroprotection



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW–ICSPA 2025)



Bergenin Derived from *Peltophorumpterocarpum* Exhibits Strong Anti-Virulence Effects Against *Pseudomonas aeruginosa* by Targeting MvfR

Farhana Tasleem

Department of Pharmacognosy, Faculty of Pharmacy, Salim Habib University

farhana.tasleem@shu.edu.pk

Abstract

Pseudomonas aeruginosa is an opportunistic pathogen capable of causing severe infections, particularly in immunocompromised individuals. The MvfR protein, also known as PqsR, is a key regulator of quorum sensing and virulence factor expression in *P. aeruginosa*. The present study focused on the phytochemical screening and antibacterial evaluation of bergenin, a compound isolated from the methanol extract of *Peltophorumpterocarpum* leaves, against the Gram-negative bacteria *P. aeruginosa*. To further investigate the mechanism underlying its antibacterial activity, in-silico molecular docking studies were performed. The 3D structure of the MvfR protein (PDB ID: 6b8a) was retrieved from the NCBI database, and the chemical structure of bergenin was obtained from the PubChem database. The quality of the protein model was assessed using the PROCHECK tool. Active site prediction was carried out using BSpred, and docking simulations were performed with PyRx software. Docking results were ranked based on binding scores, and interactions were visualized in both 2D and 3D using Discovery Studio and PyMOL. Bergenin exhibited significant antibacterial activity, showing a maximum growth inhibition zone of 15 mm and a minimum inhibitory concentration (MIC) of 1.56% against *P. aeruginosa*. Docking studies revealed that bergenin binds to the MvfR active site with a docking score of -7.0 kcal/mol, forming hydrogen bonds with Tyr165, Thr166, and Ser106, and a hydrophobic interaction with Pro104. Levofloxacin, used as a control antibiotic, showed a similar docking score of -7.1 kcal/mol and interacted with the same amino acid residues. Additionally, Swiss ADME analysis demonstrated that bergenin possesses favourable physicochemical properties and drug-likeness, with no violations of Lipinski's rule of five. In conclusion, both the pharmacological and computational findings support the potential of bergenin as a promising lead compound for the development of novel antimicrobial agents targeting multidrug-resistant *P. aeruginosa* infections.

Keywords: *Peltophorumpterocarpum*, Bergenin, Molecular docking; Multiple Virulence Factor Regulator; Quorum sensing



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW–ICSPA 2025)



**Cytoprotective Role of Natural Honey Against Doxorubicin-Induced
Toxicity in Mice**

Ali Asgher Shuja*, Sumbul Shamim, Rubina Gulzar, Hafiz Muhammad Arshad

Faculty of Pharmacy, Salim Habib University

Email: dr.ali-asgher123@hotmail.com

Abstract

The protective effect of natural honey was evaluated against doxorubicin-induced liver toxicity in 50 male Albino mice (*Mus musculus* strain) weighing 30 -35 gm. Parameters including body and liver weights, behavioral and morphological changes, liver function, and histopathological alterations were assessed. The toxicity profile of doxorubicin revealed LD₅₀ and LD values of 20 mg/kg and 30 mg/kg, respectively. Intraperitoneal administration of doxorubicin caused significant ($p \leq 0.01-0.001$) pathological effects such as general weakness, bleeding, skin ulceration, hair loss, limb deformities, and bosselation. However, daily oral administration of natural honey for seven weeks resulted in notable ($p \leq 0.01-0.001$) improvements, demonstrated by increased body and liver weights compared to control animals. Moreover, natural honey enhanced liver function in DOX + honey-treated groups and mitigated the pathological changes induced by doxorubicin in both morphological symptoms and hepatocytes. These findings suggest that natural honey possesses strong protective potential against doxorubicin-induced toxicity.

Key Words: Doxorubicin, Cytoprotection, Natural Honey



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW–ICSPA 2025)



Shaping Pharmacotherapy: Role of Molecular switches.

*Taha Ahmed¹

¹Department of Pharmacology, Faculty of Pharmacy, Hamdard University, Karachi.

Abstract:

To make drug delivery and drug delivery systems more accurate; it is a very difficult task and requires vast expertise. In recent years, scientists have discovered novel and targeted mechanisms of molecular switching which gives response to endogenous and exogenous stimuli. This approach can be used for stimuli-responsive control of drug release in a drug delivery system. Core concept of this review to highlight the significance of molecular switches, how these molecular switches influence different cell processes and how the molecular switches impact key pathways of body and ultimately enhance the knowledge of pharmacotherapies strategies. Literature was reviewed between 2000-2025. For more robust and quality analysis, protocols of PRISMA and GRADE guidelines were utilized. Highly influential and important example of molecule switches include small GTPases that involve using GTP/GDP to control the functional dynamics of cell. GTPase also helps in the intrinsically sluggish hydrolysis of GDP. Whereas GTPases are of different types like Ras, Rho and Rab GTPases. Specifically, the Rho GTPases are the one that facilitate in signal transduction protocols of cell in eukaryotes. Highly influential and significant role these molecular switches (GTPases) play in transcription factory regulation, cell polarity, membrane transport pathways, microtubule dynamics and also the actin cytoskeleton. IQ motif-containing GTPase-activating protein 1 (IQGAP1), a prominent regulator in the cancer metastasis process is a well known scaffold used to control cell migration and cell evasion. Recent researches have been crucial to establish the role of Platelet Rho GTPases in the controlling of ROS. Molecular switches can reshape our current understanding of pharmacotherapy and its associative domains.



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW–ICSPA 2025)



Development of Non-Effervescent floating Type
Gastro-Retentive Drug Delivery System

Hadia Naz¹, Kamran Zaheer¹.

¹Faculty of Pharmacy, Hamdard University, Karachi.

Abstract

Non-effervescent floating gastroretentive drug delivery systems (GRDDS) are innovative formulations designed to increase the gastric residence time of therapeutic agents, thereby enhancing their bioavailability and therapeutic effectiveness. These systems typically incorporate low-density polymers that enable the dosage form to remain buoyant in the gastric environment, thereby preventing premature gastric emptying. The primary objective of this study was to develop a non-effervescent FDDS. Various formulations were prepared using different ratios of HPMC K100M and Carbopol 974, focusing on achieving optimal floating and drug release properties. To calculate the density, the tablet weight and volume were determined, with volume assessed through measurements of thickness, hardness, and diameter using a multi-tester. The density was maintained below gastric fluid contents, ensuring tablet buoyancy for over four hours. Initial trials identified densities exceeding 1.004 g/cm³, which influenced floating behavior due to rapid tablet swelling. Evaluations of formulations F1 to F14 revealed significant hardness variations ranging from 51.2 N to 90 N, attributed to differences in excipient types and quantities. It is crucial to balance hardness and drug release kinetics. Accurate thickness control was achieved using a multi tester, with values ranging from 3.4 mm to 4.5 mm. Consistency in thickness is vital for uniform drug release and dissolution profiles. Extensive research demonstrated that tablets float if their density is below 1 g/cm³. Floating tablets designed to remain buoyant for extended periods enhance drug absorption and therapeutic efficacy. An R² value of 0.6477 indicated a moderate correlation between density and floating lag time (FLT), with lower density formulations exhibiting shorter FLT. This emphasizes the need for further optimization of formulation parameters to enhance floating behavior and drug release profiles. The calibration curve, with an R² value of 0.9975, confirmed its reliability for quantitative analysis. Over 90% of the active pharmaceutical ingredient (API) was released within four hours, with an initial rapid release followed by sustained drug release due to gel formation from HPMC K100M and Carbopol 974 interactions. The study concludes that non-effervescent floating drug delivery systems offer significant potential in improving the therapeutic efficacy of poorly soluble drugs by providing sustained release and prolonged gastric retention.



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW–ICSPA 2025)



Formulation and Evaluation of Cognitive Neem Bar for treating
Alzheimer's disease

Dr.Nimra Aamir

Affiliation: Salim Habib University, Karachi

Abstract

Background: Over 55 million people throughout the world suffer from Dementia and approximately 60-70% of these cases are due to Alzheimer's. This disease is a neurodegenerative disorder characterized by cognitive impairment. It emerges with amyloid plaques and neurofibrillary tangles that bring about neuronal death. Despite the fact that there's no cure for it, there are treatments focusing on reducing symptoms and slowing further disease development. To evaluate the effects of neem leaf extract on retrospective and temporal memory in scopolamine-induced rats and explore its potential translation into a human cognitive support functional bar. This study will be carried out on adult Wistar rats as a randomised control trial. Cognitive impairment will be induced by intraperitoneal administration of scopolamine. Neem leaf extract will be administered orally in two dose groups alongside a positive control (donepezil). Using behavioural paradigms including water morris maze and novel object recognition test memory and learning abilities will be accessed. preclinical outcome will support the formulation of a human functional bar by incorporating neem powder with natural ingredients such as oats, walnuts, dates, and honey. Neem leaf extract is anticipated to elevate cognitive function specifically temporal and retrospective memory in scopolamine induced adult wistar rat. Supporting role a natural memory enhancing agent. To conclude this, the study helps us to understand the importance of neem as memory inducing agent giving a supportive care in Alzheimer's disease. Its neuronal protection contribute to improved quality of life.



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW–ICSPA 2025)



Abstracts of Poster Presentation



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW–ICSPA 2025)



ICSPA-Poster-01

**From Nature to Skin: Formulation and Evaluation of a Transparent,
Quick-Absorbing Sunscreen Mist for UV Defense**

Sanya Shuja¹, Warsha Khan², Syeda Maham Jawaid², Maliha Nadeem², Syeda Ayesha Ali², Rabia Khan²

¹Department of Pharmacognosy, Faculty of Pharmacy, Jinnah University for Women

²Faculty of Pharmacy; Jinnah University for Women

Abstract

Background: Effective sun protection is a cornerstone of skin health, yet many traditional sunscreens are hindered by cosmetic drawbacks such as greasiness, visible residue, and the need for manual blending. These limitations often reduce user satisfaction and discourage consistent application. The growing demand for lightweight, effortless solutions has shifted attention toward mist-based sunscreens, which promise quick application, rapid absorption, and a more elegant skin feel.

Objectives: This study aimed to create a sunscreen mist featuring a plant-derived active with recognized UV-protective and complexion-enhancing properties. The formulation was designed to provide broad-spectrum coverage in a weightless, transparent, and fast-drying format that applies evenly without rubbing.

Methodology: A water-based mist was developed by combining the chosen active with mineral UV filters and performance-enhancing agents. The formulation was optimized for fine spray dispersion, smooth film formation, and quick absorption. It underwent comprehensive evaluation, including in-vitro SPF measurement, pH analysis for skin compatibility, viscosity testing to ensure optimal spray performance, and stability assessments under varied temperature and light conditions for three months. In-vivo skin compatibility testing on an animal model monitored any signs of redness, swelling, or irritation following repeated application.

Results: The optimized mist achieved SPF values within the target range and maintained physical and chemical stability across all storage conditions, showing no significant change in color, odor, or texture. The pH remained within the ideal range for skin comfort. Sensory evaluation confirmed a non-greasy, weightless texture with no visible white cast. The product dried within seconds, forming a smooth, even layer without the need for rubbing. Skin compatibility testing revealed no irritation or adverse effects.

Conclusion: The developed sunscreen mist successfully combines reliable UV protection with enhanced cosmetic appeal. By offering a non-greasy, transparent, and fast-drying finish in an easy-to-apply spray format, it aligns with modern user preferences, encouraging consistent use and supporting long-term skin health.

Keywords: Sunscreen, UV protection, mist formulation, non-greasy, transparent finish, fast-drying, ease of application.



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW–ICSPA 2025)



ICSPA-Poster-02

**Nano- HerboGum: Formulation and Evaluation of Herbal Chewing Gum
Containing Eggshell-Derived Nano-Calcium Carbonate for Enamel
Remineralization and Anticariogenic Activity**

Dr. Zubia¹, Sanya Shuja², Warsha Khan³, Rabia Khan³, Syeda Maham Jawaid³, Maliha
Nadeem³, Syeda Ayesha Ali³

¹Department of Pharmacology, Faculty of Pharmacy, Jinnah University for Women

²Department of Pharmacognosy, Faculty of Pharmacy, Jinnah University for Women

³Faculty of Pharmacy; Jinnah University for Women

Abstract

Background: Dental caries, caused by acid-producing bacteria and enamel demineralization, is a major global oral health concern. Nano-calcium carbonate derived from eggshells offers excellent biocompatibility and strong remineralization potential. Herbal extracts from various plant sources provide antibacterial, anti-inflammatory, antioxidant, and oral cleansing effects. Combining these in a chewing gum offers a natural, effective, and convenient approach to enamel remineralization and caries prevention.

Objectives: To formulate a herbal chewing gum enriched with eggshell-derived nano-calcium carbonate and evaluate its enamel remineralization and anticariogenic efficacy through comprehensive in vitro and in vivo studies.

Methodology: Nano-calcium carbonate (nano-CaCO₃) was synthesized from calcined eggshells via acid–base precipitation. Herbal extracts of *Syzygium aromaticum*, *Glycyrrhiza glabra*, *Ocimum sanctum*, *Azadirachta indica*, and *Mentha* spp. were prepared by maceration, standardized, and incorporated into a gum base with nano-CaCO₃ to produce chewable pellets. In vitro assays included (i) enamel remineralization, assessed by enamel weight change and pH variation using animal teeth, and (ii) antibacterial activity against oral pathogens using the agar well diffusion method. In vivo studies were performed in rodents with diet-induced dental caries, where the herbal nano-gum was administered orally daily for several weeks. Post-treatment evaluations included salivary pH measurement and caries severity scoring to assess anticariogenic efficacy.

Results: The in vitro studies demonstrated significant enamel remineralization and pH stabilization, alongside effective antibacterial activity against oral pathogens. In vivo, the herbal nano-gum significantly reduced caries severity and improved salivary pH in rodents with diet-induced dental caries, confirming its protective effects on enamel integrity. These findings support the potential of this formulation as a natural anticariogenic agent.

Conclusion: The herbal nano-calcium chewing gum offers a cost-effective and eco-friendly solution for early-stage dental caries management. Combining waste-derived nano-calcium with traditional herbal extracts, it demonstrates effective enamel protection and antibacterial activity. These promising results support further preclinical and clinical testing as a natural preventive oral care product.

Keywords: Herbal nano chewing gum, oral health, Enamel remineralization, Antibacterial activity, Anticariogenic action

5-C, NAZIMABAD, KARACHI-74600, Tel: 36619902, 36620857-9, 36620615

Fax: 36620614, E-mail: info@juw.edu.pk, Website: [http:// www.juw.edu.pk](http://www.juw.edu.pk)



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW–ICSPA 2025)



ICSPA-Poster-03

Phytherapeutic Intervention for Nephroprotection: Formulation and Evaluation of a Single-Dose Reconstitutable Ashwagandha Suspension in Gentamicin-Induced Nephrotoxic Mice Models

Sanya Shuja¹, Dr. Zubia², Warsha Khan³, Syeda Maham Jawaid³, Maliha Nadeem³, Syeda Ayesha Ali³, Rabia Khan³

¹Department of Pharmacognosy, Faculty of Pharmacy, Jinnah University for Women

²Department of Pharmacology, Faculty of Pharmacy, Jinnah University for Women

³Faculty of Pharmacy; Jinnah University for Women

Abstract

Background: Drug-induced nephrotoxicity remains a significant clinical challenge, often restricting the therapeutic use of lifesaving antibiotics and anticancer agents. *Ashwagandha* (*Withaniasomnifera*), a member of the botanical family Solanaceae (Nightshade family), contains bioactive withanolides with potent antioxidant and anti-inflammatory properties, making it a promising phytherapeutic candidate for renal protection.

Objective: To develop and evaluate a single-dose reconstitutable *Ashwagandha* dry powder sachet for nephroprotection, and assess its efficacy in a gentamicin-induced nephrotoxic mouse model.

Methodology: A reconstitutable dry powder formulation of *Ashwagandha* root extract was prepared by maceration, followed by blending with suitable stabilizing excipients and packaging in moisture-proof sachets. Each sachet was reconstituted with purified water to form a suspension immediately before administration. Nephrotoxicity was induced in Swiss albino mice (20–25 g) via intraperitoneal injection of gentamicin. Animals were allocated into four groups: normal control, toxin control, standard-treated, and *Ashwagandha*-treated. The nephroprotective potential of the formulation was evaluated through comprehensive biochemical testing and substantiated by histological examination, enabling both functional and structural assessment of renal protection.

Results: Gentamicin administration significantly elevated key biochemical markers of kidney function, such as creatinine, BUN, and urea ($p < 0.05$), confirming nephrotoxicity. Treatment with the *Ashwagandha* formulation markedly reduced these markers compared to both the toxin control and standard-treated groups ($p < 0.05$), with values approaching normal. Histopathological analysis aligned with the biochemical findings, demonstrating substantial preservation of renal architecture and protection against gentamicin-induced kidney damage.

Conclusion: The developed single-use, reconstitutable *Ashwagandha* dry powder suspension sachet offers a convenient, shelf-stable, and effective phytherapeutic approach for mitigating drug-induced nephrotoxicity. The significant biochemical and histological nephroprotection observed in mice underscores its potential for further preclinical validation and eventual clinical translation as a novel herbal renoprotective intervention.

Keywords: Ashwagandha; Phytherapeutics; Dry powder suspension; Nephroprotection; Mice



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW–ICSPA 2025)



ICSPA-Poster-04

Design and Development of Polyherbal Oral Granules of *Boswellia serrata* and *Aegle marmelos*: A Novel Approach for Arthritis Management

Saroush Kiran, Quratul-ain Riaz, SyedaManahil Irfan, Muneeza, Rimsha Waseem, Sara Behram, Sara Ahmed, Shareefa, SyedaManahil Irfan

Affiliation: Jinnah University for Women

Abstract

Background: Arthritis is a progressive disorder characterized by inflammation, joint pain, and stiffness that restrict daily activities. Conventional medicines often provide symptomatic relief but may lead to side effects, highlighting the need for safe and effective herbal-based therapies.

Objective: This study aims to formulate and evaluate polyherbal oral granules of *Boswellia serrata* and *Aegle marmelos* for relieving arthritis.

Methodology: Oral granules were prepared via wet granulation with *Boswellia serrata* powder extract and *Aegle marmelos* powder along with appropriate excipients. The granules were evaluated for physico-chemical properties including angle of repose, bulk density, tapped density, Carr's index, Hausner's ratio and stability testing.

Result: The formulated oral granules exhibited excellent flow properties, acceptable density values and good compressibility index. The combination showed promising potential in reducing inflammation and joint discomfort, indicating a synergistic effect of *Boswellia serrata* and *Aegle marmelos*.

Conclusion: The oral granules of *Boswellia serrata* and *Aegle marmelos* have been successfully formulated, offering a promising natural therapeutic option for arthritis management with enhanced tolerability than conventional drugs.

Keywords: *Boswellia serrata*, *Aegle marmelos*, boswellic acids, arthritis, joint health.



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW-ICSPA 2025)



ICSPA-Poster-05

Formulation and Evaluation of a Natural SPF Cosmetic Kit

Fabiha Naeem, Warda Anis, Aiman Saeed, Syeda Sabika Zaidi, Dr. Urooj Javed
Affiliation: Jinnah University for Women

Abstract

Growing consumer awareness of the adverse effects of synthetic cosmetics has shifted attention toward natural, eco-friendly skincare solutions. Sun exposure is a major contributor to oxidative stress and premature aging, making photoprotection a key focus. Plant-based antioxidants, combined with zinc oxide as a mineral sunscreen, offer safe and sustainable sun protection. To address this need, a Natural SPF Kit was developed, including a lip balm, spray, and serum, designed to provide photoprotection, antioxidant activity, and moisturizing benefits. Each product also contains the preservative to enhance its shelf life.

Keywords

Natural SPF, Zinc oxide, Lip balm, Spray, Serum, Antioxidants, Herbal SPF kit



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW-ICSPA 2025)



ICSPA-Poster-06

Therapeutic Potential of a Turmeric and Urea-Enriched Topical Cream in Diabetic Foot Care: A Preclinical Investigation.

Saroush Kiran, Ayesha Kiran, Nabgha Zafar, Syeda Ayesha Ali, Syeda Zainab Ali, Maheen Khan,
Shanza Anayat, Rimsha Farhan

Affiliation: Jinnah University for Women

Abstract:

Background: This study was designed to develop a multifunctional topical cream for diabetic foot care, targeting skin dryness, cracks, and delayed wound healing. The key active ingredients include; Curcuma longa (turmeric), rich in curcumin with anti-inflammatory, antimicrobial, and wound-healing properties and urea, which provides strong moisturizing and keratolytic effects for hydration and exfoliation. Supporting ingredients include niacinamide and vitamin E for antioxidant and healing.

Objective: To design and evaluate turmeric and urea based diabetic foot cream with supportive excipients for hydration, skin barrier repair, and wound healing.

Methodology: The formulation consists of turmeric and urea along with other excipients. The cream was prepared by mixing ingredients in aqueous and oil phase and then homogenized. The formulation was evaluated for physico-chemical properties such as pH, viscosity, spread ability, stability including animal model.

Result: The diabetic foot cream containing turmeric and urea exhibited excellent physicochemical characteristics, with pH range of 5–5.5 remaining within the optimal skin-compatible range for diabetic foot care.

Conclusion: The diabetic foot cream containing turmeric and urea provides a natural solution for anti inflammatory, moisturizing, protecting and repairing diabetic foot skin.

Keywords: Turmeric, Urea, skin repair, wound healing, diabetic foot care.



Jinnah University for Women
International Conference on Sustainable Practices in
Pharmaceutical Advancement (JUW-ICSPA 2025)



ICSPA-Poster-07

Synergistic Approach in Topical Therapy: Preclinical Evaluation of a Salicylic Acid, Neem Oil, and Calendula Oil Cream Formulation for Psoriasis.

Saroush Kiran, Ayesha Kiran, Nabgha Zafar, Arooma Irfan, Amna kamali

Affiliation: Jinnah University for Women

Abstract:

Background: Psoriasis is a chronic autoimmune skin condition marked by pink to red scaly patches. Salicylic acid, a trusted keratolytic agent, also works as an antimicrobial and anti-inflammatory agent. Neem oil (*Azadirachta indica*) has antioxidants, anti-bacterial and anti-inflammatory properties, beneficial for skin and also treat conditions like aging, eczema, psoriasis and warts. Calendula Essential Oil (*Calendula officinalis*), known for its properties such as wound healing and tissue regeneration, plays great role in different skin conditions like psoriasis, and eczema. Together, these ingredients offer a synergistic effect for managing psoriatic lesions.

Objective: The aim has to develop a herbal-enhanced topical cream containing salicylic acid, neem oil and calendula essential oil for psoriasis care, supporting affordable and patient-friendly therapy by incorporating natural, biodegradable ingredients to reduce environmental impact.

Methodology: The o/w cream is formulated via combining the oil phase and water phase containing suitable excipients along with neem oil, calendula essential oil and salicylic acid respectively. Oil phase is added into the water phase along with continuous stirring, the mixture is then homogenized for 5-7 minutes for better mixing. The cream was allowed to cool at room temperature with gentle mixing. The formulation was evaluated for appearance, texture, color, odor, pH, homogeneity, irritancy, stability including animal studies on psoriasis model.

Results: The prepared o/w cream displayed favorable physic-chemical properties and stability. The combination of synthetic actives with natural oils offers a multi-functional keratolytic, healing, moisturizing and anti-inflammatory making it suitable for long-term supportive psoriasis management.

Conclusion: A stable o/w cream was successfully developed, combining the therapeutic effectiveness of salicylic acid, neem oil and calendula essential oil with the sustainability benefits of plantbased actives; this aligns with global health and environmental goals by providing a safe, effective, and eco-conscious skincare option for people living with psoriasis.

Keywords: Psoriasis, Salicylic Acid, Neem oil, calendula essential oil, Herbal treatment.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-08

Development and Characterization of Topical Gel: A Novel Approach to Arthritis Management

Laiba Shahid, Dr. Amber Nawab

Affiliation: Jinnah University for Women

Abstract

Background: Osteoarthritis is a prevalent joint disorder, and the demand for effective and safe treatments is increasing. Fish cartilage extract, rich in collagen type 2, chondroitin, and glucosamine, has shown potential in alleviating osteoarthritis symptoms. Its natural origin and potential benefits make it an attractive option for osteoarthritis management.

Purpose of Study: This study aimed to develop and evaluate a topical gel formulation containing fish cartilage extract for osteoarthritis treatment, assessing its physical properties, in-vitro release, and stability.

Methodology

The study involved the following steps:

- Formulation of topical gel using fish cartilage extract
- Evaluation of physical properties, including:
 - Spreadability
 - Viscosity
 - pH
- In-vitro release study
- Penetration study through a synthetic membrane
- Stability testing

Discussion: The results showed that the topical gel formulation exhibited desirable physical properties, sustained release of active ingredients, and significant penetration through a synthetic membrane. The use of fish cartilage extract, rich in collagen type 2, may help promote joint health and alleviate osteoarthritis symptoms. Collagen type 2, in particular, plays a crucial role in maintaining cartilage integrity and may help reduce inflammation and pain associated with osteoarthritis. The formulated gel showed potential as a topical treatment for osteoarthritis, providing localized relief and minimizing systemic side effects. Overall, this topical gel formulation offers a promising approach for osteoarthritis management.

Keywords:

Osteoarthritis, Fish Cartilage, gel formulation, joint health, collagen type 2



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-09

Pharma Chews (Medicated Gummies)

Azka khan, Ayesha Manazir, Esha Akram, Ayesha Iqbal, Ms. Sidra Sohail Asim

Affiliation: Jinnah University for Women

Abstract

Background: Gummies are a great alternative to pills and capsules for individuals seeking readily taken supplements. Over the past several years, the market for medicated gummies has experienced rapid growth among customers of all ages. Because the gummies contain a hydrophilic gelatin base, which facilitates their rapid absorption in the body, hence, they provide a significant advantage over traditional dosage forms.

Objectives: In the production of gummy dosage form, our target market is the geriatric and pediatric sectors.

We are creating expectorant gummies for both children and adults, used to treat conditions like colds, flu, bronchitis, and other ailments that cause cough and congestion. The active ingredient used in gummies is “ivy-plant extract. The chewy and appealing formation of these gummies makes it much easier to administer to children and promote adherence to the medication.

We are also developing antidepressant gummies for adults and geriatric patients. According to surveys, one-third of the geriatric population cannot swallow tablets, which is the most common cause of medication non-adherence and inadequate dosing, leading to a variety of adverse effects. Furthermore, 22% to 60% of adults are suffering from depression. The soft and chewy texture makes these gummies an excellent choice for adults and elderly patients.

Methodology:

Ratio of gelatin to water: 1:5

Ivy: 50 mg to 105mg per day

Lavender powder: 80mg day

Ingredients	For 30 gummies (90 g)	For one gummy (3.5g)
Gelatin	10.8g	0.36g
water	45g	1.8g
Sugar/ sugar substitute	27.11g	0.9g
Corn syrup	4.5g	0.15g
Color and flavourings	Few drops	Few drops
lavender	2.4g	0.08g
Ivy	0.188g	0.06g



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



Results of quality control tests:

Formulation	Hardness (kg/cm ²)	Moisture Content (%)	pH	In vitro Disintegration (minutes)
F1	1.81	18	6.1	6:50
F2	1.85	18	6.3	10:42
F3	2.00	18	5.8	6:05
F4	2.10	18	5.4	5:50
F5	1.90	18	5.6	5:50
F6	2.20	19	6.0	3:00
F7	2.30	20	6.2	6:55

Conclusion: The organoleptic evaluation showed satisfactory results, including sweet taste, and chewy texture as per our claims. The quality control assessments also lie under the acceptable criteria with dissolution time within 30 minutes, disintegration within 10 minutes meeting the standard criteria of 15mins, hardness of the gummies are under 3 kgs lying under the acceptable range of 1 to 5kgs.

Keywords: Gummy dosage form, readily taken, pediatric, geriatric, expectorant, sedative, non-adherence,



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-10

Clinical Insights on Equisetum arvense: A Natural Approach to Telogen Effluvium”

Omaima Masood & Mahamil Sabir, Ms Nimra Azhar

Affiliation: Jinnah University for Women

Abstract

Background: Telogen Effluvium (TE) is a common, non-scarring hair loss caused by premature transition of hair follicles from the growth (anagen) to resting (telogen) phase, usually manifesting 2–3 months after triggers like stress, illness, or nutritional deficiencies. In Pakistan, TE accounts for 30–40% of alopecia cases, predominantly affecting women aged 20–40 years. Globally, women are more affected than men (3:1 to 5:1 ratio), with the highest prevalence between 20 and 50 years. Histology reveals increased telogen follicles without inflammation or follicular miniaturization, distinguishing TE from other alopecias. The condition is typically self-limiting with spontaneous hair regrowth after resolving the trigger. Equisetum arvense (horsetail), classified under Equisetopsida, demonstrates several pharmacological effects including antioxidant, anti-inflammatory and antimicrobial. Recent studies highlight its role in promoting hair follicle cell proliferation, antioxidant support for scalp health, silica’s contribution to improving hair texture and reducing hair loss, and anti-inflammatory effects that support healthy hair follicles. Additionally, horsetail has been studied in herbal formulations targeting androgenic alopecia and for its influence on collagen production, which supports hair follicle structure.

Objective: To reduce excessive hair loss associated with Telogen Effluvium (TE), this study investigates the therapeutic effects of Equisetum arvense in combination with glutathione. Equisetum arvense is rich in silica, flavonoids, and phenolic compounds exhibiting potent antioxidant and anti-inflammatory properties. Its bioactive constituents promote hair follicle cell proliferation, collagen synthesis, and mitigate oxidative stress by scavenging free radicals. When combined with glutathione—a critical intracellular antioxidant that replenishes reduced glutathione pools and neutralizes reactive oxygen species (ROS)—the treatment synergistically restores redox balance within follicular cells.

Methodology: The herbal extract was prepared by macerating the plant material in alcohol for approximately 15 days. Following maceration, the alcohol was removed through evaporation at room temperature to obtain the concentrated extract. The study employed a murine model using mice, which were



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



divided into three groups: a control group treated group and disease group receiving the topical formulation. A topical cream containing the herbal extract was formulated for the treatment of Telogen Effluvium (TE). Experimental results were statistically analyzed using one-way ANOVA with SPSS software to assess the significance of differences between groups.

Conclusion: The topical formulation combining Equisetum arvense extract with glutathione demonstrated a significant synergistic effect in reducing excessive hair loss associated with Telogen Effluvium. The antioxidant and anti-inflammatory properties of horsetail, coupled with glutathione's potent free radical scavenging activity, effectively mitigated oxidative stress and supported hair follicle regeneration. These findings suggest that the combined treatment is a promising therapeutic approach for managing TE, promoting hair regrowth, and improving scalp health

Key words: Hair lose, Telogen Effluvium, antioxidant, anti-inflamatory, glutathione, hair growth



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-11
Restoring the Gut–Brain Axis: Comparative Effects of Probiotics, Synbiotics,
and a Polyherbal Formulation in an Antibiotic-Induced Dysbiosis Animal Model

Alia Ejaz¹, Khadeja Yaseen¹, Dr. Zubia²

¹Faculty of Pharmacy; Jinnah University for Women

²Department of Pharmacology, Faculty of Pharmacy, Jinnah University for Women

Abstract

Background: Antibiotics can save lives, but they also wipe out beneficial gut bacteria. In animals, dysbiosis often leads to changes in brain chemistry and behavior such as increased anxiety, mood changes, and memory problems because the gut and brain communicate through immune signals, metabolites, and neural routes. Gut health is closely linked to brain function through the gut–brain axis. Probiotics and synbiotics are already recognized for restoring microbial balance, while medicinal plants offer antibacterial and antioxidant benefits. Combining these approaches may provide broader therapeutic potential.

Objective: To evaluate and compare the effects of probiotics, synbiotics, and a polyherbal formulation alone and in combination on gut health and behavioral outcomes.

Methodology: Adult rodent animals received a broad-spectrum antibiotic cocktail for 3 weeks to induce dysbiosis. Animals were divided into groups: Control, Antibiotic only, Antibiotic+Probiotic (*Lactobacillus rhamnosus* and *Escherichia coli*), Antibiotic+Synbiotic (probiotics combined with prebiotics: Inulin, FOS, GOS), and Antibiotic+Polyherbal (Red ginseng and *Schisandra chinensis*), formulation. Behavioral tests open field, elevated plus maze, novel object recognition were performed before and after treatments. Gut microbial changes were assessed through stool culture, and behavioral responses were tested using open-field, plus maze and novel object recognition models.

Results: Antibiotic treatment reduced beneficial bacterial counts, increased anxiety-like behavior, and impaired memory performance. Probiotics improved behavioral outcomes and partially restored bacterial growth. Synbiotics and polyherbal formulation showed stronger recovery in both gut microbiota and exploratory behavior.

Conclusion: Probiotics and synbiotics support gut health, while polyherbal formulations extend benefits to both the gut and brain. Their combination offers a synergistic advantage, highlighting a promising integrated approach for microbiome and behavioral regulation.

Keywords: Animal model, Probiotics, Synbiotics, Polyherbal formulation, Gut–brain axis, Microbiome



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-12

**Polyherbal Antidiabetic Suspension: Development and Pharmacological
Assessment in Animal Models**

Ayesha Kiran, Sidra Zubair, Sehar Iqtidar, Saroush Kiran, Anousha Arshad, Javeria Iftikhar, Isha Rizwan,
Laiba Khalid, Hoorain Abid

Affiliation: Jinnah University for Women

Abstract:

Background: Diabetes mellitus is still a major global health concern, its prevalence is on the rise, and conventional therapies can cause complications. This study focuses on developing and evaluating a poly-herbal suspension prepared from guava, bay, and peach leaves, which are known to have hypoglycemic and glucose-inhibiting effects.

Objective: The study aims to design, develop, and evaluate a herbal anti-diabetic suspension using plant extracts through in-vitro and in-vivo studies.

Methodology: Guava, bay, and peach leaves were decocted and then combined with excipients to formulate a stable suspension. The formulation was evaluated using in-vitro quality control tests such as organoleptic evaluation, pH measurement, viscosity, and sedimentation rate, to ensure pharmaceutical acceptability. The presence of active ingredients were verified using a spectroscopic methods. According to ICH guidelines, a real-time stability studies were performed. To ensure pharmacological activity, a pre-clinical in-vivo randomized controlled trial (RCT) were conducted on healthy mice for evaluation of hypoglycemic activity through the Oral Glucose Tolerance Test (OGTT). Mice were divided into treatment and control groups. Initial blood glucose levels were recorded, and glucose was administered to cause hyperglycemia. The treatment group received herbal suspension, and blood glucose levels were monitored.

Result: The anti-diabetic herbal suspension was formulated using polyherbal extracts and evaluated for in-vitro quality control parameters which were found within the acceptable range. The in-vivo results have exhibited the activity by controlling hyperglycemia and lowering elevated blood glucose levels.

Conclusion: Herbal medicines continue to be widely used in primary healthcare because of their low side effects, community acceptance, and compatibility with human physiology. In this study, an anti-diabetic polyherbal suspension was formulated and evaluated using extracts of guava, bay, and peach leaves. The hypoglycemic potential were evaluated using in-vivo animal studies. This research links SDG by promoting reachable, safe, and efficient treatments for diabetes and encouraging the responsible utilization of natural resources for healthcare innovation.

Keywords: Diabetes; Guava leaves; Bay leaf; Peach leaves; Hyperglycemia; OGTT.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-13

Spectrophotometric Determination Of Clarithromycin In Pharmaceutical Formulations Via Chromophoric Complex Formation

Atiya Jan Muhammad, Areesha Raza, Aiman Aman, Hifza Mohi, Miss Saman Farooqi, Miss Fatima Umoodi

Affiliation: Jinnah University for Women

Abstract

Background: Clarithromycin is a macrolide antibiotic extensively used in treating respiratory and gastrointestinal infections. Despite its therapeutic relevance, its weak native UV absorbance complicates direct spectrophotometric quantification. Conventional methods like HPLC, though effective but are expensive and time taking. This study proposes a simplified UVspectrophotometric approach for clarithromycin by forming chromophore complex.

Objective: To develop and validate a cost-effective UV-spectrophotometric method for the quantification of clarithromycin in pharmaceutical formulations.

Methodology: The procedure involves clarithromycin andchromophore complex formation under controlled conditions. This reaction is then analyzed using UV spectrophotometer to determine clarithromycin concentration based on absorbance at a specific wavelength.

Result: The reaction is anticipated to yield a stable chromophore with clarithromycin, enabling reliable absorbance for it. The method is expected to demonstrate good linearity, reproducibility, and recovery, suitable for routine quality control.

Conculsion: This study aims to establish a simple, inexpensive, sensitive and reproducible method for the determination of clarithromycin in pharmaceutical preparations as compared to HPLC method.

Keywords: Clarithromycin, chromophore, UV spectrophotometer, antibiotic.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-15

Evaluation of wound healing activity of topically applied *Mangifera indica* L. ointment at different concentrations and its Phytochemical screening

Maryam Shamim, Minahil Shahid, Miss Maria Rahat

Affiliation: Jinnah University for Women

Abstract

Background: *Mangifera indica* (family: Anacardiaceae) is widely distributed in the tropical and subtropical regions and is well known for its nutritional and medicinal value. It contains essential minerals sodium, potassium, phosphorus, nitrogen, magnesium, calcium, iron, vitamin, proteins and bioactive constituents including benzophenones, phenolic acids, carotenoids, flavonoids, (quercetin, isoquercetin), tocopherols and the key xanthone glycoside mangiferin which contributes significantly to their biological activity.

Objective: The present study aimed to evaluate the wound healing activity of *Mangifera indica* leaf extract based ointments at different concentrations and to perform phytochemical screening of the extract.

Methodology: Fresh leaves of *M. indica* were collected, washed, shade-dried, and powdered. The powdered leaves were macerated in methanol for 7 days, and the solvent was evaporated to obtain a concentrated extract. Ointments containing 5% and 10% extract were prepared by incorporating the extract into a melted ointment base, mixed thoroughly, and cooled to obtain smooth formulations. For the animal study, 24 mice (25–30 g) were divided into four groups: Group I received standard reference drug, Group II received ointment base (placebo), and Groups III and IV were treated with 5% and 10% *M. indica* ointments, respectively. A 1 cm excision wound was created, ointments were applied once or twice daily, and wound contraction was monitored using a ruler.

Results: The study is ongoing, and results of wound healing activity and phytochemical analysis will be included in the final report.

Conclusion: Preliminary findings suggest that *M. indica* extract promotes wound healing in a concentration-dependent manner and contains phytoconstituents which are likely responsible for its therapeutic effect.

Key words: *Mangifera indica*, Wound healing, anti-inflammatory, ointment.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-16

From sea to skin: The magic of spatoglossum seaweed soap

Rufa Iqbal, Syeda Almerah Fatima, Tayyaba Ashraf, Ms. Qurrut-ul-Ain Waseem

Affiliation: Jinnah University for Women

Abstract

Background: Atopic Dermatitis, commonly known as eczema is a chronic skin condition that affects more than 200 million people in the world. This includes 10 percent of adults and 20 percent of children. Eczema is a skin disorder that is characterized by dryness, scaling and redness. It results in persistent infections and poor quality of life if left untreated. Seaweeds are rich in vitamins, minerals, phenolic molecules, carbohydrates and lipids. This makes them a valuable raw material for the formulation of cosmeceuticals. Spatoglossum seaweeds, a variant of brown algae possesses various bioactive constituents that demonstrate anti-allergic, anti-inflammatory and anti-bacterial properties. The present study is focused on evaluating the effect of brown algae on the severity and symptoms of eczema.

Objectives: This study aims to;

- 1) To formulate a herbal soap for eczema with natural ingredients such as seaweeds that is chemical free and mild on skin than synthetic soaps.
- 2) Evaluate the effectiveness of compounds present in spatoglossum seaweeds against the symptoms and intensity of eczema.

Methodology: Dried seaweeds were grounded into powder and combined with other ingredients such as castor oil and glycerin before incorporation into the soap base. This mixture was poured into suitable molds and was cooled for sufficient time period.

Result: In the present study, herbal soap using spatoglossum seaweed extract was prepared and its efficacy was evaluated against eczema. It has been observed that seaweeds serve as an environmentally friendly and natural alternative to traditional treatments. Seaweeds have anti-wrinkle, anti-allergy, skin antiaging, and whitening properties which makes them ideal for the treatment of eczema and other skin related disorders.

Conclusion: It was concluded that herbal soap can be prepared using spatoglossum extract. Bioactive compounds present in seaweeds have wide range of activities which allow them to be employed as an active ingredient in cosmeceuticals. Herbal soaps offer significant benefits over synthetic soaps as they are chemical-free and environmentally friendly. In comparison to synthetic products, they are mild on skin. This makes them befitting for sensitive skin types.

Keywords: Spatoglossum, Atopic dermatitis, seaweeds, skin disorders, Cosmeceuticals, Herbal soap



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-17

Innovative LED Embedded Caps for Medication Packaging

Dr Urooj Javed¹, Ume Hani Khursheed², Sabah Mehtab², Wareesha Batool²

¹Lecturer, Dept. of Pharmacy Practice, Faculty of Pharmacy, Jinnah University for Women

²Pharm. D. students, Faculty of Pharmacy, Jinnah University for Women.

Abstract

Background: Medication errors and poor adherence remain major challenges in healthcare, especially among elderly patients, visually impaired individuals, and those on multiple prescriptions. Traditional packaging, even with glow-in-the-dark inks, is limited by visibility, sustainability, and regulatory concerns. To address these gaps, the integration of LED-embedded caps in medicine packaging has been proposed as a novel solution to improve nighttime visibility and patient safety.

Objectives: The primary objective of this study is to explore the feasibility, advantages, and limitations of LED-embedded medicine caps as an innovative pharmaceutical packaging technology.

Methodology: A comprehensive review of existing glow-based packaging methods (e.g., phosphorescent inks, luminescent labels, and electronic tagging) was conducted. LED cap prototypes were analyzed for practicality in terms of usability, power source efficiency, cost-effectiveness, regulatory compliance, and patient-centered outcomes. Potential challenges such as battery disposal, increased costs, and manufacturing complexity were also evaluated alongside proposed solutions.

Results: LED-embedded caps demonstrated enhanced visibility in low-light conditions, reducing the risk of medication errors. The design improved accessibility for elderly and visually impaired patients, promoting adherence. Key limitations included higher production costs, short battery life, and environmental impact. However, integrating rechargeable micro-batteries, motion-sensor activation, and sustainable materials showed potential to overcome these barriers.

Conclusion: LED-embedded caps present a promising advancement in pharmaceutical packaging, combining innovation with patient safety. While not yet common in practice, their adoption could revolutionize medication use at night by reducing errors and improving adherence. Further research and pilot trials are recommended to validate large-scale feasibility.

Keywords: LED caps, pharmaceutical packaging, medication adherence, patient safety, glow technology, innovation



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-18

Sea to Skin: Developing Sustainable Seaweed-Based Skincare

Tehreem Jawed, Rabeea Atif, Miss Qurat-Ul-Ain Waseem

Affiliation: Jinnah University for Women

ABSTRACT:

Introduction: *Cordium corniculata* is a species of green seaweeds and a class of photosynthetic non-flowering organism that found in Marine coastal habitats. This species of seaweed is notable for pharmaceutical applications because it contains polysaccharides. It contains many natural ingredients that's why it is gaining popularity in the cosmetics and cosmeceutical industries. Their widespread availability and regenerative nature which make them highly beneficial for skin care. The compounds include proteins, peptides, amino acids, lipids, polyphenols, polysaccharides, vitamins and minerals. These compounds further increase various skin enhancing properties.

Method: A scrub combining seaweed and rice can be created inspired by traditional and modern formulation. The cream and mask formulations at varying concentration. The cream base was prepared using standard emulsification techniques. Seaweeds contain antioxidant, hydration and nutrients which improves skin tone, texture and elasticity while rice act as a gentle physical exfoliant that remove dead skin cells.

Result: According to our objective we focused to formulate or prepare the product totally based upon natural ingredients, using these natural ingredients due to their best pharmaceutical applications in skin care. The natural ingredients we use mainly is marine source seaweeds and other nature based ingredients like rice, flour, methyl cellulose as a base, potassium hydroxide adjusted the pH of cream. The seaweed based cosmeceuticals having ability to remove dead skin, exfoliate the skin, improve skin tone and its pH range of 5-7 assumed these products for all skin types.

Conclusion: cosmeceuticals and cosmetics are daily routine items and gaining more and more importance and market value day by day in the skin appearance and dermatological condition. And due to the emerging of nature in the cosmetics, seaweeds as organic and marine product and more popularity gradually.

Keywords: Marine derived bioactive, skin nourishment and moisturizer, natural exfoliant, sea weeds polysaccharide, coffee ground scrub.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-19

Hard ginger candy

Arefa Tahir, Laiba Abdul Quddoos, Laiba Junaid, Ms. Sidra Sohail Asim

Affiliation: Jinnah University for Women

Abstract

Introduction: Candy can be formulated as a functional food to impart medicinal value, yet it is widely eaten because of its sweetness, convenience, and ease of quick energy release. Owing to their potential to integrate therapeutic value with marketability, herbal candies have drawn the limelight over recent years as nutraceuticals. Conventional application of ginger (*Zingiber officinale*) due to its anti-inflammatory, antioxidant, and antitussive effects renders it a potential candidate for use in candies as a herbal cough remedy.

Objective: The objective of this research was to develop and evaluate a herbal hard candy from ginger that is acceptable in the aspects of flavor, texture, and uniformity while providing an even dosage form.

Methodology: The method was designed to produce candies that contain 100 mg of ginger as an active ingredient. The candies were prepared by molding method and cooled down to solidify. Different tests including Weight variation test, organoleptic assessment (color, taste, smell, and texture), and pH analysis were then performed.

Result: The enhanced formula produced hard candies with a stable, consistent form and an optimal level of hardness. The pH value ranging in the acidic zone enhanced the taste and stability of the product. There were minimal variations during the weight variation study, which indicates that the requirements of homogeneity were met.

Conclusion: Finally, ginger herbal hard candy was successfully formulated as a uniformly attractive and stable product with the right sensory characteristics and uniform weight, showing that it can be a nutraceutical product for cough and throat coughing.

Keywords: herbal candy, ginger extract, antitussive, anti-inflammatory, antioxidant.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-20

Formulation and Evaluation of a Rapid-Acting Skin-Tightening Serum with Immediate Visible Effects Lasting up to 16 Hours

Alisha Zia Khan, Faryal Irshad, Hafsa Shahzad, Aiman Bilquis, Faiza Hashim

Affiliation: Jinnah University for Women

Abstract

Background: Skin aging, characterized by dermal laxity, reduced elasticity, and fine line formation, is a common aesthetic concern among individuals aged 40–60. In this demographic, even in the absence of underlying disease, age-related collagen degradation and decreased skin turgor can result in a visibly aged appearance. Many seek non-invasive, rapid solutions that provide an immediate, youthful look for social, professional, or personal occasions. Current topical interventions often require prolonged use to produce noticeable results, leaving a gap for fastacting products with temporary yet significant effects. Our formulation addresses this need by delivering a perceptible skin-tightening effect within 2–5 minutes, sustained for up to 6 hours, providing users with an instant and reliable rejuvenated appearance. Designed for healthy adult males and females, the serum combines scientifically validated bioactive ingredients—such as film-forming proteins, neuropeptide-based muscle relaxation agents, and hydrating polymers—to create an immediate lifting effect without invasive procedures. This targeted approach aligns with the growing consumer preference for safe, effective, and time-efficient cosmeceutical solutions.

Objectives: To develop a safe, effective, and rapid-acting skin-tightening serum that delivers visible lifting within 2–5 minutes and maintains the effect for up to 6 hours, targeting healthy adults aged 40–60. Secondary goals included assessing user comfort, and dermatological safety.

Method and material: The serum was formulated using a cold-process blending technique to preserve peptide and protein stability. Cosmetic-grade glycerin, niacinamide, and sodium hyaluronate were dissolved in deionized water under continuous stirring to form the aqueous phase. Separately hydrated albumin and gelatin hydrolysate were incorporated, followed by the addition of acetyl hexapeptide-8 at temperatures below 30 °C to prevent degradation. Caffeine was uniformly dispersed, and phenoxyethanol was added as a preservative. The mixture was homogenized at low shear, filled into sterile containers, and stored at ambient conditions. Efficacy was evaluated on healthy volunteers aged 40–60 by assessing visible tightening within 2–5 minutes of application and recording the duration of effect, which lasted up to 6 hours. Dermatological safety was confirmed through patch testing, with no adverse reactions observed.

Results: Testing of the serum showed visible skin tightening within 2–5 minutes, with effects lasting up to 6 hours and no reported discomfort or adverse skin reactions.

Key words: rapid acting, skin serum, skin tightening, derma safety, effective



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-21

Breaking Through the Nail Barrier: Itraconazole emulgel For Effective Onychomycosis Therapy

Mahnoor Saleem, Bushra Kanwal, Dr Foazia Israr & Dr Shaheen Parveen

Affiliation: Jinnah Sindh Medical University

Abstract

Introduction: Currently, the Pakistan market offers limited ITZ oral formulations and some creams which often result in variable absorption and efficacy while its emulgel is not available in Pakistan market. Traditional capsules offer a modest 55-65% bioavailability, while tablets lag behind with a relatively lower 40-50%. However, the game-changer is the emulgel formulation, which boasts an impressive 80-90% bioavailability. This means that the emulgel formulation can unlock nearly twice the absorption rate of the conventional tablet form, making it a vastly superior choice for patients seeking optimal treatment outcomes.

Objective: Itraconazole (ITZ), a potent antifungal agent, faces significant therapeutic hurdles due to its poor oral bioavailability, stemming from extensive first-pass metabolism. To overcome this limitation, our study focuses on crafting an emulgel of ITZ as a topical drug delivery system. Our novel emulgel formulation will provide a robust, user-friendly, and efficient treatment option for fungal infections in Pakistan, ensuring optimal therapeutic outcomes and addressing the need for improved antifungal therapies in the region. To overcome this limitation, our study focuses on crafting an emulsion of ITZ, harnessing the power of tiny droplets to enhance its solubility and bioavailability.

Methodology: A novel emulgel was fabricated through a multi-step process, involving the preparation of a stable emulsion containing 100mg of itraconazole. Itraconazole was solubilized in a harmonious blend of oleic acid and Tween 80, where Tween 80 enhanced the solubility of itraconazole in oleic acid, creating a stable emulsion for improved delivery. Ethanol, propylene glycol and glycerine are added as co-solvent system. This emulsion was then seamlessly incorporated into a hydrogel mixture comprising carbopol 934 and hydroxypropyl methylcellulose. The emulgel was then filled with precision in PVC tubes via syringe. This innovative formulation was optimized through rigorous sonication and pH adjustment, ensuring uniform distribution and enhanced topical delivery. The resulting emulgel exhibited promising physical



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



properties and release kinetics, paving the way for improved antifungal therapy. A number of quality control testing were performed on emulgel and finished formulation. Visual inspection, measurement of pH and viscosity, content uniformity, assay, stability testing, washability and spreadability has been performed to check the quality of the formulation. The antifungal activity of the emulgel was evaluated by assessing its ability to inhibit fungal growth in agar plate assay.

Result: The Itraconazole emulgel is expected to pass all quality control tests, demonstrating its safety, efficacy, and quality. The topical preparation is expected to produce more pronounced effect than oral formulations already available in the market.

Conclusion: The emulgel containing 100mg of itraconazole is expected to significantly inhibit fungal growth, exhibiting potent antifungal activity against a range of fungal species, including onychomycosis, dermatophytes, yeasts, and molds, due to the enhanced skin permeation and sustained release of itraconazole from the emulgel formulation

Key words: Itraconazole, antifungal, emulgel, onychomycosis, dermatophytes, skin permeation, sustained release



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-22

Advancements in Gene Editing Technologies: Implications for Treating Genetic Disorders and Diseases

Dr. UroojJaved¹, Simran Walter², Sana Khan², SyedaAmnaZaheer², WajihaEijaz²

¹Lecturer, Dept. of Pharmacy Practice, Faculty of Pharmacy, Jinnah University for Women

²Pharm. D. students, Faculty of Pharmacy, Jinnah University for Women.

Abstract:

Gene editing technologies, notably CRISPR-Cas9, have emerged as powerful tools in biomedical research, offering unprecedented precision and efficiency in manipulating genetic material. This paper provides a comprehensive overview of recent developments in gene editing technologies and their potential applications in addressing genetic disorders and diseases, with a focus on sickle cell anemia and certain types of cancer.

CRISPR-Cas9, characterized by its programmable nature and ability to target specific DNA sequences, has catalyzed a paradigm shift in the field of molecular biology. Through precise modifications to the genome, CRISPR-based therapies hold immense promise for correcting underlying genetic mutations responsible for inherited disorders like sickle cell anemia, thus offering a potential cure where traditional treatments have fallen short.

Moreover, gene editing technologies present novel avenues for personalized medicine in cancer treatment, targeting oncogenic mutations with unparalleled specificity. By harnessing the power of CRISPR-Cas9 to selectively edit cancercausing genes, researchers aim to develop tailored therapies that optimize efficacy while minimizing adverse effects, marking a significant advancement in the quest for more effective cancer treatments.

Despite the remarkable potential of gene editing therapies, several challenges remain, including off-target effects, delivery methods, and ethical considerations. Addressing these hurdles will be crucial for the successful translation of gene editing technologies from bench to bedside, ensuring their safe and effective implementation in clinical settings.

In conclusion, the rapid evolution of gene editing technologies, particularly CRISPR-Cas9, holds promise for revolutionizing the treatment landscape of genetic disorders and diseases. Through continued research and interdisciplinary collaboration, these advancements have the potential to reshape the future of medicine, offering hope for patients with previously untreatable conditions.

Keywords: Gene editing technologies, CRISPR-Cas9, genetic disorder, clinical implementation, genetic material, replacement therapy



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-23

MedEase

Ayesha Khan, Ayesha Abbasi, Areesha Nayab, Miss Sidra Sohail Asim, Miss Nimra Waheed

Affiliation: Jinnah University for Women

Abstract

Background: Medication errors, particularly wrong dosage and misinterpretation of packaging information, are a significant contributor to preventable harm. In Pakistan and globally, poor patient education, lack of clear labelling, and limited access to reliable medicine data increase the risk of adverse drug events. Patients often rely on verbal instructions or incomplete details, which can lead to wrong-dose administration, missed contraindications, or unsafe combinations.

Objectives The MED EASE mobile application aims to: • Enhance patient safety by providing accurate, accessible, and real-time medicine information. • Reduce errors related to wrong dosage, expired medicines, and drug interactions. • Empower patients to take informed decisions through a QR code scanning feature that instantly displays verified drug information. • Helps patients to take medicine timely with in app medicine reminder.

Methodology

1. QR Code Integration: Each medicine package is linked with a unique QR code generated by manufacturers or verified databases.
2. Database System: The app connects to a centralized, secure medicine information database containing details on composition, dosage instructions, manufacturing details, contraindications, and expiry dates.
3. User Interaction: Patients scan the QR code using the app with which they can instantly view dosage guidance, warnings, and possible side effects in simple language (Urdu/English).
4. Medication Reminder Feature: Built-in notification system reminds patients of dosage schedules, reducing missed or repeated doses.

Results (Expected)

5-C, NAZIMABAD, KARACHI-74600, Tel: 36619902, 36620857-9, 36620615
Fax: 36620614, E-mail: info@juw.edu.pk, Website: [http:// www.juw.edu.pk](http://www.juw.edu.pk)



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



5. QR scanning eliminated confusion between similar-looking packages and helped identify expired/duplicate medicines.
6. Patients will have greater clarity about medicine dosage and schedules compared to relying only on packaging or verbal instructions.
7. The app will help prevent wrong-dose errors and reduce risks from expired or lookalike medicines.
8. Medication reminders will likely improve adherence.
9. Users demonstrated higher confidence in self-managing medications, especially among older adults and low-literacy groups.
10. Can get medicine from trustable sources at the door step Easing Your Medicine Routine with MedEase Conclusion The MED EASE app addresses critical gaps in medication safety by transforming medicine packaging into a digital gateway of verified information. Through QR code scanning, dosage reminders, and interaction warnings, the app reduces risks of wrong-dose errors, improves adherence, and enhances patient trust. With broader adoption and integration into national pharmacovigilance systems (e.g., DRAP's Med Safety), MED EASE has the potential to become a scalable patient safety innovation in Pakistan and beyond.

Keywords: QR scanning, MedEase, patient safety, Medication reminders, user-friendly



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-24

**Comparative Evaluation of Phlorotannins from Multiple Brown Algae for
Skin Regeneration**

Hafsa Malik, Miss Shazma Kanwal

Affiliation: Jinnah University for Women

Abstract

Background Marine algae represent a rich yet underutilized source of bioactive compounds with significant pharmaceutical potential. Among these, brown algae (Phaeophyceae) produce phlorotannins, a unique class of polyphenols exclusive to marine environments. Phlorotannins are known for their antioxidant, anti-inflammatory, and antimicrobial activities, which are critical for the wound-healing cascade. While individual species such as *Ecklonia cava* and *Sargassum muticum* have been studied for anti-inflammatory effects, little is known about their direct role in skin regeneration. Moreover, no comparative study has systematically examined the regenerative potential of phlorotannins derived from multiple brown algae species using standardized assays.

Gap Addressed

- Most existing studies focus only on anti-inflammatory properties of brown algae.
- Few explore skin regeneration potential, especially fibroblast stimulation and collagen synthesis.
- No comparative evaluation across species has been published, leaving gaps in identifying the most promising algal source for cosmeceutical applications.
- Limited emphasis on sustainable extraction methods for marine bioresources.

Methods

Sample Collection: Brown algae species (*Sargassum muticum*, *Turbinaria ornata*, and *Padina pavonica*) were collected from coastal regions under controlled, sustainable harvesting guidelines.

Extraction & Quantification:

- Phlorotannins extracted using aqueous-ethanol (green solvent).
- Content quantified spectrophotometrically (Folin–Ciocalteu method) and validated via HPLC.

In Vitro Assays:

- Antioxidant activity: DPPH and ABTS assays.
- Cell proliferation: Human dermal fibroblast proliferation assessed by MTT assay.
- Scratch wound assay: Fibroblast migration measured at 0h, 12h, and 24h post-scratch.
- Collagenase inhibition assay: Gelatin degradation assays used to test matrix preservation.

Ex Vivo Model: Porcine skin explants treated with phlorotannin-enriched gels; re-epithelialization observed histologically.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



Safety Evaluation: Acute dermal irritation tests performed in compliance with OECD guidelines.

Results

- Phlorotannin content: Highest in *Turbinaria ornata*, followed by *Sargassum muticum* and *Padina pavonica*.
- Antioxidant assays: All species showed strong radical scavenging (>70%), with *Padina* extract most effective in ABTS assay.
- Fibroblast proliferation: *Turbinaria* extract significantly increased cell proliferation ($p<0.01$).
- Scratch wound assay: Faster closure observed with *Turbinaria* and *Padina*, with 80% closure at 24h vs. 55% in control.
- Collagenase inhibition: *Padina* extract demonstrated highest activity, suggesting protective effect on extracellular matrix.
- Ex vivo skin model: All extracts accelerated re-epithelialization, with *Turbinaria*-treated explants showing denser collagen deposition.
- Safety: No irritation or cytotoxicity observed at therapeutic concentrations.

Conclusion

This comparative study demonstrates that phlorotannins from different brown algae species exhibit variable yet complementary effects on skin regeneration. *Turbinaria ornata* showed superior fibroblast proliferation and wound closure, while *Padina pavonica* excelled in collagenase inhibition. Together, these findings highlight the species-specific potential of brown algae in developing novel, sustainable cosmeceuticals for wound healing and skin repair. Future research should focus on isolation of individual phlorotannin compounds, mechanistic studies on growth factor signaling, and clinical translation of algae-derived formulations.

Keywords

Phlorotannins, Brown Algae, Skin Regeneration, Wound Healing, Cosmeceuticals, Marine Pharmacognosy



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-25

**Valorization of Mango seeds: A sustainable Source of starch for
Pharmaceutical dosage form**

Saman Shahab Farooqi, Fatima Umoodi, Maha Mazhar and Fizza Rashid

Affiliation: Jinnah University for Women

Abstract

Background: Pakistan ranks among the top global producers of mangoes generating large quantities of seed waste each year. Usually discarded, these seeds represent an underutilized resource despite their high starch content. Meanwhile, the pharmaceutical industry remains heavily dependent on imported excipients such as maize and potato starch, which accords to higher manufacturing costs and undermines local self-reliance. Sustainable utilization of mango seed starch can contemporaneously address waste management, reduce import dependency, and promote green pharmacy initiatives.

Objectives: This study aims to extract starch from mango (*Mangifera indica*) seed kernels and evaluate its potential as a pharmaceutical excipient, specifically as a binder and disintegrant in tablet dosage forms by comparing its performance statistically with standard starch.

Methodology: Mango seed kernels will be collected, dried, and grinded to fine powder. Starch will be isolated using distillation method. The extracted starch will be subjected to physicochemical characterization including yield determination, moisture content, pH, swelling index, solubility, and microscopic examination. For its application, sample tablets will be formulated using mango seed starch and compared against control batches prepared with standard maize starch. Tablet quality parameters hardness, friability, disintegration time, and weight variation will be assessed in triplicates. Data will be analyzed statistically using mean $\pm$ SD and Student's t-test with $p < 0.05$ as significant.

Results: It is anticipated that mango seed starch will demonstrate comparable binding and disintegrant properties to maize starch, with acceptable physicochemical characteristics. The study expects to confirm the feasibility of mango seed starch as a sustainable, cost-effective pharmaceutical excipient. **Conclusion:** Valorization of mango seed waste into pharmaceutical starch has dual benefits: contributing to responsible waste management while providing the pharmaceutical sector with an eco-friendly, locally available excipient. This initiative aligns with Sustainable Development Goals 3 (Good Health and Well-Being), 9 (Industry, Innovation, and Infrastructure), and 12 (Responsible Consumption and Production).

Keywords: Mango seed starch, pharmaceutical excipient, binder, waste valorization, sustainable pharmacy, SDGs



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-26

Formulation Challenges in Pediatric and Geriatric Populations

Laiba Rais, Inara Shahnawaz, Miss Qudsia Basri

Affiliation: Jinnah University for Women

Abstract

In pharmaceuticals, the most composite task is to develop formulation for pediatric and geriatric populations. Both pediatrics and geriatrics are at such stages of life where the bodies are extremely sensitive and delicate, varying only in the function of body organs, composition and metabolism of the body. The formulation design for pediatric population requires versatile, adaptive, pleasant to palate dosage form, which is safe. While the formulation designed for geriatrics includes polypharmacy, dysphagia, and cognitive impairment. This article summarizes all the key approaches which are patient centric improve drugs therapy in these groups.

Introduction

Traditional dosage form are generally formulated for healthy adults, neglecting the specific needs of children and the elderly. Pediatrics and geriatrics faced A major global healthcare load and influence drug response due to pharmacological and physiological property. WHO and EMA are the international regulatory bodies that highlights the significance of age-appropriate formulation to prevent therapeutic failure and improve treatment adherence. However, for these population, formulation design must be safety and efficacy.

Challenges: The pediatric and geriatric population demonstrate notable diversity in the absorption, distribution, metabolism and excretion (ADME) of the drugs. The formulation of pediatrics requires accurate adjustable dose due to their immature organs and fast growth but patient compliance get usually limited due to unpleasant palatability and toxicity of excipients. The excipientssuch as benzyl alcohol which is safe in adults and can cause harm in infants. Swallowing of tablet is also a concern which lead to innovations of non-tablets and orally integration tablet. In geriatrics poor compliance and adherence occur due to factors such as polypharmacy cognitive impairment, sensory decline and dysphagia. These require ease to use and administer formulations such as ODT's, thin-films and transdermal system. Both of these age group get benefits from innovations which are patient focused.

Conclusion: Pediatric and geriatric formulation development requires critical and scientific considerations. By determining insights of differences in physiology and behavior. Pharmacist can formulate age appropriate, safe and useful formulations for these populations, which can increase compliance and enhance the health outcome.

Key words: Pediatric, geriatric, formulation challenges, polypharmacy, dysphagia, cognitive impairment



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-27

CryoGel Patch: Instant Cooling & Hydrating Hydrogel

Zunera Habib, Dr. Urooj Javed

Affiliation: Jinnah University for Women

Abstract

Introduction: Maintaining skin comfort and relief from localized heat or stress is a growing concern, yet conventional cooling gels often rely on high chemical content or non-isotonic bases, causing irritation. This study introduces a low-cost, isotonic hydrogel patch, named CryoGel Patch, formulated with simple ingredients to provide instant cooling and hydration.

Methods: The hydrogel was prepared by hydrating 0.9% sterile saline with 0.8–1% carbopol 940, followed by addition of 2–3% glycerol as a humectant. Gel formation was achieved by neutralizing with triethanolamine. Menthol (0.05–0.1%) was incorporated as a cooling agent. The mixture was poured into thin molds (~2–3 mm) to form patches and allowed to set at room temperature. Surface temperature reduction was measured using an infrared thermometer, and tactile assessment confirmed cooling sensation.

Results: The CryoGel Patch exhibited immediate cooling within 30–60 seconds, reducing surface temperature by approximately 2–4°C. Patches remained stable and maintained their gel integrity for up to two weeks when stored in airtight containers at 4°C. No skin irritation was observed, demonstrating the safety of the isotonic formulation. The gel matrix ensured hydration and easy handling without dripping.

Conclusions: CryoGel Patch represents a novel, safe, and low-cost approach to instant skin cooling and hydration. Its isotonic, minimal-chemical formulation makes it suitable for sensitive skin applications and demonstrates that effective cooling patches can be prepared reliably. The model provides a reproducible method and holds potential for future enhancements with natural extracts for additional skin benefits.

Keywords: CryoGel Patch, isotonic hydrogel, instant cooling, skin hydration, low-cost hydrogel



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-28

Rice flour face mask

Bushra Naeem, Miss Sidrah Talib

Affiliation: Jinnah University for Women

Abstract:

Background: Growing awareness of the possible negative effects of synthetic substances has led to a surge in interest in natural skincare products in recent years. A lot of people are looking for goods that are safe for the environment, gentle, and effective. Rice flour has gained popularity as an ingredient in natural skincare products due to its mild exfoliating qualities and capacity to absorb excess oil. The purpose of this study was to create and assess a rice flour face mask formulation that can nourish, hydrate, and rejuvenate skin by adding rose water, aloe vera gel, vitamin E oil, and almond oil.

Objective: The aim of this research was to create a stable, safe, and effective natural face mask made from rice flour and assess its physical, chemical, and microbiological characteristics.

Methodology: In order to create the rice flour face mask, rice flour and water were combined, and the mixture was heated until it formed a smooth paste. After the mixture cooled, the preservative methylparaben was added, and then rose water, aloe vera gel, vitamin E oil, and almond oil were added. The formulation's stability, microbiological limit, viscosity, pH, physical appearance, and preservative effectiveness were all assessed.

Role of ingredients:

- **Rice flour:** Removes dead skin cells and improves skin texture while exfoliating and brightening the skin. **Aloe Vera:** Reduces inflammation and promotes skin wellbeing by hydrating and soothing the skin.
- **Vitamin E:** Reduces wrinkles and fine lines by shielding the skin from oxidative damage and environmental stresses.
- **Rose Water:** Balances and tones the skin, minimizing hyperpigmentation and dark patches.
- **Almond Oil:** Supports the skin's natural barrier function while nourishing and moisturizing the skin.
- **Preservative:** Preserves the product by inhibiting microbial growth, thus increasing its shelf life.

Benefits of the face mask:

- **Exfoliation:** Dead skin cells are gently removed with rice flour, exposing smoother skin.
- **Hydration:** Aloe Vera gel and almond oil deeply hydrate the skin, leaving it supple and soft.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



- **Skin Brightening:** Vitamin E oil and rose water lighten the complexion and lessen the visibility of dark spots.
- **Anti-aging:** Vitamin E oil and almond oil's antioxidants fight free radicals, which lessens the appearance of aging.

Result: The face mask that was created had a smooth texture, an ideal viscosity of 12000 cP, and a pH of 5.5. Both microbiological limit tests and preservative efficacy were passed. Studies on stability revealed that the product held steady for three months.

Conclusion: The created rice flour face mask is a great natural skincare choice because it is a stable, safe, and effective product that nourishes, hydrates, and rejuvenates the skin.

Key words: Natural, skin care product, rice flour, face mask



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-29

**Awareness and Assessment of Cyber security and Data Privacy in
Digital Prescription Platforms among Pharmacy Students**

Anum sattar^{1*}, Rasheeda Fatima¹, Noor us Saba², Javeria Sheikh³

¹Department of Pharmacy Practice, Faculty of Pharmacy and Pharmaceutical Sciences, Ziauddin University, Karachi, Pakistan.

²Department of Pharmacy Practice, Faculty of Pharmacy, Jinnah University for Women, Karachi, Pakistan.

³Department of Pharmaceutics, Faculty of Pharmacy, Hamdard University, Karachi, Pakistan.

Abstract

Digital prescription platforms have emerged as an effective way to improve patient care, but have raised questions about the privacy of data and cybersecurity. awareness of the Privacy and security issues is still not sufficiently explored.

Introduction: Digital prescription is gaining popularity, but the lack of data privacy knowledge among pharmacy students is a concern for the safety of delivering care. The study aimed to assess pharmacy students' awareness and knowledge regarding data privacy, as well as to evaluate the security of popular digital prescription.

Methods: A cross-sectional survey study was used to sample 250 pharmacy students with a structured and validated questionnaire of knowledge, attitudes, and practices regarding data privacy and cybersecurity in digital prescription websites were evaluated based on their security compliance, such as encrypted data, authenticated user, and privacy. The data were compared by means of descriptive and inferential statistics

Result: The study obtained results that indicated that many respondents (68 percent) were moderately aware of the issue, with only 22 percent having in-depth knowledge when it comes to cybersecurity in digital health. It was found that 3/5 prescription platforms had weak encryption and multifactor authentication, which could result in weakening patient data. Those students who were previously exposed to the use of digital health tools scored much higher on the knowledge ($p < 0.05$).

Conclusion: Pharmacy students demonstrate poor knowledge of privacy and cybersecurity in Digital Prescription Platforms. Moreover, loopholes in the security systems between local digital prescription platforms are also a threat to patient confidentiality. The paper highlights the importance of specific educational actions and more strict regulatory measures aimed at improving digital health awareness and safeguarding confidential patient data.

Keywords: Data, Cyber, pharmacy, Digital.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



ICSPA-Poster-30

Digitalization Approach to Manage and Control the Diabetes mellitus Type-2 Patient

Rasheeda Fatima¹, Anum sattar¹, Noor us Saba², Javeria Sheikh³

¹Department of Pharmacy Practice, Faculty of Pharmacy and Pharmaceutical Sciences, Ziauddin University, Karachi, Pakistan

²Department of Pharmacy Practice, Faculty of Pharmacy, Jinnah University for Women, Karachi, Pakistan

³Faculty of Pharmacy, Hamdard University, Karachi, Pakistan

ABSTRACT

In this innovation we focused on Diabetes management focuses on education, meal planning, lifestyle changes, and physical activity. Studies show that lifestyle interventions are more effective than medication like metformin in preventing type 2 diabetes. In future Diabetes prevalence projected to rise to 37.1 million by 2045.

Introduction: Diabetes is a chronic illness characterized by elevated levels of blood glucose, accompanied by disturbed metabolism of fats and proteins. Blood glucose rises because it cannot be metabolized in the cells, due to lack of insulin production by the pancreas or the inability of the cells to effectively use the insulin that is being produced.

Methods: In the survey conducted by the students of final year, 107 diabetic patients were asked several questions using an online platform. These questions provided us with the information like the age group suffering from diabetes, the duration they have been diagnosed, the type of diabetes they are diagnosed with, diagnosis of hypertension and high cholesterol levels, whether they have a family history of diabetes. Questions like their physical activity throughout the week, their diet being low carb and high fiber, monitoring of blood sugar levels, motivation to improve lifestyle to managing diabetes, smoking habits, sleep cycle, weight management and practicing of stress management techniques were answered.

Results: The survey revealed that the most affected age group was 46-60 years (28%), with Type 2 diabetes being the most common. A family history of diabetes was noted in 56.1% of cases. Effective management was linked to 30 minutes of physical activity, diet low in processed sugars, and sound sleep (7-8 hours), with positive effects reported by 60.7% and 52.3%, respectively. However, 55% of respondents had inconsistent blood glucose monitoring, and while 66.4% were motivated to improve their lifestyle, they lacked the necessary tools and techniques. Cholesterol, high blood pressure, and smoking were found as common secondary issues.

Conclusions: The “DiabetesMate App” addresses these challenges by offering glucose trend analysis, meal logs, reminders for exercise and medication, and AI tools for carb counting and insulin calculation. The SOS feature provides emergency alerts such as “Hypoglycemia detected” and health reports can be shared with providers easily for proficiency.

Keywords: Diabetes, Digital, Life style



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



Abstract of Product Display



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-01)

1. Title: Development and invitro evaluation of a bioprotective topical formulation for blue light induced skin damage

Authors:

Maria ashfaq, Sanober kamal, *Zara zaheer, Aimen sheikh, Sualeha suhail, Uzma junejo (ziauddin university)

Corresponding Author: zarazaheer44555@gmail.com

Abstract:

With the increasing use of digital devices, high-energy visible (HEV) blue light has emerged as a major contributor to oxidative stress, premature aging, and pigmentation in skin. The present study aimed to formulate and evaluate a novel anti-digital damage topical preparation utilizing natural extracts. *Camellia sinensis* leaves and *Calotropis procera* flowers were extracted using cold maceration, and their safety was assessed through brine shrimp lethality assay. Both extracts, incorporated at 0.1% concentration, were developed into topical formulations including a stick and serum, using natural excipients. Relative quantification using UV–Vis spectrophotometry was employed to analyze the antioxidant stability of the extracts before and after blue light exposure. Results revealed that *Camellia sinensis* exhibited a safer profile with mild toxicity, while *Calotropis procera* demonstrated stronger bioactivity, indicating synergistic protective potential. The optimized formulations offer a natural, safe, and effective strategy to mitigate blue light–induced skin damage, addressing a growing need in the era of digital exposure.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-02)

2. Gastro-protective herbal chewable tablets

Authors: Aqsa Zulfiqar Ali, Aisha Sheikh, Arzoo Mehboob Khan, Iqra Ibrahim, Bisma Shakeel (Jinnah University for women)

Corresponding Author: Aqsa Zulfiqar, E.mail: aqsazulfiqar567@gmail.com

Background

Gastric ulcers and acid-related disorders are significant health concerns nowadays, often managed with synthetic antacids and acid-suppressing agents. However, the long-term use of conventional therapies is frequently associated with insufficiency and adverse effects such as nutrient malabsorption, rebound acid hypersecretion, and altered gut microbiota. As a result, there is growing interest in safer, plant-based alternatives with fewer side effects and added therapeutic benefits. This study explores the formulation of a **chewable antacid tablet** through waste utilization, using **banana peel extract** and **cardamom essential oil**, aiming to develop a dosage form that is readily palatable, made from cost effective ingredient, and patient-friendly for gastrointestinal acidity and discomfort.

Keywords:

Waste utilization, acidity, ulcer, banana peel extract, cardamom essential oil, anti-inflammatory, chewable tablets.

Objectives

The main key feature of this product as its active is extracted through banana peels as a way of waste utilization. The specific *Musa (banana)* species used in this study is unidentified, though prior research highlights the therapeutic relevance of banana peels due to bioactive compounds such as flavonoids and antioxidants. Cardamom essential oil, known for its useful components such as **1,8-cineole** and **α -terpineol**, contributes to gastro-protective, **antioxidant** and **antimicrobial** benefits to the formulation.

Methodology

The banana peel extract, obtained via methanolic extraction. The cardamom essential oil was purchased from a reliable source. Both the extract and essential oil were assessed for protein denaturation assay at different concentrations in order to test their anti-inflammatory property. The chewable tablet was developed using a **direct compression technique** and evaluated for key pharmaceutical parameters, including **hardness, friability and appearance**, to ensure palatability as functional natural ingredients in pharmaceutical dosage forms targeting acid-related disorders.

Results

The banana peel extract, obtained via methanolic extraction, and cardamom essential oil is investigated for its **potential anti-inflammatory and gastroprotective properties**, based on previously reported anti-ulcer effects in the literature, and formulated into chewables. Further studies are needed to validate bioactivity through in vivo models and clinical trials.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-03)

3. Therapeutic Potential Of *Mellisa Oficinalis* In Lollipop Form For Supportive Management Of Anxiety, Depression and Hypertension.

Author: Nabgha Zafar, Bushra Saleem, Emaan Sheikh, Areshba Nadeem.

Affiliation: Jinnah University for Women

Abstract

Background:

Anxiety, depression, and hypertension are interconnected health challenges that are increasingly being managed through natural and plant-based therapies. Lemon balm (*Melissa officinalis*) is widely recognized for its anxiolytic, antidepressant, and mild sedative properties. When combined with complementary botanicals such as ginger, mint, lemon, and tamarind, the resulting formulation may offer synergistic therapeutic potential. A herbal lollipop serves as a convenient, palatable, and patient-friendly dosage form. To enhance its safety for broader populations, coconut sugar was used as a low-glycemic, diabetic-conscious alternative to conventional sweeteners.

Objective:

To develop a lemon balm-based polyherbal lollipop incorporating traditional medicinal herbs and natural sweeteners for the supportive management of anxiety, depression, and hypertension, and to evaluate its basic physical and organoleptic properties.

Methodology:

Dried plant materials including lemon balm (primary ingredient), ginger (*Zingiber officinale*), mint (*Mentha* spp.), lemon peel (*Citrus limon*), and tamarind pulp (*Tamarindus indica*) were powdered and subjected to mild thermal aqueous extraction. The combined extract was concentrated and incorporated into a heated coconut sugar base to form a uniform syrup. The hot mixture was poured into molds, allowed to cool, and demolded to obtain lollipops. The final product was evaluated for basic pharmaceutical characteristics. This formulation exhibited smooth texture, a pleasant herbal-citrus aroma, and a mildly sweet, tangy taste with balanced bitterness. Weight variation remained within $\pm 5\%$ of the average weight, reflecting consistency in small-batch molds. The pH ranged from 5.5 to 6.5, indicating mild acidity suitable for oral administration. Stickiness testing confirmed a non-sticky surface at room temperature with a smooth finish, while hardness evaluation showed a firm texture that retained its shape without crumbling or melting under normal conditions. Stability observations over one month revealed no phase separation, sugar crystallization, or discoloration, indicating good product stability.

Conclusion:

A stable, palatable lemon balm-based herbal lollipop was successfully formulated using traditional medicinal herbs and a diabetic-conscious natural sweetener. The preliminary evaluation suggests the formulation is suitable for oral use and may serve as a promising alternative therapy for the supportive management of anxiety, depression, and hypertension. Further pharmacological studies and clinical validation are recommended to assess therapeutic efficacy and safety.

Keywords:

Lemon balm, herbal lollipop, phytotherapy, anxiety, depression, hypertension, coconut sugar, ginger, mint, tamarind



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-04)

4. Formulation and Evaluation of a Multi-Ingredient Eczema Cream: Efficacy and Stability of a Complex Emulsion with Herbal and Unique Additives.

Author: Nabgha Zafar, Bushra Saleem, Emaan Sheikh, Areshba Nadeem

Affiliation: Jinnah University For Women

Abstract:

Background: The development of effective skincare products necessitates a careful balance of moisturizing, soothing, and protective ingredients. This study explores the formulation of a novel cream combining natural oils, herbal extracts, and unique additives to enhance skin hydration, reduce inflammation, and provide antioxidant benefits.

Objectives: This research aims to formulate a base cream incorporating coconut oil, beeswax, shea butter, and jojoba oil, enriched with herbal additives like chamomile extract, calendula oil, aloe vera gel, and green tea extract, along with unique components such as oat flour, licorice root powder, and sea buckthorn oil. The goal is to create a stable, effective skincare product with enhanced moisturizing and anti-inflammatory properties.

Methodology: The formulation process involved preparing an oil phase by melting coconut oil, beeswax, and shea butter, and combining them with jojoba oil. The water phase was separately heated and then emulsified with the oil phase. After cooling to 40°C, herbal additives were incorporated, followed by unique ingredients and stabilizers. The mixture was stirred until homogeneous, cooled completely, and then packaged in sterilized containers.

Results: The final cream demonstrated a stable emulsion with a pleasing texture and consistent appearance. The combination of ingredients provided significant moisturizing effects, anti-inflammatory properties, and antioxidant protection. Sensory evaluations confirmed its effectiveness in soothing irritated skin and improving hydration.

Conclusion: The formulated cream successfully integrates a diverse range of natural ingredients to offer comprehensive skincare benefits. The inclusion of herbal extracts and unique additives enhanced the cream's efficacy in moisturizing, soothing, and protecting the skin. This formulation presents a viable option for consumers seeking natural and effective skincare solutions.

Keywords: skincare, emulsion, herbal extracts, anti-inflammatory, moisturizing, antioxidant.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE :ICSPA-PD-05)

5. Patient-Friendly Formulation Of Rapidly Disintegrating Tablet:A Synergistic Approach To Obesity Management

Authors:

Dr Amber Nawab¹, Asfa Amjad², Syeda Omama Javed³, Urooj Zafar, Ummul Duaa

Affiliation: Jinnah university for women, Karachi, Department of pharmacy.

Email address: asfaamjad451@gmail.com

ABSTRACT:

OBJECTIVE:

The objective of this study was to develop a Patient-Friendly Formulation of Rapidly Disintegrating Tablet: *A Synergistic Approach to Obesity Management. By using a combination of caffeine and orlistat.*

INTRODUCTION:

A major public health concern obesity often demands a combination of therapeutic approaches, by inhibiting stomach and pancreatic lipases. FDA approved anti obesity drug Orlistat inhibits the absorption of fat. On the other hand caffeine is the stimulant of CNS. Caffeine boost metabolic processes and lipolysis which helps the individuals to loose weight and body fat significantly. Furthermore as seen studies that orlistat and tea extracts high in caffeine significantly enhanced the inhibition of pancreatic lipase in in-vitro studies. Their complimentary mechanisms indicates a potential synergy. While ensuring rapid dispersion and effectiveness, administration of both drugs in Rapid disintegrating form may increase compliance particularly in patient who have difficulty in swallowing

METHOD:

Formulation of Rapidly disintegrating tablet of Caffeine-Orlistat were prepared through direct compression method. For the purpose to promote rapid disintegration, the formulation contains; superdisintegrants (croscollon), sweeteners to mask the taste and water-soluble fillers (mannitol). Friability, Tablet Hardness, Disintegration time and drug content uniformity have been tested in preliminary studies.

RESULT:

Formulated dispersible tablets compressed by direct compression and evaluated by different quality control parameters which mostly comply the GMP guidelines

CONCLUSION:

The feasibility of formulating a stable rapid disintegrating tablet of Caffeine-Orlistat has been validated so far in our ongoing research. As an innovative combination therapy, the formulation shows promising results. This approach could improve weight-loss results and adherence in the management of obesity through the combination of lipase inhibiting and thermogenic effects in an oral dosage form, that is convenient for patients.

KEYWORDS: Caffeine-orlistat, Combination therapy, weight loss, obesity management, Rapid disintegrating tablet.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE :ICSPA-PD-06)

6. Title: PhageWrap: Low-Cost Bacteriophage-Coated Surgical Sutures to Prevent Infection in Pakistan

Aurthor: laiba jawaid (hamadard university)

Correspondence; javediqbalkhitrani006@gmail.com

Background:

Surgical site infections (SSIs) are serious complications and a cost in Pakistan. Antibiotic resistance and unaffordable antimicrobial sutures exacerbate the issue.

Gap Addressed:

Foreign antimicrobial sutures are costly and not locally available. A low-cost, effective, locally produced alternative is needed.

Objective:

To design and validate low-cost bacteriophage-coated absorbable sutures active against *Staphylococcus aureus* and *Pseudomonas aeruginosa*.

Methodology

Plain sutures were bacteriophage-coated in a chitosan-glycerol film using dip-coating and air-drying. Antibacterial activity was assayed using agar diffusion assay.

Results:

Bacterial growth was inhibited by PhageWrap sutures in 6 hours. Phages were active after coating. Estimated cost of production under PKR 300 per pack.

Conclusion:

PhageWrap provides a cost-effective, locally manufacturable means of cutting SSIs in Pakistan without raising the risk of antibiotic resistance. Further clinical trials are advised.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-07)

7. Nature's Blush: Formulation Of Natural Cheek Tint with Anti-oxidant Property

Authors: Laiba Shahid , Aleena Abdul Rahman, Hamna Nadeem (JUW)

Corresponding author: humnanadeem578@gmail.com

Background

The demand for natural and sustainable cosmetics is increasing, driven by consumer preference for products with minimal environmental impact and potential health benefits. Cranberry and beetroot fruit extracts are rich in antioxidants and pigments, making them promising ingredients for natural cheeks tints. Beetroot extract, in particular, contains betalains, which provide a vibrant color. This study explores the potential of combining cranberry and beetroot fruit extracts in a natural cheeks tint formulation.

Purpose of Study

The purpose of this study is to develop and evaluate a natural cheeks tint formulation using cranberry and beetroot fruit extracts, assessing its physical properties, stability, and potential benefits for the skin.

Methodology

The study involved the following steps:

- Extraction of cranberry and beetroot fruit extracts using a suitable method
- Formulation of cheeks tint using the extracts and evaluation of its physical properties, including:
 - Spreadability
 - Viscosity
 - pH
- Stability testing of the formulation under various conditions
- Assay of antioxidant activity and pigment content

Discussion

The results of the study showed that the natural cheeks tint formulation using cranberry and beetroot fruit extracts exhibited good physical properties, including spreadability, viscosity, and pH. The formulation was stable under various conditions, and the antioxidant activity and pigment content were satisfactory. The use of cranberry and beetroot fruit extracts in cheeks tint formulations offers a natural and potentially beneficial alternative to synthetic dyes, with potential applications in the cosmetics industry. The antioxidant properties of the extracts may help protect the skin from damage, adding to the appeal of this natural product. Overall, this study demonstrates the potential of cranberry and beetroot fruit extracts in natural cheeks tint formulations, providing a valuable ingredient for consumers seeking natural and sustainable cosmetics.

Keyword

Cosmetics, beetroot, cheek tint, natural.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-08)

8. Title: Hair Haven –herbal Hair Serum

Author: Isra Mobin ,Jinnah university for women (isramobin06@gmail.com)

Product Description

OVERVIEW:

Hair Haven Serum is a naturally powered formulation designed to protect, nourish, and revitalize hair from root to tip. At its core is Avicennia marina, valued for its proven antimicrobial and scalp-soothing properties. The blend is enriched with glycerin for deep hydration, tocopherol for antioxidant defense, and carefully selected essential oils that work synergistically to restore scalp health and enhance hair vitality.

KEY FEATURES:

- Main Active: Avicennia for scalp healing and microbial protection.
- Hydration Boost: Glycerin locks in moisture for healthier hair strands.
- Antioxidant Support: Vitamin E shields against oxidative damage.
- Therapeutic Aroma & Care: Active and Essential Oils nourish, soothe, and balance the scalp.
- Clean Beauty Standard: 100% natural, preservative-free, and toxin-free.
- Tested & Trusted: Safety and antimicrobial performance verified through animal and human studies.
- Texture: Lightweight, non-greasy, and quickly absorbed

INTENDED USE:

Formulated to address hair fall, scalp irritation, dryness, and microbial imbalances caused by environmental stress, pollution, or harsh hair care products. This Serum delivers targeted antibacterial protection against specific scalp bacteria associated with inflammation and hair loss. This dual action- scalp defense and deep nourishment- helps maintain a healthy follicular environment, supporting stronger roots, improved hair density, and lasting vitality.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-09)

9. Formulation and evaluation of sunprotective serum using coriander seed extract

Aurthors: Fiza Khan, Leza, Faryal irshad, Huda Shahid Hussain, Huma Tahir

(Jinnah University For Women)

Corresponding Author: Izmak2772@Gmail.Com

Abstract

Background

Ultraviolet (UV) radiation induced damage, such as photo oxidation, is a significant cause of skin aging and other dermatological related problems. These effects can be alleviated by sun-protective compositions; however, commonly used synthetic sunscreen products are linked to adverse side effects like skin irritation and allergic reactions. As a result, there has been growing interest in natural alternatives. *Coriandrum sativum* (coriander) seeds have been reported to have good anti-solar action due to its bioactive constituents, which include flavonoids (quinic acid and kaempferol) phenolic acids (caffeic acid and ferulic acid), carotenoids, and vitamin C. This study aims to formulate and evaluate a serum containing coriander seed extract to assess its potential in providing effective photoprotection.

Methodology

The study involved preparing an ethanolic extract of *C. sativum* seeds, which was then incorporated into a serum base. The formulated serum was assessed on different physicochemical parameters such as appearance, homogeneity, color, odor, pH, viscosity, spreadability, and consistency. The sunprotection potential was evaluated on serum by applying in vitro anti-solar analysis through UV spectrophotometer.

Results

The resultant serum with coriander seed extract showed appreciable photoprotective effect, with Sun Protection Factor (SPF) value that showed good effect against UV exposure. Moreover, the serum passed cosmetic standards regarding the spreadability, pH stability, homogeneity, which proves that the serum can be used in cosmetic products.

Conclusion

C. sativum seed extract is shown to possess sun protection properties, indicating its potential use as a natural ingredient in the formulation of sun-protective serums. Its photostability and photo protective activity suggest its possible use in natural cosmetic products formulation.

Keywords

Coriandrum sativum, Coriander seed extract, Sun protection factor (SPF), Photoprotective activity, Herbal cosmetics, Anti-oxidant, UV protection, Serum formulation, Natural ingredients, Skin care.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-10)

10. A Multifunctional Liposome-Based Transdermal Patch for Infection Control and Bone Tissue Regeneration

Aurthors: Musfira Iqbal, Iqra Rehman and Somia Gul*

Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Jinnah University for Women, Karachi-74600, Pakistan

***Corresponding email:** drsomi1983@yahoo.com

***ORCID ID:** 0000-0002-9742-8753

ABSTRACT

Objective: The objective of this study was to design and develop a multifunctional hydrogel-based transdermal patch incorporating zinc oxide nanoparticles (ZnO-NPs), neem-loaded liposomes, and spirulina-derived phycocyanin (C-PC) liposomes. The patch aims to achieve deep tissue penetration, enhanced wound healing, antimicrobial action, and bone-targeted repair through a self-powered and sustained release mechanism.

Methodology: ZnO-NPs were synthesized using zinc acetate dihydrate and sodium hydroxide through controlled precipitation, centrifugation, and calcination at 100 °C. Liposomes were prepared separately for neem extract and C-PC by the thin-film hydration method using lecithin and cholesterol, followed by extrusion for nanoscale size reduction. Hydrogel patches were formulated by incorporating polyvinylpyrrolidone (PVP), glycerol, propylene glycol, and ethyl cellulose as the matrix. Neem liposomes, spirulina liposomes, and ZnO-NPs were dispersed within the hydrogel to generate a composite bioactive patch. Physicochemical characterization included particle size analysis, morphology, encapsulation efficiency, and stability assessment, while preliminary biological evaluation assessed antioxidant and antimicrobial activity.

Results: ZnO-NPs displayed uniform nanoscale morphology, while neem and spirulina liposomes demonstrated high encapsulation efficiency and structural stability. The integration of ZnO-NPs with dual liposomes into the PVP-based hydrogel yielded a flexible, transparent, and adhesive patch. Preliminary functional analysis indicated synergistic antioxidant, antimicrobial, and wound-healing properties, with improved release kinetics supporting deep penetration and prolonged therapeutic effects.

Conclusion: This study successfully developed a self-powered hydrogel patch incorporating ZnO-NPs, neem liposomes, and spirulina liposomes. The multifunctional design demonstrates promising potential for wound healing, infection control, and bone tissue regeneration. Such a system represents a next-generation biomedical patch with enhanced therapeutic efficiency and biocompatibility.

Keywords: Liposome, Transdermal Patch, Infection Control, Tissue Regeneration, Wound Healing



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-11)

11. “NATURE’S REVIVAL: A POLYHERBAL HAIR TONIC FOR ALOPECIA, DANDRUFF, AND HAIR STRENGTHENING”

Aurthors: Iqra Rihab

Co Authors: Emaan Shahid, Amna, Elizabeth, Saira Tahir. Abiha Sharif (Salim Habib University)

Corresponding email : emaanshahidstu1@gmail.com

ABSTRACT

Hair disorders such as alopecia and dandruff are among the most prevalent dermatological concerns, often leading to psychological distress and reduced quality of life. The present study focuses on the formulation and evaluation of a polyherbal hair tonic developed from potent natural ingredients including *Azadirachta indica* (Neem), *Allium cepa* (Onion), *Allium sativum* (Garlic), *Zingiber officinale* (Ginger), *Oryza sativa* (Rice), *Bacopa monnieri* (Brahmi), *Aloe barbadensis* (Aloe vera), *Trigonella foenum-graecum* (Fenugreek), *Nigella sativa* (Black seed), *Emblica officinalis* (Amla), *Sapindus mukorossi* (Reetha), *Hibiscus rosa-sinensis* (Hibiscus), and *Murraya koenigii* (Curry leaves).

Each ingredient was selected based on ethnopharmacological evidence of promoting hair growth, improving scalp health, and preventing microbial infections. The formulated tonic was evaluated for physicochemical parameters, stability, and preliminary clinical efficacy in volunteers suffering from mild to moderate alopecia.

Clinical observations demonstrated a significant reduction in hair fall (up to 65%), improved scalp condition, decreased dandruff, and increased hair density after 8 weeks of regular application. The synergistic action of bioactive compounds such as flavonoids, saponins, alkaloids, and essential oils enhanced follicular nourishment and stimulated keratinocyte proliferation.

The findings suggest that this polyherbal hair tonic offers a safe, affordable, and effective plant-based alternative for managing alopecia and related scalp disorders, supporting the revival of traditional remedies through scientific validation.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-12)

12.Title: A Polyherbal Syrup Formulation For The Management Of Ice Mediated Allergic Reactions

Aurthor: Saira Tahir (Department Of Pharmacy, Salim Habib University, Karachi)

Corresponding email: amnaiqbal041@gmail.com

ABSTRACT

Immunoglobulin E (IgE)-mediated allergic reactions represent a significant type of hypersensitivity disorder associated with conditions such as folliculitis and atopic dermatitis, leading to dermatological and systemic complications. This study focuses on the formulation and evaluation of a polyherbal syrup designed to manage IgE-mediated allergies using aqueous extracts of *Pterocarpus santalinus* (Red Sandalwood), *Santalum album* (Sandalwood), *Foeniculum vulgare* (Fennel), *Elettaria cardamomum* (Cardamom), *Cordia myxa* (Assyrian Plum), and *Artemisia absinthium* (Wormwood). Each herb was selected for its antihistaminic, anti-inflammatory, antioxidant, and immunomodulatory activities.

The proposed mechanism involves inhibition of histamine release, suppression of IgE antibody production, regulation of cytokines, and prevention of mast cell degranulation. The results suggest that this polyherbal syrup offers a safe, effective, and affordable therapeutic option for IgE-mediated allergic disorders, folliculitis, and atopic dermatitis.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-13)

13. Title: "Development and Evaluation of Herbal Hair Serum for Anti-Dandruff and Scalp Health"

Authors: Anosha asad, Laveeza khan, Ilma azhar , Ayesha shah

Corresponding email: anushaasadullahkhan345@gmail.com

Introduction

Hair loss, dandruff, dryness, and weak scalp health are major issues aggravated by stress, pollution, and chemical-based hair products. Herbal formulations are gaining popularity due to their safety, natural efficacy, and minimal side effects. The present study focuses on developing a **herbal hair serum** using **flax seeds (*Linum usitatissimum*)**, **fenugreek seeds (*Trigonella foenum-graecum*)**, and **rosemary oil (*Rosmarinus officinalis*)**.

- **Flax seeds** are rich in omega-3 fatty acids, vitamin E, and lignans, which deeply nourish the scalp, strengthen hair follicles, and improve hair elasticity, reducing breakage and split ends.
 - **Fenugreek seeds** contain proteins, nicotinic acid, and lecithin that repair damaged hair shafts, promote thicker growth, and help reduce dandruff and dryness.
 - **Rosemary oil** is well-known for stimulating blood circulation in the scalp, preventing premature greying, reducing hair fall, and encouraging new follicle growth.
- Together, these ingredients provide a holistic approach to hair care by combining nourishment, scalp health improvement, and growth stimulation.

Methodology

Flax seeds and fenugreek seeds were soaked and boiled to extract their mucilage and bioactive compounds, which were filtered to form a nutrient-rich base. Rosemary essential oil was incorporated at an optimized concentration to enhance scalp stimulation and improve preservation. The serum was stored in sterilized containers and tested for physical stability, pH, and sensory qualities.

Main Findings

The prepared serum was clear, non-sticky, and stable over the observation period, with a mild natural fragrance from rosemary oil. Preliminary user testing indicated reduced dandruff, stronger roots, and a noticeable decrease in hair fall after regular use. Flax seed mucilage acted as a natural conditioner, fenugreek extract provided deep nourishment and scalp hydration, while rosemary oil boosted circulation and hair growth.

Conclusion

The combination of flax seeds, fenugreek, and rosemary oil resulted in an effective, natural, and safe hair serum. It not only reduced hair fall and dandruff but also enhanced hair strength, shine, and overall scalp health. This herbal serum offers strong potential as an eco-friendly and chemical-free alternative to commercial hair care products.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-14)

14. Title: Smart Testing Kit for Phytochemicals Analysis in Academic Research and Commercial Settings

Sumama Sanaullah, Tooba Bashir, Iqra Rehman and Somia Gul*

Department of Pharmaceutical chemistry, Faculty of Pharmacy, Jinnah University for Women, Karachi-74600, Pakistan

*Corresponding email: drsomi1983@yahoo.com

*ORCID ID: 0000-0002-9742-8753

ABSTRACT

Objective: Phytochemicals are naturally occurring bio-active compounds found in plants that contribute in various biological activities. Phytochemical screening refers to the preliminary process of identifying the presence of various classes of Phyto constituents. This study aims to contribute towards the development of a standardized phytochemical testing kit in Pakistan. Currently for the phytochemical analysis all these tests required the manual preparation of the reagent/testing solutions that leads to several notable challenges like hectic schedule and excessive time consumption.

Methodology A smart kit for the detection of major phytoconstituents including alkaloid, carbohydrates, flavonoids, phenolic compounds, amino acid, saponins, glycosides, proteins, tannins, anthraquinones and phytosterols. Specific reagents were prepared based on classical phytochemical reactions and the chemicals includes potassium iodide, mercuric chloride, iodine, bismuth nitrate, nitric acid, picric acid, alkali, sodium citrate, sodium carbonate, copper sulphate pentahydrate, glacial acetic acid, a-naphthol, conc H₂SO₄, ferric chloride, chloroform, copper sulphate, nitric acid and ninhydrin and stored under suitable conditions to evaluate stability. The designed and developed kit was evaluated for phytochemical testing, ensuring portability and significant time efficiency.

Result: The results obtained from the phytochemical testing kit confirmed the successful detection of various phytochemicals presence including alkaloid, carbohydrates, flavonoids, phenolic compounds, saponins, glycosides, proteins, anthraquinones and phytosterols. Observable changes, including distinct color variations, precipitate formation, and layering, were consistently noted upon performing the respective tests with the reagents given in testing kit. These findings validate the sensitivity of the kit in qualitative phytochemical screening.

Conclusion: The developed smart phytochemical testing kit demonstrated a substantial reduction in analysis time, enabling detection within 10–15 minutes compared to 10–12 hours required by conventional methods, while exhibiting reagent stability equivalent to traditional approaches. This kit also highlights its potential application in both academic research and commercial settings.

Keywords: Natural Products, Smart Kit, Phytochemicals Testing, detection, sensitivity, research



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-15)

15. Title of abstract: A sustainable and innovative Herbal Nootropic Oral spray designed for Enhanced Cognitive Resilience and mental exhaustion

Authors:

Aisha Rais, Eisha yousuf, Jinnah University for women

Corresponding email: aishaa.18589@gmail.com

ABSTRACT:

CogniSpray is a novel, fast-release herbal nootropic oral spray created to boost cognitive resilience by countering the drawbacks of existing market products like poor bioavailability, and gut discomfort. The product exploits the power of pharmacognosy and contemporary pharmaceuticals for providing a long-term, patient-oriented intervention for mental exhaustion. Its main characteristics are quick buccal absorption with effects in 5–10 minutes. It is a synergistic herb blend using *Bacopa monnieri* for memory and anxiety relief along with Lion's Mane for brain support together with L-Theanine. It also includes Caffeine derived from green coffee beans for balanced, energetic mental clarity, piperine for enhanced bioavailability, and other sustainably harvested organic ingredients. Polysorbate 80 as a stabilizer, sodium ascorbate as an antioxidant and potassium sorbate as a preservative are also the secondary ingredients of this formulation. The product is packaged in a 10ml, 30ml and 50ml amber glass bottles with a fine mist actuator ensuring precise dosing. The product employs standardized herbal extracts in an preserved aqueous system that is pH-optimized and stringently controlled for quality according to USP standards. CogniSpray is unique with its fast onset, lack of gastrointestinal discomfort, evidence-based synergy, and easy-to-use format. It is safe, employing GRAS ingredients at established concentrations and complying with microbial safety protocols.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-16)

16.TITLE: “Innovative Herbal Bioactive Bandages for Chronic Wounds: The Role of Aloe Vera and Turmeric Extracts”

Authors:

Rukhsar Shamim, Muqaddas, Maham Siddiqui

Co-author:

Miss. Maria Rahat, Jinnah University for Women,

Corresponding email: rukhsarshamim61@gmail.com

Abstract

Diabetic and chronic wounds are difficult to treat and are highly prone to infection. Conventional dressings act mainly as barriers without therapeutic activity. Natural agents such as Aloe vera and turmeric exhibit strong wound-healing potential. Aloe vera supports moisture retention, epithelialization, and while turmeric, rich in curcumin, provides antibacterial and anti-inflammatory effects. Their combination in a single bioactive dressing, may yield synergistic therapeutic benefits.

Objective:

This study aimed to develop and evaluate Aloe vera and turmeric based bioactive bandages for improved wound healing and cost-effective management of diabetic and chronic wounds.

Methodology:

A gel formulation containing 70% aloe vera gel, 3% turmeric extract for anti-inflammatory and antibacterial qualities, and a humectant to aid in the healing of diabetic wounds. A preservative to ensure stability, and a gelling agent to provide thickness and film formation. Distilled water made up the volume. Sterile medical-grade cotton gauze was autoclaved, impregnated with the gel, and dried aseptically under laminar flow. The bandages he bandages were evaluated for PH, homogeneity and physical appearance to ensure skin compatibility. Viscosity, spreadability, gel impregnation, and loading capacity were evaluated for ease of application while sterility test was performed to confirm safety and efficacy.

Results (Expected):

The bioactive bandages are expected to demonstrate strong antibacterial and anti-inflammatory activities, maintain a moist wound environment and enhanced contraction and epithelialization with better patient tolerance.

Conclusion:

Aloe vera and turmeric-infused bandages offer a natural, safe and effective alternative to conventional wound dressings. Their dual action has the potential to accelerate healing in diabetic and chronic wounds along with an economical therapeutic option.

Keywords:

Aloe vera, Turmeric extract, Curcumin, Bioactive wound dressing, Antimicrobial bandage, Diabetic wound, chronic wound



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-17)

17. Title of Abstract: Ethanolic Extract Of Rydingia Limabta Leaves: Oral Muco-adhesive Herbal Gel For Mouth Ulcers

Authors:

Hoor Nasir, Laiba Farooq, Shoreem Imran , Muhammad Aarsal Taj , Momin Ubaid, Huzaifa Sohail, Syed Ahmer Hussain Zaidi, Shazan,

Affiliation: Ziauddin University

Corresponding email: hoor.nasir2004@gmail.com

Abstract:

Oral ulcers are a common, painful mucosal condition with limited effective herbal therapies. This study aimed to develop and evaluate a mucoadhesive herbal gel containing Rydingia limbata ethanolic extract for the management of acetic-acid-induced buccal ulcers in adult Wistar rats. Rats (200–250 g) were randomized into four groups: no ulcer (negative control), formulated gel, 0.15% benzydamine gel (positive control), and vehicle gel. Ulcers were induced by applying 60% acetic acid-saturated filter-paper discs (3–5mm) to the right buccal mucosa for 60 seconds under anesthesia. The gel (50 mg/application) was applied for one week. Primary endpoints included ulcer area (mm²), pain score, and body weight and expressed as percent healing. Secondary endpoints included histopathological evaluation. Data were analyzed using ANOVA with Tukey post-hoc. Application of Rydingia limbata demonstrated significant reduction in ulcer area and accelerated re-epithelialization compared to vehicle and standard drug. These findings suggest that the Rydingia limbata-based mucoadhesive gel is a promising therapeutic approach for oral ulcer management.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-18)

18. Formulation and Evaluation of Cactus-Based Wound Healing Lotion

Author : Shazia majeed

Corresponding email: reebae.k02@gmail.com

Abstract:

The skin, as the body's largest organ, acts as the first line of defense against external factors such as pollution, ultraviolet (UV) radiation, pathogens, and harsh weather conditions. To maintain its protective role, the skin requires adequate hydration, nourishment, and repair mechanisms. However, exposure to environmental stressors, frequent washing with synthetic soaps, and aging processes often lead to dryness, irritation, and impaired skin health. Modern skincare heavily relies on synthetic moisturizers and cosmetic formulations.

While many are effective, they often contain chemical additives, artificial fragrances, and preservatives that can cause allergic reactions, irritation, or long-term damage to sensitive skin. This has led to growing interest in natural and herbal alternatives in recent years. Consumers are increasingly demanding products that are eco-friendly, safe, sustainable, and effective.

The cactus plant (*Opuntia ficus-indica*), commonly known as prickly pear cactus or nopal, belongs to the Cactaceae family and is widely distributed in arid and semi-arid regions. Traditionally, it has been used in folk medicine for treating wounds, burns, and skin infections

due to its hydrating and soothing properties. One of the most important components of the cactus is its mucilage, a gel-like substance rich in complex polysaccharides, amino acids, vitamins (such as Vitamin E, Vitamin C, and Vitamin K), minerals (calcium, magnesium, potassium), and antioxidants. The mucilage serves as a natural water reservoir that enables the cactus to survive in extreme desert climates. When applied to the skin, this mucilage functions as: A hydrating agent, locking in water and preventing transepidermal water loss (TEWL).

A soothing agent, calming irritated, inflamed, or sensitive skin.

A wound-healing enhancer, supporting faster tissue regeneration.

Title of abstract: cactus wound healing lotion



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-19)

19. Title of Abstract: Herbal Centella Asiatica Hydrogel For Management Of Post Chemotherapy Skin Irritation and Dryness.

Authors:

Laiba Farooq, Hoor Nasir, Muhammad Aarsal , Shoreem Imran, Momin Ubaid, Huzaifa Sohail, Syed Ahmer Hussain Zaidi (Ziauddin University)

Corresponding email: laibashah8416@gmail.com

Abstract:

Chemotherapy-induced skin irritation and dryness significantly impair patients' quality of life, yet current treatments largely rely on corticosteroids or synthetic moisturizers that may cause adverse effects. Centella asiatica, a traditional medicinal herb rich in asiaticoside, madecassoside, and asiatic acid, has demonstrated potent wound healing, antioxidant, and anti-inflammatory properties. In this study, a Centella asiatica-based hydrogel was developed to provide a non-steroidal, herbal alternative for managing post-chemotherapy skin complications. The formulation incorporated Centella asiatica extract 2% along with aloe vera, carbopol, HPMC, and glycerin to create a cooling, hydrating, and sustained-release topical system. Cyclophosphamide (150 mg/kg, i.p.) was used to induce dermatitis and dryness in rats. Clinical scoring (erythema, edema, dryness) and histopathological analysis demonstrated significant improvement in skin barrier repair, reduced inflammatory infiltrates, and enhanced collagen synthesis in the Centella-treated group compared to placebo. The hydrogel exhibited non-irritant behavior and superior efficacy in alleviating redness, dryness, and scaling. These findings support the potential of Centella asiatica hydrogel as a safe, effective, and patient-friendly approach for supportive skincare in oncology.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(PRODUCT CODE: ICSPA-PD-20)

20. HERBAL HAIR REMOVAL CREAM FROM HESPERETHUSA CRENULATA:

Aurthors: Nabgha Zafar, Fatima Zohra Malik, Khadija Asif, Ayesha Malik (Jinnah University Fr Women)

ABSTRACT:

The demand for safe and effective hair removal products has led to a surge in the development of herbal formulations. This study aimed to formulate and evaluate a herbal hair removal cream using natural ingredients known for their depilatory properties. The formulation was developed utilizing a combination of plant extracts with proven hair inhibitory effects, emulsifiers, stabilizers, and skin-nourishing agents. The formulated herbal hair removal cream underwent a series of evaluations to assess its physicochemical properties, including pH, viscosity, spread ability, and stability. Additionally, the efficacy of hair removal was evaluated through in vitro and in vivo studies. The in vitro study involved testing the cream on artificial hair samples, while the in vivo study was conducted on human volunteers. Results from the physicochemical evaluations demonstrated that the formulated cream possessed suitable characteristics for topical application, such as a neutral pH, optimal viscosity, and good spread ability. Furthermore, the cream exhibited excellent stability under various storage conditions. The efficacy evaluations revealed promising results, with the herbal hair removal cream demonstrating significant hair reduction in both in vitro and in vivo studies. Moreover, the cream exhibited no adverse effects on the skin, indicating its safety for use. In conclusion, the formulated herbal hair removal cream showed potential as a safe and effective alternative to conventional depilatory products. Further research is warranted to optimize the formulation and explore its long-term efficacy and safety profiles for commercialization using *Hesperethusa crenulata* (thanka plant).



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



3D Model Display



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(Code: ICSPA-3D-M01)

**TOPIC: HARNESSING NATURE’S SHIELD; NATURAL SUBSTANCE AS
PROTECTOR AGAINST CADMIUM AIR TOXICITY**

AUTHORS: Tabinda Sajid, Tooba Naz, Rabha Rehan, Maria Zaki, Yamna Sarwar

Co- author: Miss Maria Rahat

Affiliation: Jinnah University for Women (3rd Year, Pharm-d)

ABSTRACT:

Air is essential for life, yet the same air can become a source of harm and even death when polluted. Clean air is crucial for the safety and well-being of all living things. Industries bring many benefits, but those located near residential areas are a major cause of serious health problems such as cancer, kidney damage, and birth defects. This is largely due to the release of cadmium during manufacturing processes. Cadmium exposure increases oxidative stress, interferes with the body’s DNA repair systems, and disrupts normal cell signaling, which can lead to cell damage, programmed cell death, and cancer development.

The damage is not limited to humans—plants are also at risk. Plants play a vital role in maintaining the ecosystem and protecting humans from harmful solar radiation. Unfortunately, they too are being harmed by cadmium emissions from industries. Cadmium can stunt plant growth, reduce their ability to photosynthesize, and weaken their natural defense systems. This decline further disrupts environmental balance and reduces natural protection against air pollution.

Various synthetic materials are currently used to absorb harmful substances and prevent the release of dangerous gases. However, our approach looks to nature itself for a solution. We propose a model that uses natural substances to clean cadmium-contaminated emissions before they enter the environment. In this model, cylindrical tanks filled with these natural materials are attached to industrial exhaust systems. As the exhaust passes through the tanks, the natural substances absorb cadmium particles and related harmful compounds, significantly reducing the amount released into the air.

This setup offers an environmentally friendly and cost-effective way to improve air quality, protect plants, and safeguard human health. Our project will present a clear comparison of environmental and health conditions before and after installing the cylindrical tanks. By showing the difference, we aim to highlight how a simple, nature-based solution can lead to cleaner air, healthier lives, and thriving plant life. In short, our model offers a way to unlock nature’s potential to protect life and create a safer, healthier, and happier environment for all.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(Code: ICSPA-3D-M02)

Title of Abstract: Biodegradable Bandage from Agriculture by Products: An Innovative Approach to Sustainable Wound Care Class

Aurthors: Nimrah Younus, Nisha Muhammad Jawaaid , Safia Shakil ,Saira Ahsan, Dr. Aisha Aziz

ABSTRACT The raising demand for sustainable medicinal products has emphasized on the need for the environment-friendly substitute to conventional synthetic bandage. Evolution of typical plastic based disposals to the agro-waste material is crucial for reducing the medicinal scrap which remains on the landfills for centuries. This model demonstrate how organic waste can be transformed into practical medical product that binds the healing components and sets a foundation for future green healthcare product development as it underscores the potential of fruit peel derived biomaterials. Potato peels are utilized to form the structural back sheet, offering the strength and flexibility. Okra peel are processed into the natural adhesive with excellent skin compatibility, eliminating the need for synthetic glue. Pomegranate peels contribute as absorbent pad, helping prevent infection and accelerates tissue repair, while the natural structure of peel ensures the safe composability. This closed-loop system is designed to demonstrate the industrial scale manufacturing process where agricultural waste is revamped into high value medicinal product. This practical visualisation follows a sequential production line including collection, drying, crushing, back sheet preparation, adhesive coating , automated pad placement and Sterilization which results in sterile functional bandage. The model highlights the engineering design of each unit operation and emphasizes the integration of waste valorization with biomedical utility. Beyond replacing the fabricated material, the bandage safely degrade in soil after use. This prototype addresses the environmental challenges associated with plastic-based disposables while promoting sustainable healthcare innovation.

KEYWORDS: Conventional synthetic bandage, Plastic based disposable, Medicinal scraps, agrowaste material , wound healing, fruit peel, health care innovation.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(CODE: ICSPA-3D-M04)

TITLE: “Exploring the multisystem effects and complications of diabetes mellitus”

Authors:

Miss Nabgha Zafar, Areeba Nisar, Areeba Yousuf, Areesha fatima

Jinnah University for Women, 5C Nazimabad, Karachi, Pakistan, Faculty of Pharmacy

Abstract:

This 3D MODEL presentation highlights the widespread impact of diabetes mellitus on the human body, illustrating how chronic hyperglycaemia disrupt multiple organ systems. From cardiovascular and renal dysfunction to neuropathic and ocular complications, our model demonstrate the intricate pathophysiological changes that occur due to impaired insulin regulation. The visual representation aims to enhance understanding of how diabetes progresses from metabolic imbalance to severe systemic damage. By merging scientific insight with creative visualization, this project emphasizes the importance of early diagnosis, lifestyle modifications and effective glycemic control in preventing life-threatening complications.

Keywords:

Diabetes mellitus, chronic hyperglycaemia, cardiovascular, renal dysfunction, ocular complications, insulin regulation.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(Code: ICSPA-3D-M05)

Title: Modeling Brain and Liver Necrosis

Authors Name: Khadija Asif, Fatima Muhammad Ahemad, Laiba Shamim,
Laiba Khan Lodhi

Affiliation: Jinnah University for Women

Abstract

As a result of differences in cellular architecture, blood supply, and enzyme activity, necrosis is a degenerative process that causes irreversible cell damage and death. It manifests itself in diverse organs with unique morphological patterns. This study investigates the pathophysiology and aetiology of the main necrotic patterns that affect important organs, such as coagulative necrosis in the liver, caseous or serous necrosis in the pulmonary tissues, and liquefactive necrosis in the brain. High lipid content and enzymatic breakdown in the brain cause liquefactive necrosis, which softens neural tissue and is frequently linked to infections or ischaemic stroke. On the other hand, after hypoxia injury or toxic assaults, the liver mostly experiences coagulative necrosis, which is characterised by retained tissue architecture along with protein denaturation and enzyme inactivation. Infectious agents like *Mycobacterium tuberculosis* or severe inflammatory reactions can cause necrotic transformation in the lungs, which results in caseous necrosis with granular debris and impaired respiratory function. The study assesses the molecular processes that underlie these necrotic pathways, such as the activation of inflammatory mediators, reactive oxygen species production, and mitochondrial dysfunction. Infectious agents like *Mycobacterium tuberculosis* or severe inflammatory reactions can cause necrotic transformation in the lungs, which results in caseous necrosis with granular debris and impaired respiratory function. The study assesses the molecular processes that underlie these necrotic pathways, such as the activation of inflammatory mediators, reactive oxygen species production, and mitochondrial dysfunction.

Objective: The main goal of this model is to improve understanding among students, physicians, and conference attendees by presenting the pathophysiology and aetiology of necrosis in a more useful, graphically demonstrative, and instructive way. The work intends to advance knowledge of disease mechanisms by distinguishing organ-specific necrotic alterations, which will ultimately aid in improved diagnostic interpretation and medical education.



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



(Code: ICSPA-3D-M06)

Title: Magnetic resonance imaging (MRI) model

Esha Sabir, Afzaa Nasir, Ayesha naveed, Ayesha zahid, Fizza tanveer, laiba Noor Jinnah university for women

It is a non invasive imaging technique that uses strong magnetic fields and radio waves to make detailed images of body organs and soft tissues. It uses radio waves [a form of non Ionizing] electromagnetic radiation and a strong magnetic field

Closed MRI is a cylindrical system where the patient lies inside a narrow tunnel surrounded by a strong magnetic field it produces high resolution and detailed images, making it ideal for advanced diagnostic purpose

Open MRI is a magnetic resonance imaging system designed with open sides or wide spaces, allowing greater patient comfort and accessibility it generally provides slightly lower image resolution due to a weaker magnetic field

We will be presenting a MRI working model system the materials that will be use in our model include card board, thermocol, plastic, PVC pipe, acrylics, circular magnetic coils, led strips batteries and wires for the base we will be using plywood and for assembling and adjustment we will be using glue, tapes and coil a human figure [toy form] is also placing inside the model to represent a patient

Each part of system going to be properly labeled and showed including components such as the magnet, arrow coil, radiant could by using colored copper wires A computer and a small speaker is also attaching to MRI to produce sound similar to that of a real MRI machine

Our model demonstrating both patient in patient and outpatient services gaining it a complete hospital appearance it represents an open type MRI system the computer is also uniting in the model that illustrating the mechanism of image processing

During presentation we will also display a panaflex poster about our project and each member of the group will take part in explaining the model

Key words

Magnetic resonance imaging, radiations, magnetic field



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



Conference Highlights



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



PRECONFERENCE WORKSHOPS

5-C, NAZIMABAD, KARACHI-74600, Tel: 36619902, 36620857-9, 36620615
Fax: 36620614, E-mail: info@juw.edu.pk, Website: [http:// www.juw.edu.pk](http://www.juw.edu.pk)



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW-ICSPA 2025)





INTERNATIONAL CONFERENCE ON SUSTAINABLE PRACTICES IN PHARMACEUTICAL ADVANCEMENT
(JUW-ICSPA 2025)
 (NOVEMBER 25-27, 2025)



JUW-ICSPA 2025



Workshop Expert
DR. FAQEEHA SHAKEEL
Assistant Manager,
Drug and Poison Information Center &
Residency Program Coordinator
Aga Khan University Hospital



Institutional Expert
DR. SIDRA ZUBAIR
Associate Professor
Faculty Of Pharmacy, JUW

JOIN US **Registration Fees: 1500 Pkr**

 15th Nov 2025, Saturday
 Room no. A6, JUW  10.00 am - 1.00 pm

Organized by: Faculty of Pharmacy, Jinnah University for Women

Pre-Conference Workshop on
Pathways to Clinical Excellence and Global Accreditation: Advancing Careers through ASHP Residency and Real-World Clinical Skills

WORKSHOP OBJECTIVES:

- **Discover Global Impact:** Understand ASHP's role in advancing pharmacy education worldwide through real-world case discussions.
- **Design Your Career Path:** Map your journey from hospital pharmacist to specialized clinical expert via interactive case exercises.
- **Think Clinically:** Tackle patient care scenarios in critical care and infectious diseases using evidence-based decision-making.
- **Learn Why and How** pharmacokinetic and toxicology principles transform patient outcomes with case-based activities
- **Role-play and Cases:** Strengthen interdisciplinary teamwork through role-play and case-based learning.
- **Level up Your Career:** Identify actionable goals for career growth and specialization



INTERNATIONAL CONFERENCE ON SUSTAINABLE PRACTICES IN PHARMACEUTICAL ADVANCEMENT
(JUW-ICSPA 2025)
 (NOVEMBER 25-27, 2025)



JUW-ICSPA 2025



Workshop Expert
DR. FARIHA MUSKAN
Senior Instructor and
Founder, Medaid Pakistan
MBBS, KMDC



Workshop Expert
DR. UNAIZA AFTAB
Senior Instructor,
MedAid Supervisor
MBBS, KMDC



Institutional Expert
DR. HALIMA SADIA
Assistant Professor
Faculty Of Pharmacy, JUW

JOIN US **Registration Fees: 1500 Pkr**

 17th Nov 2025, Monday
 10:00 am - 2:00 pm
 Room no. A6, JUW

Organized by: Faculty of Pharmacy, Jinnah University for Women

Pre-Conference Workshop on
First Aid & Basic Life Support (BLS) Training

WORKSHOP OBJECTIVES:

- Understand the principles of emergency response and personal safety in critical situations.
- Perform first aid for fire-related injuries and burn management.
- Respond appropriately to electrocution injuries and prevent secondary hazards.
- Recognize symptoms of heart attack and apply timely first-response measures.
- Stabilize and immobilize fractures to prevent further injury.
- Demonstrate Basic Life Support (BLS) skills, including:
 - DRS: Danger, Response & Safety assessment
 - AB: Airway and Breathing support
 - CD: Circulation, including hands-only CPR and use of an AED/defibrillator





Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW-ICSPA 2025)





INTERNATIONAL CONFERENCE ON SUSTAINABLE PRACTICES IN PHARMACEUTICAL ADVANCEMENT
(JUW-ICSPA 2025)
📅 (NOVEMBER 25-27, 2025)





Workshop Expert
DR. NAUMAN AZIZ
Ph.D. Cardiovascular Pharmacology,
Quality Control Manager,
AD Instruments



Institutional Expert
PROF. DR. SUBIA JAMIL
HOD, Pharmacology
Faculty Of Pharmacy, JUW



Institutional Facilitator
MS. MAHRUKH KHURSHID
Lecturer,
Faculty Of Pharmacy, JUW

Pre-Conference Workshop on
Application of PowerLab in
Pharmaceutical Sciences
(Drug Discovery)

WORKSHOP OBJECTIVES:

- Understand the basic principles and components of Power Lab systems.
- Learn applications of PowerLab in drug discovery and pharmacological research.
- Perform hands-on experiments using Power Lab for physiological and pharmacological studies.
- Acquire skills in data acquisition, analysis, and interpretation.
- Troubleshoot common experimental and data-related issues.

JOIN US **Registration Fees: 2000 Pkr**

📅 18th Nov 2025, Tuesday
🕒 10:00 am - 1:00 pm
📍 Pharmacology Research Lab, C35, JUW

Organized by: Faculty of Pharmacy, Jinnah University for Women



INTERNATIONAL CONFERENCE ON SUSTAINABLE PRACTICES IN PHARMACEUTICAL ADVANCEMENT
(JUW-ICSPA 2025)
📅 (NOVEMBER 25-27, 2025)





Institutional Expert
PROF. DR. SOMIA GUL
Department of Pharmaceutical Chemistry,
Faculty of Pharmacy, JUW



Invited Expert
DR. MAHWISH AKHTAR
Assistant Professor,
Department of Pharmaceutical Chemistry,
Faculty of Pharmaceutical Sciences, DUHS



Invited Expert
DR. SAMAN USMANI
Assistant Professor,
Department of Pharmaceutical Chemistry,
Faculty of Pharmaceutical Sciences, JSMU



Institutional Facilitator
MS. IQRA REHMAN
Lecturer
Faculty Of Pharmacy, JUW

Pre-Conference Workshop on
Computer-Aided Strategies for Drug Design
and In-Silico Therapeutic Innovation

WORKSHOP OBJECTIVES:

- Grasp the Core of Molecular Docking – Learn what docking is, why it matters, and key concepts related to receptors, ligands, active sites and binding affinity.
- Explore Protein-Ligand Interaction Mechanisms – Understand non-bonding interaction including hydrogen bonds, hydrophobic forces, electrostatic interactions, and van der Waals forces.
- Master CADD Tools – Introduction to AutoDock-Vina, AutoDock Tools, Discovery Studio Visualizer (DSV) and IMODS server.
- Hands-on Docking Experiments – Receptors & Ligands preparation, set up grid boxes, creation of configure file, and execute docking in AutoDock-Vina.
- Hands-on Molecular Dynamics Simulations – Learn to set up, run, and visualize MD simulations to study the stability of docked complexes.
- Analyze & Interpret Results – Evaluate binding poses, interpret docking scores, and assess simulation trajectories for drug discovery insights.

Laptop is mandatory for all participants.

JOIN US **Registration Fees: 3000 Pkr**

📅 22th Nov 2025, Saturday
🕒 10:00 am - 2:00 pm
📍 Room no. A6, JUW

Organized by: Faculty of Pharmacy, Jinnah University for Women

5-C, NAZIMABAD, KARACHI-74600, Tel: 36619902, 36620857-9, 36620615
Fax: 36620614, E-mail: info@juw.edu.pk, Website: <http://www.juw.edu.pk>



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW-ICSPA 2025)





**INTERNATIONAL CONFERENCE ON SUSTAINABLE
PRACTICES IN PHARMACEUTICAL ADVANCEMENT
(JUW-ICSPA 2025)**
 **(NOVEMBER 25-27, 2025)**



JUW-ICSPA 2025



Workshop Expert
Dr. Aisha Sana
Professor, HOD
Pharmaceutical chemistry
Faculty Of Pharmacy, JUW



Institutional Facilitator
Ms. Sanya Shuja
Lecturer
Faculty Of Pharmacy, JUW

Pre-Conference Workshop on
**Unlocking the Science of Antioxidants:
A Hands-On Exploration**

WORKSHOP OBJECTIVES:

- Gain knowledge of key *invitro* antioxidant assays (DPPH, ABTS, FRAP).
- Develop practical skills in assay execution, data analysis, and interpretation.
- Relate laboratory findings to applications in natural products, nutraceuticals, and drug discovery.

JOIN US **Registration Fees: 1500 Pkr**

 19th Nov 2025, Wednesday
 10:00 am - 1:00 pm
 Pharmaceutical Chemistry
Research lab, C-34, JUW

Organized by: Faculty of Pharmacy, Jinnah University for Women



**INTERNATIONAL CONFERENCE ON SUSTAINABLE
PRACTICES IN PHARMACEUTICAL ADVANCEMENT
(JUW-ICSPA 2025)**
 **(NOVEMBER 25-27, 2025)**



JUW-ICSPA 2025



Workshop Expert
MR. AKBAR ALI
Medical Technologist, LNH
Histopathology Technologist in
JSMU



Institutional Expert
DR. FATIMA QAMAR
Associate Professor
HOD, Pharmacognosy
Faculty Of Pharmacy, JUW



Institutional Facilitator
MS. MARIA RAHAT
Lecturer
Faculty Of Pharmacy, JUW

Pre-Conference Workshop on
**Precision in Histology :
Hands-On Microtome Training**

WORKSHOP OBJECTIVES:

- To train participants in precise tissue sectioning using microtome techniques.
- To enhance skills in producing high-quality histological slides for accurate analysis.
- To apply hands-on experience for improving efficiency and reproducibility in histology labs.

JOIN US **Registration Fees: 1500 Pkr**

 21st Nov 2025, Friday
 10:00 am - 12:00 pm
 Pharmacognosy Research lab, C45 JUW

Organized by: Faculty of Pharmacy, Jinnah University for Women

5-C, NAZIMABAD, KARACHI-74600, Tel: 36619902, 36620857-9, 36620615
Fax: 36620614, E-mail: info@juw.edu.pk, Website: <http://www.juw.edu.pk>



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW-ICSPA 2025)



INTERNATIONAL CONFERENCE ON SUSTAINABLE PRACTICES IN PHARMACEUTICAL ADVANCEMENT (JUW-ICSPA 2025)
(NOVEMBER 25-27, 2025)

Workshop Expert
DR. SHAHEEN PERVEEN
Associate Professor
JSMU

Institutional Expert
MS. SAROUSH KIRAN
Lecturer
Faculty Of Pharmacy, JUW

Pre-Conference Workshop on
HPLC Method Validation:
Transforming Data into Quality

WORKSHOP OBJECTIVES:

- To provide hands-on training in HPLC method validation parameters ensuring accuracy, precision, and reproducibility.
- To develop participant expertise in transforming analytical data into quality compliance with regulatory standards.
- To strengthen practical skills in data interpretation and documentation for quality-driven decision-making.

JOIN US

20th Nov 2025, Thursday
10:00 am - 12:00 pm
Pharmaceutics Research Lab, C38, JUW

Organized by: Faculty of Pharmacy, Jinnah University for Women

INTERNATIONAL CONFERENCE ON SUSTAINABLE PRACTICES IN PHARMACEUTICAL ADVANCEMENT (JUW-ICSPA 2025)
(NOVEMBER 25-27, 2025)

Institutional Expert
PROF. DR. AMBER NAWAB
HOD Pharmaceutics
Faculty Of Pharmacy, JUW

Institutional Facilitator
MS. AYESHA KIRAN
Lecturer
Faculty Of Pharmacy, JUW

Pre-Conference Workshop on
From Theory to Practice: Franz Diffusion
Cell in Drug Delivery Research

WORKSHOP OBJECTIVES:

- Understand the principles, setup, and operation of the Franz diffusion cell.
- Perform formulation loading, sampling, and analytical handling accurately.
- Apply Franz diffusion studies to drug delivery systems with troubleshooting skills.

JOIN US **Registration Fees: 1500 Pkr**

20th Nov 2025, Thursday
12:00 pm - 02:00 pm
Pharmaceutics Research Lab, C38, JUW

Organized by: Faculty of Pharmacy, Jinnah University for Women



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



CONFERENCE AGENDA



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW-ICSPA 2025)





JUW-ICSPA 2025

**INTERNATIONAL CONFERENCE ON
SUSTAINABLE PRACTICES IN
PHARMACEUTICAL ADVANCEMENTS
JUW-ICSPA 2025**

 **Date: 25-27 November 2025**

 **MUHAMMAD UZAIR AUDITORIUM**

SCHEDULE FOR DAY 1: 25-11-2025



09:45 – 10:00 AM

INAUGURATION & WELCOME NOTE

Session Chair: **Prof. Dr. Ghulam Razaque** Pro Vice Chancellor University of Balochistan/ Dean faculty of Pharmacy, University of Balochistan Quetta

Co-chair **Prof. Dr. Tariq Ali** Chairperson and Program Director, M.Phil/PhD program, Dow University of Health Sciences, Karachi

10:00 – 10:30 AM

Keynote Speaker: **Prof. Dr. Muhammad Liaquat Raza**, Ministry of National Guard Health Affairs, Saudi Arabia. Title of Talk: **Leveraging Artificial Intelligence to Accelerate Research and Therapeutic Development for Neurological Disease**

Parallel sessions for Oral Presentations in Room A6.

Poster Presentations, 3D Models, and Product Displays in the Exhibition Hall.

10:30 – 11:00 AM

Keynote Speaker: **Dr. Muhammad Hamid RPh**, Deputy Manager, Indus Hospital & Health Network (IHHN). Title of Talk: **From Resistance to Resilience: Optimized Pharmaco-therapy in Infectious Diseases Through Antimicrobial Stewardship**

11:00 – 12:00 PM

Panel Discussion : **From Innovation to Impact: Advancing Clinical Research and Industrial Collaboration in Pharmacy**

Moderator: **Dr. Halima Sadia**, JUW

Panelist:

- **Ms. Saharish Nazar**, Research Manager, Clinical Trials Unit, Aga Khan University
- **Mr. Shamim Raza**, Director at Pharmacy, The Aga Khan University Hospital
- **Dr. Farina Hanif**, Associate Professor, Focal person Research, Dow International Medical, Ex-Program Director, MPhil and PhD, DUHS
- **Mr. Muhammad Hyder**, Head of Production, Martin Dow Pharmaceutical
- **Mr. Muhammad Sameed Altaf**, Manager Business Development, Getz Pharma
- **Mr. Muneeb Ur Rehman Sr.** General Manager Quality Operations at Healthtek (Pvt.) Ltd. - sister concern of SAMI Pharma

12: 00 – 12:30 PM

Keynote Speaker: **Prof. Dr. Izhar Hussain**, Executive Director, Dow Institute of Life Science. Title of Talk: **The Pharmacist of Tomorrow: Innovator, Caregiver, and Leader**

12: 30-- 1:00 PM

Keynote Speaker: **Dr. Anwar Norazit**, Associate Professor, Faculty of Medicine, University of Malaya, Malaysia. Title of Talk: **Fin-tastic Recovery: Zebrafish Regeneration and the Future of Healing**

01: 00-- 1:20 PM

Chief Guest Speech: **Mr. Syed Hasan Naqvi** Commissioner Karachi Division, Government of Sindh, Karachi, Pakistan

01:20 -- 2:00PM

Alumni videos, Shield Distribution, Thank you Note

02:00PM-ONWARDS:

LUNCH



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW-ICSPA 2025)



JUW-ICSPA 2025

 INTERNATIONAL CONFERENCE ON SUSTAINABLE PRACTICES IN PHARMACEUTICAL ADVANCEMENTS  JUW-ICSPA 2025 Date: 25-27 November 2025  MUHAMMAD UZAIR AUDITORIUM SCHEDULE FOR DAY 2: 26-11-2025	
09:45 – 10:00 AM	2 nd Day Opening Note Session Chair: Prof. Dr. Safila Naveed , Department of Pharmaceutical Chemistry, University of Karachi Co-chair Dr. Hina Rehman , Assistant Professor, Pharmacy Practice Jinnah Sindh Medical University
10:00 – 10:30 AM	Keynote Speaker: Mr. Anzar Hasan , Vice President AI Governance - Arsh.AI, United States. Title of Talk: Integrating AI, IoT, and Mobile Diagnostics: The Future of Remote Patient Care
Parallel sessions for Oral Presentations in Room A6. Poster Presentations, 3D Models, and Product Displays in the Exhibition Hall.	
10:30 – 11:00 AM	Keynote Speaker: Prof. Dr. Reaz Uddin , Dr. Panjwani Center for Molecular Medicine and Drug Research, ICCBS, UoK. Title of Talk: Harnessing AI-Driven Multi-Omics for Sustainable Pharmaceutical Innovation
11:00 – 12:00 PM	Panel Discussion 2: Nurturing Tomorrow's Leaders: Reimagining Pharmacy Education Moderator: Prof. Dr. Somia Gul , JUW Panelist: • Prof. Dr. Muhammad Harris Shoaib, Dean Faculty of Pharmacy and Pharmaceutical Sciences, University of Karachi • Prof. Dr. Shamim Akhtar, Dean faculty of Pharmacy, Hamdard University • Prof. Dr. Huma Ali, Principal and Professor, Jinnah Sindh Medical University • Prof. Dr. Mirza Tasawer Baig, Principal, Ziauddin College of Pharmacy, Sukkur • Prof. Dr. Afshan Siddiq, Chairperson & Professor at Department of Pharmacology, University of Karachi
12: 00 – 12:30 PM	Keynote Speaker: Prof. Dr. Michael KH Ling , Faculty of Medicine and Health Sciences, University Putra Malaysia. Title of Talk: Targeting REST dysregulation in Down syndrome neuropathogenesis
12: 30-- 1:00 PM	Keynote Speaker: Prof. Dr. Noor Kamil , Dean, Faculty of Pharmacy, Salim Habib University, Title of Talk: Application of AI in Pharmacology for Advancing Precision Medicine: Sustainable Innovations for Global Health
01: 00-- 1:20 PM	Chief Guest Speech: Prof. Dr. Nazli Hossain , Vice Chancellor Dow University of Health Sciences (DUHS) Karachi, Pakistan
01:20 -- 2:00PM	Alumni videos, Shield Distribution, Thank you Note
02:00PM-ONWARDS:	LUNCH



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW-ICSPA 2025)



JUW-ICSPA 2025

 JUW-ICSPA 2025	INTERNATIONAL CONFERENCE ON SUSTAINABLE PRACTICES IN PHARMACEUTICAL ADVANCEMENTS JUW-ICSPA 2025  Date: 25-27 November 2025  MUHAMMAD UZAIR AUDITORIUM SCHEDULE FOR DAY 3: 27-11-2025	
09:45 – 10:00 AM	3RD DAY OPENING NOTE Session Chair: Prof. Dr. Muhammad Ali Ghoto , Dean Faculty of Pharmacy University of Sindh Jamshoro, Vice President Sindh Pharmacy council Govt of Sindh Karachi Co-chair Dr. Sidra Yasmeen , Deputy Director CDL DRAP Karachi	
10:00 – 10:25 AM	Keynote Speaker: Prof. Dr. Cheah Pike See , Head of the Department of Human Anatomy, University Putra Malaysia. Title of Talk: Apoe is an inducible immune checkpoint that reprograms the tumor-microenvironment to a glioma- promoting phenotype	
Parallel sessions for Poster Presentations, 3D Models, and Product Displays in the Exhibition Hall.		
10:25– 10:50 AM	Keynote Speaker: Prof. Mulazim Hussain Bukhari , President Pak. Association of Pathologist, Vice Chancellor, Sadiq International Virtual University. Title of Talk: Artificial Intelligence and Machine Learning for Sustainability	
10:50 – 11:50 AM	Panel Discussion 3: Regulations, Risk & Resilience: Advancing Pharmaceutical Oversight in Pakistan Moderator: Dr. Jibran Khan , adjunct faculty JUW Panelist: • Barrister Rashid Mureed, Head of Chambers, Cepal & Co • Mr. Muhammad Tanveer Akhtar, General Manager Regulatory Affairs at Atco • Dr. Haris Mehmood, Group General Manager Quality Operations Nabi Qasim Industries (Pvt.) Limited • Prof. Dr. Noor Jahan, Chairperson & Post Graduate Program Director, Pharmacology, DUHS • Mr. Syed Yawar Imam, Project Director, Cambridge GeneticX • Dr. Syed Adnan Rizvi, Director of Provincial Drug testing Laboratory, Sindh	
11: 50 – 12:15 PM	Keynote Speaker: Prof. Dr. Dorota Formanowicz , Head of the Department of Medical Chemistry and Laboratory Medicine, Poznan University of Medical Sciences, Poland. Title of Talk: Petri-net based systems approach to an analysis of cardiovascular diseases	
12: 15 – 12:40 PM	Keynote Speaker: Prof. Dr. Azhar Hussain , Chairman Pharmacy, Pak Austria Fachhochschule, KPK. Title of Talk: Transforming Pharmacy Education in Pakistan Aligning with Global Competency-Based Clinical Pharmacy Model for sustainable practices.	
12: 40-- 1:05 PM	Keynote Speaker: Dr. Tabish R. Zaidi , Clinical Education Lead, Central Gippsland Health Service Manager, Pharmacy Department, The Avenue Hospital. Senior Researcher, University of Tasmania. Title of Talk: Role of Pharmacist in preventive health	
01: 05-- 1:20 PM	Chief Guest Speech: Mr. Mushtaq Kassim Chhapra , Chairman, Executive Committee, Patients' Aid Foundation, Co-Founder Director, The Citizens Foundation (TCF), Honorary Consul-General of Nepal (Karachi), Pak.	
01:20 -- 2:00PM	Prize & Shield Distribution , Closing Remarks	
02:00PM-ONWARDS:	LUNCH	



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



JUW-ICSPA 2025

INTERNATIONAL CONFERENCE ON SUSTAINABLE PRACTICES IN PHARMACEUTICAL ADVANCEMENTS JUW-ICSPA 2025  Date: 25-27 November 2025  ROOM A6, JUW SCHEDULE FOR ORAL PRESENTATION 	
SCHEDULE FOR DAY 1: 25-11-2025	
Moderator: Ms. Iqra Rehman JUW, Session Chair: Prof. Dr. Somia Gul JUW, Co-chair: Dr. Fatima Qamar, JUW	
10:00 – 10:15 AM	ICSPA-OP-01: Ms. Hadia Naz, Faculty of Pharmacy, Hamdard University, Karachi. Topic: Development of Non- Effervescent Floating type Gastro-retentive Drug Delivery System
10:15– 10:30 AM	ICSPA-OP-02: Mr. Taha Ahmed, Faculty of Pharmacy, Hamdard University, Karachi, Topic Shaping Pharmacotherapy: Role of Molecular switches
10:30 – 10:45 AM	ICSPA-OP-03: Mr. Ali Asgher Shuja, Faculty of Pharmacy, Salim Habib, University, Topic: Cytoprotective Role of Natural Honey Against Doxorubicin-Induced Toxicity in Mice
10:45 – 11:00 AM	ICSPA-OP-04: Ms. Farhana Tasleem , Faculty of Pharmacy, Salim Habib, University, Topic Bergenin Derived from <i>Peltophorum pterocarpum</i> Exhibits Strong Anti-Virulence Effects Against <i>Pseudomonas aeruginosa</i> by Targeting MvIR
11:00 – 11:15 AM	ICSPA-OP-05: Ms. Nimra Nasir, Faculty of Pharmacy, Salim Habib University, Topic, Formulation and Evaluation of Cognitive Neem Bar for treating Alzheimer's Disease
SCHEDULE FOR DAY 2: 26-11-2025	
Moderator: Dr. Halima Sadia JUW, Session Chair: Prof. Dr. Amber Nawab, JUW, Co-chair: Prof. Dr. Aisha Sana , JUW	
10:00 – 10:15 AM	ICSPA-OP-06: Ms. Fatima Umoodi, Faculty Of Pharmacy Jinnah University For Women, Topic: Red Alert, Green Cure: Tackling Hypertension with Natural Products
10:15– 10:30 AM	ICSPA-OP-07: Ms. Iqra kanwal, Faculty of Pharmacy and Pharmaceutical Sciences , Ziauddin University Topic: A Polyherbal Approach to Diabetes Management: Formulation and Experimental Evaluation of NTF-011 capsules.
10:30 – 10:45 AM	ICSPA-OP-08: Ms. Javeria M. Rafiq Sheikh, Faculty of Pharmacy, Hamdard University. Topic: From Womb to Wellness: The Role of Maternal Nutrition and Mental Health in Preventing NCDs
10:45 – 11:00 AM	ICSPA-OP-09: Ms. Uzma Bano Faculty of Pharmacy, Iqra University, Topic Hydroxyurea treatment and reduction in transfusion demand in β -thalassemia major: Evidence from the hospital-based study in Karachi
11:00 – 11:15 AM	ICSPA-OP-10: Ms. Mehwish Murad Ali, Faculty of Pharmacy and Pharmaceutical Sciences , Ziauddin University, Topic: Protective Effect of Myricetin Against Chemically Induced Seizures in Mice



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



International and National Keynote Speakers



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW-ICSPA 2025)



 **International Conference on Sustainable Practices in Pharmaceutical Advancements**
Pharmaceutical Innovation for Global Well-being and Future Resilience
JUW-ICSPA 2025
📅 Date: 25-27 November 2025

International Keynote Speaker



Title of Talk:
"Apoe is an inducible immune checkpoint that reprograms the tumor-microenvironment to a glioma-promoting phenotype"

Prof. Dr. Cheah Pike See
PhD (Anatomy; Malaysia)
Head of the Department of Human Anatomy
Faculty of Medicine and Health Sciences,
Universiti Putra Malaysia (UPM)

Organized by: Faculty of Pharmacy, Jinnah University for Women

 **International Conference on Sustainable Practices in Pharmaceutical Advancements**
Pharmaceutical Innovation for Global Well-being and Future Resilience
JUW-ICSPA 2025
📅 Date: 25-27 November 2025

International Keynote Speaker



Title of Talk:
"Integrating AI, IoT, and Mobile Diagnostics: The Future of Remote Patient Care"

Mr. Anzar Hasan
Vice President AI Governance - Arsh.AI
MBA (Jack Welch Management Institute),
Advanced certificates from Harvard
Business School and MIT.
Professional credentials include CISSP,
CISM, CCISO, CDPSE, PMP, AIGP and CISA.
Author and IEEE Senior Member
McKinney, Texas, United States

Organized by: Faculty of Pharmacy, Jinnah University for Women

 **International Conference on Sustainable Practices in Pharmaceutical Advancements**
Pharmaceutical Innovation for Global Well-being and Future Resilience
JUW-ICSPA 2025
📅 Date: 25-27 November 2025

International Keynote Speaker



Title of Talk:
"Leveraging Artificial Intelligence to Accelerate Research and Therapeutic Development for Neurological Diseases"

Prof. Dr. Muhammad Liaquat Raza
PhD in Medical Neurosciences (Germany),
Post-doc in Molecular Neurophysiology
(Sweden)
Neuroscientist, Strategy Specialist/Managing
Editor King Abdulaziz Medical City, MNGHA,
Ministry of National Guard Health Affairs
Saudi Arabia

Organized by: Faculty of Pharmacy, Jinnah University for Women

 **International Conference on Sustainable Practices in Pharmaceutical Advancements**
Pharmaceutical Innovation for Global Well-being and Future Resilience
JUW-ICSPA 2025
📅 Date: 25-27 November 2025

International Keynote Speaker



Title of Talk:
"Petri-net based systems approach to an analysis of cardiovascular diseases"

Prof. Dr. Dorota Formanowicz
Head of the Department of Medical
Chemistry and Laboratory Medicine,
Poznan University of Medical Sciences,
Poland
MD, PhD (Internal Medicine)

Organized by: Faculty of Pharmacy, Jinnah University for Women



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW-ICSPA 2025)



International Conference on Sustainable Practices in Pharmaceutical Advancements <i>Pharmaceutical Innovation for Global Well-being and Future Resilience</i> JUW-ICSPA 2025 Date: 25-27 November 2025 International Keynote Speaker  Title of Talk: "Role of Pharmacist in preventive health" Dr Syed Tabish R. Zaidi <i>PhD, BCPS, FANZCAP</i> Central Gippsland Health Service, Sale Hospital — Lead Education Pharmacist, The Avenue Hospital, Ramsay Healthcare — Manager of Pharmacy Services, University of Tasmania — Adjunct Senior Researcher Organized by: Faculty of Pharmacy, Jinnah University for Women	International Conference on Sustainable Practices in Pharmaceutical Advancements <i>Pharmaceutical Innovation for Global Well-being and Future Resilience</i> JUW-ICSPA 2025 Date: 25-27 November 2025 International Keynote Speaker  Title of Talk: "Fin-tastic Recovery: Zebrafish Regeneration and the Future of Healing" Dr. Anwar Norazit Associate Professor Department of Biomedical Science, Faculty of Medicine, University Malaya, Malaysia PhD in Adult Stem Cells, Griffith University (Nathan, Queensland), Organized by: Faculty of Pharmacy, Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical Advancements <i>Pharmaceutical Innovation for Global Well-being and Future Resilience</i> JUW-ICSPA 2025 Date: 25-27 November 2025 International Keynote Speaker  Title of Talk: "Targeting REST dysregulation in Down syndrome neuropathogenesis" Prof. Dr. Michael KH Ling Head of the Department of Biomedical Sciences, the University-Driven Research Programme on Brain and Mental Health (PUTRA BRAIN) PROFESSOR of neuroscience and genetics, Medical Genetics Unit, Faculty of Medicine and Health Sciences University Putra Malaysia Organized by: Faculty of Pharmacy, Jinnah University for Women	International Conference on Sustainable Practices in Pharmaceutical Advancements <i>Pharmaceutical Innovation for Global Well-being and Future Resilience</i> JUW-ICSPA 2025 Date: 25-27 November 2025 National Keynote Speaker  Title of Talk: "The Pharmacist of Tomorrow: Innovator, Caregiver, and Leader" Prof. Dr. Izhar Hussain Executive Director, Institute of Biological, Biochemical & Pharmaceutical Sciences, Dow Institute of Life Sciences Organized by: Faculty of Pharmacy, Jinnah University for Women



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW-ICSPA 2025)



 International Conference on Sustainable Practices in Pharmaceutical Advancements <i>Pharmaceutical Innovation for Global Well-being and Future Resilience</i> JUW-ICSPA 2025 Date: 25-27 November 2025 National Keynote Speaker  Title of Talk: "Artificial Intelligence and Machine Learning for Sustainability" Prof. Dr. Mulazim Hussain Bukhari President Pakistan Association of Pathologist Vice Chancellor Sadiq International Virtual University Senior Consultant- Belt and Road International Medical Corporation (BRIMCC) China Pakistan MBBS, DCP, MPhil, FCPS, PhD, Post-Doctoral Research, CHPE & DHPE Organized by: Faculty of Pharmacy, Jinnah University for Women	 International Conference on Sustainable Practices in Pharmaceutical Advancements <i>Pharmaceutical Innovation for Global Well-being and Future Resilience</i> JUW-ICSPA 2025 Date: 25-27 November 2025 National Keynote Speaker  Title of Talk: "Harnessing AI-Driven Multi-Omics for Sustainable Pharmaceutical Innovation" Prof. Dr. Reaz Uddin Dr. Panjwani Center for Molecular Medicine and Drug Research, ICCBS, UoK Coordinator of the Center for AI in Health Sciences. PhD (Chemistry) and postdoctoral training in Austria, Germany, and Australia. Specializes in computational biology, bioinformatics, and AI applications in health. Organized by: Faculty of Pharmacy, Jinnah University for Women
 International Conference on Sustainable Practices in Pharmaceutical Advancements <i>Pharmaceutical Innovation for Global Well-being and Future Resilience</i> JUW-ICSPA 2025 Date: 25-27 November 2025 National Keynote Speaker  Title of Talk: "Application of AI in Pharmacology for Advancing Precision Medicine: Sustainable Innovations for Global Health" Prof. Dr. Noor Kamil Dean, Faculty of Pharmacy Dept of Basic Medical Sciences, Salim Habib University, Karachi PhD-Pharmacology Organized by: Faculty of Pharmacy, Jinnah University for Women	 International Conference on Sustainable Practices in Pharmaceutical Advancements <i>Pharmaceutical Innovation for Global Well-being and Future Resilience</i> JUW-ICSPA 2025 Date: 25-27 November 2025 National Keynote Speaker  Title of Talk: "From Resistance to Resilience: Optimized Pharmacotherapy in Infectious Diseases Through Antimicrobial Stewardship" Dr. Muhammad Hamid RPh Pharm.D, BCPS, BCIDP Deputy Manager, Pharmacotherapy Services, Clinical Pharmacy Specialist in Infectious Diseases, Indus Hospital & Health Network (IHNN), Karachi. Organized by: Faculty of Pharmacy, Jinnah University for Women



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW-ICSPA 2025)



Panel Discussion 1 : From Innovation to Impact: Advancing Clinical Research and Industrial Collaboration in



Dr. Halima Sadia

Assistant Professor, Faculty of
Pharmacy, JUW



Ms. Saharish Nazar

Research Manager, Clinical Trials Unit,
Aga Khan University



Mr. Shamim Raza

Director at Pharmacy, The Aga Khan
University Hospital



Dr. Farina Hanif

Associate Professor, Program Director
MPhil & PhD, DUHS.



Mr. Muneeb Ur Rehman

Sr. General Manager Quality Operations at
Healthtek (Pvt.) Ltd. - sister concern of
SAMI Pharma



Mr. Muhammad Hyder

Head of Production Martin Dow
Pharmaceutical



**Mr. Muhammad Sameed
Altaf**

Manager Business Development, Getz
Pharma



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



Panel Discussion 2: Nurturing Tomorrow's Leaders: Reimagining Pharmacy Education



Prof. Dr. Somia Gul

Faculty of Pharmacy, JUW



**Prof. Dr. Muhammad
Harris Shoaib**

Dean, Faculty of Pharmacy and
Pharmaceutical



Prof. Dr. Shamim Akhtar

Dean faculty of Pharmacy, Hamdard
University



**Prof. Dr. Mirza Tasawer
Baig**

Principal, Ziauddin College of Pharmacy,
Sukkur



Prof. Dr. Huma Ali

Principal and Professor at Jinnah Sindh
Medical University



Prof. Dr. Afshan Siddiq

Chairperson & Professor at Department of
Pharmacology at Karachi University



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



Panel Discussion 3: Regulations, Risk & Resilience: Advancing
Pharmaceutical Oversight in Pakistan



Dr. Jibran Nasir

adjunct Faculty JUW



Barrister Rashid Mureed

Head of Chambers Cepal & Co.



**Dr. Muhammad Tanveer
Akhtar,**

General Manager Regulatory Affairs at
Alco



Dr. Haris Mehmood

• Group General Manager Quality
Operations NabiQasim Industries (Pvt.)
Limited



Prof. Dr. Noor Jahan

Chairperson & Post Graduate Program
Director, Department of Pharmacology,
Faculty of Pharmaceutical Sciences,
DUHS



Mr. Syed Yawar Imam

Project Director Cambridge GeneticX



Dr. Syed Adnan Rizvi

Director of Provincial Drug Testing
Laboratory Sindh, Drug Control
Administration, Health Karachi



Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW-ICSPA 2025)



Chief Guests





Jinnah University for Women International Conference on Sustainable Practices in Pharmaceutical Advancement (JUW-ICSPA 2025)



Session Day 1 Highlights:





Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW–ICSPA 2025)



Session Day 2 Highlights:





Jinnah University for Women
International Conference on Sustainable Practices in Pharmaceutical
Advancement (JUW-ICSPA 2025)



Session Day 3 Highlights:

