Jinnah University For Women

1st International Conference On Innovative Cross-Disciplinary Solutions For Sustainable Development Goals (IC-SDGS-2024)

28th - 30th NOVEMBER 2024
KARACHI, PAKISTAN.

BOOK OF ABSTRACT:

This Book of Abstracts highlights cutting-edge research presented at the 1st International Conference on Innovative Cross-Disciplinary Solutions for Sustainable Development Goals (IC- SDGs)

1ST INTERNATIONAL CONFERENCE ON INNOVATIVE CROSS-DISCIPLINARY SOLUTIONS FOR SUSTAINABLE DEVELOPMENT GOALS

(IC-SDGs) 2024

November 28th-30th, 2024
Jinnah University for Women

Organized by

Jinnah University for Women, Karachi, Pakistan.

ISBN:

Book of Abstracts

1ST International Conference on Innovative Cross-Disciplinary Solutions For Sustainable Development Goals

(IC-SDGs) 2024

November 28th -30th, 2024

Published &printed by:
Jinnah University for Women

CONFERENCE COMMITTEES

Patron in Chief
Mr. Wajeeh Uddin Ahmed
Chancellor, JUW

Patron
Prof. Dr. Naeem Farooqui
Vice Chancellor, JUW

Steering Chair
Ms. WaniaWajeeh
Registrar, JUW

Conference Chair/ Chief Organizer
Prof. Dr. Huma Dilshad
Dean Research and Director DASR, JUW

Conference Secretary
Dr. Ayisha Aman Ullah
Chairperson, Department of Biotechnology
Coordinator DASR, JUW

Conference Liaison
Ms. Javeria Sheikh
Faculty of Pharmacy
Ms. Iqra Atiq
Office Assistant, DASR

Focal Persons
Dr. Shadiah Masood
Faculty of Science
Dr. Humaira Ashraf
Faculty of Science
Ms. Halima Sadia
Faculty of Pharmacy
Dr. Mahrukh Siddiqui
Faculty of Medical & Allied Health Sciences
Ms. Maheen Fatima
Faculty of Social Sciences
Ms. Nabiha Shahab
Faculty of Business Administration

International Advisory Board
Prof.Dr. Giovanni Ribaudo
University of Brescia, Italy
Prof. Dr. Abu Kholdun Al-Mahmood
Biochemistry, Ibn Sina Medical College, Bangladesh
Prof. M.H.F. Sakeena
University of Peradeniya, Srilanka
Dr. Gokhan Zengin,
Selcuk University , Campus /Konya, Turkey
Dr. Shazia Jamshed
School of Pharmacy, IMU, Kuala Lumpur, Malaysia
Dr. Suresh Shanmugham
School of Pharmacy, IMU Kuala Lumpur, Malaysia

Technical Advisory Board
Prof. Dr. Dilshad Zafar
Dean Faculty of Business Administration, Commerce and Economics
Prof. Surayya Qamar
Dean Faculty of Social Science
Prof. Dr. Humera Khatoon
Dean Faculty of Pharmacy
Prof. Dr. Narmeen Zakariya Bawaney
Dean Faculty of Science
Dr. Samina Khan
Dean Faculty of Medical and Allied Health Sciences
Dr. Rashida Rahmat Zohra
Director ORIC
Ms. Gulnaz Altaf
Director QEC
Prof. Dr. Mehmooda Kazmi
Department of Microbiology
Prof. Dr. Somia Gul
Faculty of Pharmacy
Prof. Dr. Amber Nawab
Faculty of Pharmacy
Prof. Dr. Anila
Department of Education
Dr. Humaira Ashraf
Department of Food Science and Technology
Dr. Fatima Qamar
Faculty of Pharmacy
Dr. AymenOwais
Department of Eastern Medicine and Surgery
Dr. Bushra
Department of Islamic Learning
Dr. Sohail Mehmood
Department of Urdu
Dr. Sherbaz Khan
Faculty of Business Administration, Commerce and Economics
Dr. Fatima Zehra
Department of Physical Therapy
Ms. Syeda Sarah Junaid
Department of English
Ms. Sobia Jamil
Faculty of Business Administration, Commerce and Economics

Scholarly Communication Committee
Ms. Javeria M. Rafiq Sheikh
Faculty of Pharmacy
Ms. Qurat-ul-Ain Riaz
Faculty of Pharmacy
Ms. Sidra SohailAsim
Faculty of Pharmacy

Digital Strategy Committee
Dr. Ayisha Aman Ullah
Department of Biotechnology
Ms. SaimaKomal
Department of Biotechnology

IT Consultant Committee
M. Haseeb Khan
Network Server Manager
Syed Abu Fahar
Software Developer
Rayyan Ahmed Khan
Software Developer

ABOUT CONFERENCE

The Jinnah University for Women, Karachi, Pakistan is hosting the inaugural International Conference on Innovative Cross-Disciplinary Solutions for Sustainable Development Goals (SDGs). This prestigious event will bring together global leaders, researchers, and innovators to explore groundbreaking solutions to some of the world's most urgent challenges. It offers a unique platform for experts across diverse fields to collaborate on addressing the UN's SDGs, covering areas such as renewable energy, green chemistry, socio-cultural sustainability, and sustainable business practices. The conference will showcase keynote addresses, invited talks, oral presentations, workshops, and tutorials, highlighting how advancements in science, pharmacy, allied health sciences, social sciences, and business administration and economics can collectively contribute to a more sustainable and equitable future.

AIMS

- To facilitate discussions among global experts from diverse fields, including science, pharmacy, health sciences, social sciences, and business, to develop innovative solutions for Sustainable Development Goals (SDGs).
- To encourage the exchange of innovative research and ideas across disciplines to drive progress towards Sustainable Development Goals (SDGs).
- To create a platform for international thought leaders and innovators to share insights and collaborate, driving collective efforts toward a more sustainable and equitable future.
- To motivate emerging scholars by showcasing innovative work and providing mentorship to encourage their active contribution to Sustainable Development Goals (SDGs).

OBJECTIVES

- Unite experts from diverse fields to explore and develop innovative solutions for Sustainable Development
- Present and discuss groundbreaking advancements in areas such as renewable energy, green chemistry, socio-cultural sustainability, and sustainable business practices.
- Provide a platform for sharing actionable strategies and practical solutions through keynote speeches, presentations, workshops, and tutorials.
- Facilitate the exchange of cutting-edge research and ideas across disciplines to enhance collective understanding and drive progress towards SDGs.
- Engage emerging scholars by showcasing pioneering work, offering mentorship opportunities, and promoting professional growth to motivate active contributions to the SDGs

CONFERENCE THEMATIC AREAS

Basic and Applied Sciences

- Renewable Energy and Green Chemistry Climate Action and Environmental Science
- Water Resources and Sustainable Agriculture
- Biodiversity and Wildlife Conservation
- Sustainable Fisheries and Aquaculture
- Zoonotic Diseases and Public Health
- Plant and Microbial Biodiversity
- Antimicrobial Resistance and Microbiology
- System Biology Modelling, Metabolic disorders and therapeutic approaches
- Artificial Intelligence and Machine Learning for Sustainability
- Big Data, Analytics, and Cyber security
- Food Science, Biotechnology and sustainable product development

Pharmacy

- Pharmaceutical Sustainability
- Access to Essential Medicines
- Pharmacological Research for Global Health
- Health and Environmental Safety
- Medicinal Plants and Traditional Knowledge

Allied Health Sciences

- Community Health and Well-being
- Nutrition and Sustainable Diets: Promoting sustainable dietary practices to improve health outcomes.
- Rehabilitation and Global Health
- Mental Health and Sustainable Development

Social Sciences

- Innovations in Education and Media for Accountability
- Religion and Peace Building
- Linguistic Diversity
- Community Engagement and Participation

Business Administration and Economics

- Sustainable Business Practices
- Economic Policies for Sustainability Corporate Social Responsibility
- Innovation and Entrepreneurship for SDGs

PRE-CONFERENCE WORKSHOPS

1. Change in Research Paradigm - An Unconventional Approach **(November 14th, 2024)** Organized by Faculty of Business Administration **Facilitator** Dr. Sherbaz Khan	**2. From Mixture to Purity: The Art of Chromatography** **(November 14th, 2024)** Organized by Department of Chemistry, Faculty of Science **Facilitators** Prof. Dr. Rubeena Saleem Dr. Najma Rasool Dr. Uzma Hameed	**3. Advancing Clinical Skills: Orthopedic Manual Therapy for Spine** **(November 16th, 2024)** Organized by Faculty of Medical and Allied Health Sciences **Facilitator** Dr. Sehrish Aslam
4. Sustainable Strokes: Turning Passion into Profit **(November 16th, 2024)** Organized by Faculty of Social Sciences **Facilitators** Ms. Rida Asif Ms. Hajera Tahir	**5. Essential Biosafety Practices for Lab Personnel** **(November 23rd, 2024)** Organized by Department of Biotechnology, Faculty of Science **Facilitators** Dr. Alveena Zehra Ms. Shagufta Noreen	**6. Hands-On Training on HPLC For Pharmaceutical Product Development: Principles and Practice** **(November 26th, 2024)** Organized by Faculty of Pharmacy **Facilitators** Dr. Durriya Hashmat Ms. Nimra Waheed
7. Computer Aided Drug Design and In Silico Approaches for Therapeutic Drug Development **(November 26th, 2024)** Organized by Faculty of Pharmacy **Facilitators** Prof. Dr. Somia Gul Ms. Iqra Rehman	**8. Techniques in Animal Handling, Blood Drawing, And Organ Isolation for Research Purposes** **(November 26th, 2024)** Organized by Faculty of Pharmacy **Facilitators** Ms. Mahrukh Khursheed Ms. Aisha Akhtar	**9. Mastering PCR: Fundamentals, Troubleshooting, And Applications** **(November 26th, 2024)** Organized by Faculty of Pharmacy **Facilitators** Dr. Aisha Aziz Ms. Asma Eraj

1st International conference on Innovative Cross-Disciplinary Solutions for Sustainable Development Goals (SDGs)
IC-SDGs (2024),
November 28-30, 2024

PRE-CONFERENCE WORKSHOPS

Apply online:www.icsdgs.juw.edu.pk
Registration Fees:1500 Pkr

S.NO	TITLE	DATE AND TIME	FACILITATOR	VENUE	ORGANIZED BY
 1.	Computer-Aided Drug Design and In-Silico approaches for Therapeutic Drug Development	26th November 2024 9:30 am -11:30 am	Prof.Dr. Somia Gul Ms. Iqra Rehman	A-20	Faculty of Pharmacy
 2.	Techniques in Animal Handling, Blood Drawing, and Organ Isolation for Research Purposes	26th November 2024 9:30 am -11:30 am	Ms. Mahrukh Khursheed Ms. Aisha Akhtar	D-27	Faculty of Pharmacy
 3.	Hands-On Training on HPLC for Pharmaceutical Product Development: Principles and Practice	26th November 2024 9:30 am -11:30 am	Dr. Durriya Hashmat Ms. Nimra Waheed	C-38	Faculty of Pharmacy
 4.	Mastering PCR:Fundamentals, Troubleshooting, and Applications	26th November 2024 9:30 am -11:30 am	Dr. Aisha Aziz Ms. Asma Eraj	C-35	Faculty of Pharmacy
 5.	Change in research Paradigm-an Unconventional Approach	14th November 2024 10:00 am - 11:00 am	Dr. Sherbaz khan	E-8	Faculty of Business Administration
 6.	Advancing Clinical Skills: Orthopedic Manual Therapy for Spine	16th November 2024 12:30 pm -2:30 pm	Dr.Sehrish Aslam	A-20	Faculty of Allied Health and Medical Sciences
 7.	Sustainable Strokes:Turning Passion into Profit	16th November 2024 10:00 am -1:00 pm	Ms.Rida Asif Ms.Hajera Tahir	E-33	Faculty of Social Sciences
 8.	From Mixture to Purity: The Art of Chromatography	14th November 2024 9:30 am - 2:00 pm	Prof. Dr. Rubeena Saleem Dr. Najma Rasool Dr. Uzma Hameed	Chemistry Lab	Department of Chemistry, Faculty of Science
 9.	Essential Biosafety Practices for Laboratory Personnel	23rd November 2024 9:00 am -2:00 pm	Dr.Alveena Zehra Ms.Shagufta Noreen	C-66	Department of Biotechnology, Faculty of Science

Message

It gives me immense pleasure to welcome you to the 1st International Conference on Innovative Cross-Disciplinary Solutions for Sustainable Development Goals (SDGs), hosted by Jinnah University for Women, Karachi. This landmark event is a testament to our commitment to fostering innovation, interdisciplinary collaboration, and academic excellence in addressing the pressing challenges of our time.

As Pakistan's first women's university, JUW has always been at the forefront of empowering individuals through education and research. This conference serves as a dynamic platform where global experts, researchers, and thought leaders converge to share knowledge, inspire change, and advance solutions that align with the United Nations' SDGs.

I extend my heartfelt gratitude to all participants, organizers, and sponsors who have contributed their expertise and resources to make this event a success. I am confident that this conference will not only spark meaningful discussions but also pave the way for impactful collaborations and sustainable innovations. Together, let us strive to create a future that is equitable, resilient, and sustainable for generations to come.

Warm regards,
Mr. Wajeeh Uddin Ahmed
Chancellor and Patron-in-Chief
Jinnah University for Women

Preface

On behalf of Jinnah University for Women, it is my privilege to welcome you to the 1st International Conference on Innovative Cross-Disciplinary Solutions for Sustainable Development Goals (SDGs). This conference represents a unique opportunity to bring together minds from diverse disciplines, fostering collaboration and innovation to tackle the world's most pressing challenges.

At JUW, we believe that interdisciplinary approaches are key to addressing complex global issues. By uniting experts from science, pharmacy, allied health sciences, social sciences, and business administration, we aim to inspire groundbreaking solutions that contribute to achieving the SDGs. This conference is designed to facilitate knowledge sharing, critical discussions, and the exchange of innovative ideas that will drive progress toward a sustainable and equitable future.

I extend my deepest appreciation to our distinguished keynote speakers, dedicated organizing committees, and our invaluable sponsors for their unwavering support. I am also grateful to the researchers, scholars, and participants whose contributions make this event a true celebration of intellectual collaboration.

As we embark on this journey of exploration and innovation, I hope this conference leaves you inspired, enriched, and motivated to create a better tomorrow.

Sincerely,
Prof. Dr. Huma Dilshad
Dean Research & Director DASR
Conference Chair
Jinnah University for Women

Acknowledgment

We extend our heartfelt gratitude to all individuals and organizations who have contributed to the success of the 1st International Conference on Innovative Cross-Disciplinary Solutions for Sustainable Development Goals (SDGs). 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 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 universities that have collaborated with us, sharing their expertise and encouraging the exchange of innovative ideas. Your partnership has greatly improved the quality and impact of this conference.

A special note of thanks to our esteemed sponsors—Medisure, Ajmal Dawakhana, and MP Pharmaceuticals—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. Together, we take a significant step forward in addressing the world's pressing challenges and driving collective progress toward achieving the Sustainable Development Goals.

With gratitude,
Conference Organizing Committee
Jinnah University for Women

ORGANIZING TEAM

Mr. Wajeeh Uddin Ahmed
Chancellor
Patron in Chief

Prof. Dr. Naeem Farooqui
Vice Chancellor
Patron

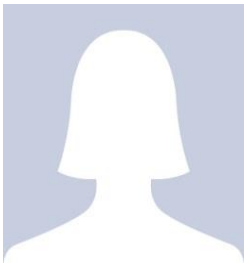
Ms. Wania Wajeeh
Steering Chair

Prof. Dr. Huma Dilshad
Conference Chair/ Chief Organizer

Dr. Ayisha Aman Ullah
Conference Secretary

Ms. Javeria Shiekh
Conference Liaison

Ms. Iqra Atique
Conference Liaison



Dr. Shadiah Masood
Focal Person
Faculty of Science

Dr. Humaira Ashraf
Focal Person
Faculty of Science

Ms. Halima Sadia
Focal Person
Faculty of Pharmacy

Dr. Mahrukh Siddiqui
Focal Person
Faculty of Medical & Allied Health Sciences

Ms. Maheen Fatima
Focal Person
Faculty of Social Sciences

Ms. Nabiha Shahab
Focal Person
Faculty of Business Administration and Commerce

CONFERENCE PROGRAM

DAY 1 (NOVEMBER 28TH, 2024) INAUGRAL SESSION	
TIME/ VENUE **Muhammad Uzair Auditorium** **10:00 am**	**OPENING SESSION OF THE CONFERENCE**
10:00 am - 10:10 am	**Recitation of HolyQuran** **And** **National Anthem of Pakistan**
10:10 am - 10:15 am	**About the University**
10:15 am - 10:20 am	**Welcome Address by Ms. WaniaWajeeh** Registrar, Jinnah University for Women, Karachi
10:20 am - 10:35 am	**Address by Mr. Wajeeh Uddin Ahmed** Chancellor, Jinnah University for Women, Karachi
10:35 am - 11:05am	**Keynote Lecture** Prof. Dr. MasoomYasinzai (SI, AF) Rector of the International Islamic University, Islamabad, Pakistan *"The SDGs on Health, Education and Environment: Where do we stand?"*
11:05 am - 11:20 am	**Address by Chief Guest**
11:20 am – 11:35am	**Distribution of Shields**

DAY 1 (NOVEMBER 28TH, 2024)	
TIME/ VENUE	**SESSION: ALLIED HEALTH SCIENCE** **Organized by Faculty of Medical and Allied Health Sciences**
Video Conferencing Room (A-6) **12:00 pm**	**Chair: Dr. Amna Amir Khan** Associate Professor and Post Graduate Program Coordinator Ziauddin University, Karachi, Pakistan **Co-chair: Dr. Fareeha Amjad(Online)** College of Applied Medical Sciences University of Hail, Hail, Saudi Arabia
12:00 pm – 12:10 pm	**Opening Remarks**
12:10 pm – 12:30 pm	**Keynote Speaker** **Dr. Muhammad Bilal (Online)** Assistant Professor First Department of Internal Medicine Faculty of Medicine, Academic Assembly, University of Toyama, Toyama, Japan *"Subcutaneous inguinal adipose tissue plays a protective role in high-fat diet-induced obesity"*
12:30 pm- 12:50 pm	**Keynote Speaker** **Dr. Priyanka Ratan Kumar** Lecturer National Institute of Physical Therapy and Rehabilitation Sciences, Dow University of Health Sciences, Karachi, Pakistan *"Evaluating Positional Release versus Myofascial Release Techniques for Managing Patellofemoral Pain Syndrome: A Randomized Clinical Trial"*
12:50 pm -1:00 pm	**Dr. Aymen Owais** Department of Eastern Medicine, Jinnah University for Women *"Detoxification through Nature: "Evaluating the Laxative Effects of Cassia senna containing Herbal Formulations in Loperamide-Induced Constipated Animal Models"*
1:00 pm -1:10 pm	**Dr. Samina Arif** Faculty of Science & Technology, Federal Urdu University *"Evaluation of Biosal (Neem Formulation®) Efficacy against Callosobruchus Analis Using HPLC Analysis After 24-Hour Exposure"*

1:10 pm-1:20 pm	**Dr. Humera Ahmed** Memon College of Physical Rehabilitative and Medicine *"Effects of Pilates Exercises Versus Pelvic Floor Muscle Exercises Among Elderly Women with Urinary Incontinence – A Randomized Control Trial"*
1:20 pm-1:30 pm	**Dr. Shafia Arshad (Online)** University College of Conventional Medicine, Faculty of Medicine and Allied Health Sciences, The Islamia University of Bahawalpur, Pakistan *"MEDPLANT-SDG: Bridging Ancient Wisdom and Modern Science"*
1:30 pm-1:40 pm	**Dr. Sehrish Aslam** Department of Physical Therapy, Faculty of Medical & Allied Health Sciences, Jinnah University for Women *"Exploring the Challenges and Coping Strategies of Young DPT Students during Clinical Placements in Pakistan"*
1:40 pm-1:50 pm	**Dr. Sabrina** Consultant Physical therapist, ILUKA Holistic Wellness Centre *"Effects of Kinesio-Taping and Muscle Energy Technique on Chronic Sacroiliac Joint Dysfunction among Post-Partum Females-A Randomized Controlled Trial"*
1:50 pm- 2:00 pm	**Dr. Fatima Hamza** Ziauddin College of Physical Therapy Ziauddin University *"Augmented histological adaptations in central veins as compared to artery; potentially valuable effect of moderate intensity continuous exercise in rehabilitation protocols"*
2:00 pm-2:10 pm	**Dr. Kiran Yameen (Online)** Ziauddin College of Physical Therapy Ziauddin University *"Unlocking Resilience: How Endurance Resistance Training Transforms Knee Cartilage in Young Male Rats"*
2:10 pm-2:20 pm	**Dr. Maha Siddiqui** Ziauddin College of Physical Therapy Ziauddin University *"Effects of Simulated Equestrian Therapy (SET) Vs Neuro-Motor Therapy (MNT) In Improving Motor Proficiency and Gait Parameters of Down Syndrome Children"*
2:20 pm-2:30 pm	**Concluding remarks by Chair and Co chair** **&** **Shield distribution**
2:30 pm	**LUNCH**

DAY 1 (NOVEMBER 28TH, 2024)	
TIME/ VENUE	**SESSION: SOCIAL SCIENCES** **Organized by Faculty of Social Sciences**
Muhammad Uzair Auditorium **12:00 pm**	**Chair:Dr. Rahila Anwar** Assistant Professor English Linguistics & Allied Studies Department NED University of Engineering & Technology, Karachi **Co-chair: Dr. Muhammad SohailShafiq** Associate Professor& Chairperson Department of Islamic History, University of Karachi, Karachi
Session I: Transformations in Humanities and Social Sciences for a Sustainable Future	
12:00 pm-12:10 pm	**Dr. SafiaUrooj** Department of Teacher Education, University of Karachi *"Strategies for Inclusive Education in Diverse Classrooms: A Case Study in Government Schools"*
12:10 pm-12:35 pm	**Keynote Speaker** **Prof. Dr. Farooq Hassan** Professor, Islamic Studies Dept. ofEssential Studies, NEDUniversity "*Fostering Sustainability and Peaceful Coexistence in Pakistan: A Pathway Through Faith and Shared Responsibility"*
12:35 pm -12:45 pm	**MahrukhAslam** Department of English, Jinnah University for Women *"Assimilating Hellenism in the poems of John Keats as Non-Escapist Poet"*
12:45 pm -12:55 pm	**Sanobar Nadir** Department of Mass Communication, University of Karachi *"Movies are not just a form of entertainment but a catalyst for social change"*
12:55 pm -1:05 pm	**RomanaJabeen** Department of Sociology, Jinnah University for Women *"Situation Analysis of social sustainability of children accompanying their imprisoned mothers in central jail Karachi"*

1:05 pm -1:15 pm	**Zafreen Ali Mirza** Department of English, Jinnah University for Women *"Syntactic Adaptation and Classification of English Noun Phrases by Non-Native Speakers: A Study of Morphosyntactic Variability and Cognitive Linguistic Approaches"*
1:15 pm -1:40 pm	**Keynote Speaker(Online)** **Ms. Marisa Constantinides** Centre Director CELT, Cambridge CELTA and DELTA, Athens, Greece *"Peace Education in the EFL Classroom"*
1:40 pm -1:50 pm	**Gul-e-Rehmat** Department of Islamic Studies, Jinnah University for Women *"Religion and Peace Building: From Prophet's (S.A.W) Life to Social Life Harmony"*
1:50 pm -2:00 pm	**HinaYousuf** Department of Mass Communication, University of Karachi *"Digital Media Empowers Women to Drive Sustainable Growth by Breaking Barriers"*
2:00 pm -2:10 pm	**AlishbaFaheem** Department of Psychology, Jinnah University for Women *"Exploring the Relationship between Problematic Internet Use and Aggressive Behavior"*
2:10 pm- 2:30 pm	**Concluding remarks by the Chair and Co-Chair and Shield Distribution**
2:30 pm	**LUNCH**
Session II: Empowering Sustainable Solutions Addressing Psychological, Educational and Social Challenges	
Room # C-37 **12:00 pm**	**Chair: Dr. Rabia Abdul Kareem** Associate Professor & Chairperson, Department of Education, Jinnah University for Women **Co-Chair: Prof. Muhammad MamnoonAkhtar** Professor, Department of English, Jinnah University for Women
12:00 pm -12:10 pm	**JaveriaShahidMajeed** Department of Psychology, Jinnah University for Women *"Exploring the Relationship Between Academic Procrastination and Perfectionism Among Young Adults"*
12:10 pm -12:20 pm	**RumashaHanif** Department of English, Jinnah University for Women *"The Rawness of Reality's Gaze: A Reader Response Criticism of The Novel Moth Smoke"*

12:20 pm -12:30 pm	**Salma Niazi** Department of English, Jinnah University for Women *"A Pragmatic Analysis of Discourse in The Context of Grice's Maxims"*
12:30 pm -12:40 pm	**Tasneem Akhtar** Department of English, Jinnah University for Women *"Unfolding Gender Portrayal in the Movie Barbie: A Study Based on Feminist Critical Discourse Analysis"*
12:40 pm -12:50 pm	**ShaguftaZain** Department of Political Science, Jinnah University for Women *"Community Empowerment & Dynamic Engagement"*
12:50 pm -1:00 pm	**Maleeha Tariq** Department of Psychology, Jinnah University for Women *"Exploring the Impact of Gender on Big Five Personality Factors"*
1:00 pm -1:10 pm	**Maryam Tanoli** Department of English, Jinnah University for Women *"Investigating the Effectiveness of Teaching EFL Descriptive Writing Using Multi-Sensory Skills: A Quasi-Experimental Study at Slum School of Karachi"*
1:10 pm -1:20 pm	**HamnaNadeem Khan** Department of Education, Jinnah University for Women *"Impact of Educational Computer Games on Child's Motivation in Various Subjects at Primary Level in Karachi, Pakistan"*
1:20 pm -1:30 pm	**Zarmeena Khan** Department of English, Jinnah University for Women *"Examining the Effectiveness of Teaching ESL Pronunciation through Tongue Twisters: A Quasi-Experimental Study at Tertiary Level"*
1:30 pm -1:40 pm	**Maryam Nasir** Department of English, Jinnah University for Women *"Free will as the cause of damnation of Doctor Faustus and Macbeth"*
1:40 pm -1:50 pm	**Umama Arshad Khan** Department of Political Science, Jinnah University for Women *"Social Media & Language Dynamics: A Study of Language Contact & Change"*
1:50 pm -2:15 pm	**Concluding remarks by the Chair and Co-Chair and Shield Distribution**
2:30 pm	**LUNCH**

DAY 2 (NOVEMBER 29TH, 2024)	
TIME/ VENUE	**SESSION: BASIC AND APPLIED SCIENCES** **Organized by Faculty of Science**
Muhammad Uzair Auditorium **9:45am**	**Chair: Prof. Dr. Shah Ali ul Qader** Department of Biochemistry, University of Karachi, Pakistan **Co-chair: Dr. Abdullah Lakhan** Assistant Professor, Dawood University of Engineering and Technology, Karachi, Pakistan
Session I: Promoting Health and Well-being Through Science and Technology	
9:45 am – 9:55 am	**Recitation of Holy Quran**
9:55 am – 10:00 am	**Opening Remarks**
10:00 am – 10:20 am	**Key note Speaker** **Dr. Syed M. Shahid (Online)** School of Health Science, Eastern Institute of Technology (EIT), Auckland Campus, New Zealand *"Innovative Smart Food Systems for Sustainable Community Health and Wellbeing"*
10:20 am – 10:40 am	**Key note Speaker** **Dr. Khalid M. Shaikh (Online)** Texas Wesleyan University, Fort Worth, Texas, USA *"Molecular parasitology and its significance in Public Health"*
10:40 am – 11:00 am	**Key note Speaker** **Dr. M. Qaiser Fatmi (Online)** Tenured Professor & Team Leader Computational Biology & Bioinformatics Group (CBBG), Department of Biosciences COMSATS University Islamabad, Pakistan *"Bridging the Gap: Computational Chemistry in the Era of Drug Design and Enzyme Engineering for Sustainable Development Goals"*
11:00 am – 11:20 am	**Key note Speaker** **Dr. Kashif Ali** Department of Biosciences, Faculty of Life Sciences, Shaheed Zulfikar Ali Bhutto Institute of Sciences and Technology (SZABIST) University, Karachi, Pakistan *"The Silent Pandemic of AMR and Innovations in the Fight Against Resistance: A Step Towards Good Health and Well-Being (SDG-3)"*

11:20 am – 11:40 am	**Key note Speaker** **Dr. Syed Zulfiqar Ali Naqvi** Department of Molecular Pathology, Liaquat National Hospital and Medical College, Karachi, Pakistan *"Establishment of Doxorubicin Resistant Stem-like Cell Line from MCF-7 Cells"*
11:40 am – 11:55 am	**Invited Speaker** **Dr. Sidra Abid Syed** Department of Biomedical Engineering Sir Syed University of Engineering and Technology, Karachi, Pakistan *"Role of AI in the Sustainability of Women"*
11:55 am – 12:05 pm	**Q & A Session**
12:05 pm – 12:15 pm	**Session Concluding remarks by the Chair and Co-Chair**
12:15 pm – 12:30 pm	**Chief Guest Address**
12:30 pm – 12:40 pm	**Shield Distribution**
1:00 pm	**LUNCH**
Session II: Bridging Natural Sciences and Advanced Computational Techniques to address Global Challenges	
Room # C-37 **10:15 am**	**Chair: Prof. Dr. Ghufrana Nadeem** Professor, Department of Microbiology, Jinnah University for Women **Co-Chair: Dr. Nasreen Khan** Associate Professor, Department of Zoology, Jinnah University for Women
10:30 am – 10:40 am	**Zobia Ansari*, Aliya Hayat &FarkhandaAfaque** Department of Microbiology, Jinnah University for Women *"Characterization of Lactobacillus, A Probiotics Isolated from Milk Sample"*
10:40 am – 10:50 am	**Umme Layba*, Syed Ahmad Hassan, Mehwish ShafiKhan** Department of Mathematics, University of Karachi *"Application of Archimedean and Meta-Elliptical Copulas in Monsoon Rainfall Impact Assessment for Flood Prediction in Pakistan."*
10:50 am – 11:00 am	**Rimsha Naqvi*, Mary Mahwish, Rabail Sultana** Department of Zoology, Jinnah University for Women *"To Study the Parasites in The Intestine of Frog Rana Tigrina"*

11:00 am – 11:10 am	**Rubina* and Syed Tarique Moin** H.E.J. Research Institute of Chemistry, University of Karachi *"AI-Driven Design of MetAP-2 Inhibitors Using Deep Learning and MD Simulations"*
11:10 am – 11:20 am	**Romaisa Azeem*, Aliya Hayat, Aisha Sana** Department of Microbiology, Jinnah University for Women *"Phytochemical Analysis of Nigella sativa"*
11:20 am – 11:45 am	**Q & A Session** **Concluding remarks by the Chair and Co-Chair and Shield Distribution**
1:00 pm	**LUNCH**
Session III: Advancing Sustainability through Health, Nutrition, and Eco-Innovation	
Video Conference Room – A6 **10:15 am**	**Chair: Prof. Dr. Farah Jabeen** Professor, Department of Biochemistry, Jinnah University for Women **Co-Chair: Prof. Dr. Suad Naheed** Professor Department of Biochemistry, Jinnah University for Women
10:30 am – 10:40 am	**Muskan Dilpazeer*, Munazza Faiz, Raahima Noor** Department of Food Science and Technology Jinnah University for Women *"Development Of Eco-Friendly Paper by Utilizing Organic Waste"*
10:40 am – 10:50 am	**Misha Kamran** Department of Food Science and Technology Jinnah University for Women *"Development of Meat Sweets by the Incorporation of chamomile"*
10:50 am – 11:00 am	**Meshal Answer*, Nihan Atif, Aiman Yaseen Butt** Department of Food Science and Technology Jinnah University for Women *"Nutraceutical Approach for Post-Viral Symptoms and Blue Light- Induced Disruptions"*
11:00 am – 11:10 am	**Nimra Arshad, Qirat Younus, Qandeel Ansar, Natalya Aamir** Department of Food Science and Technology Jinnah University for Women *"Developing A Rejuvenating Overnight Topical Solution to Reduce Skin Disease Using Banana Peel and Cocoa Pod Shell Extract"*

11:10 am – 11:20 am	**Brirah Abdul Wahab*, Aiman Yaseen Butt** Department of Food Science and Technology Jinnah University for Women *"Development of Designer Nutraceutical bar Enriched with Organic Commodities for Better Brain Functionality"*
11:20 am – 11:45 am	**Q & A Session**
	Concluding remarks by the Chair and Co-Chair and Shield Distribution
1:00 pm	**LUNCH**

DAY 3 (NOVEMBER 30TH , 2024)	
TIME/ VENUE	**SESSION: BUSINESS ADMINISTRATION AND ECONOMICS** **Organized by Faculty of Business Administration, Commerce and Economics**
Video Conference Room – A6 **10:00 am**	**Chair: Prof. Dr. Mohammad Shaiq** Dean Faculty of Management Sciences, and Information Studies, Greenwich University, Karachi, Pakistan **Co-chair: Dr. Khurram Khan Alwi** Assistant Professor at the Federal Urdu University of Arts, Science, and Technology, Karachi
Session I: Advancing Sustainability Through Economic Strategies and Policy Innovations	
10:00 am- 10:15 am	**Opening Remarks**
10:15 am– 10:40 am	**Keynote Speaker** **Dr. Rehan Muzammil** Assistant Professor In charge Business Incubation Center Management Sciences, KIET, Karachi *"Aligning Divine Goals of Maqasid-e-Sharia with SDG Goals"*
10:40 am– 11:05 am	**Keynote Speaker** **Dr. Farrah Arif(Online)** Hull University Business School, UK *"Sustainability and Innovation: A Path Forward"*
11:05 am– 11:30 am	**Keynote Speaker** **Dr. Dinkneh Gebre Borojo(Online)** Yiyang Vocational and Technical Institute, Yiyang, China *"Impacts of climate finance on ecological sustainability and social welfare in developing countries"*
11:30 am– 11:45 am	**Uzma Rasool Khan** Department of Business Administration-JUW *"Leadership language influence on social sustainability of workers in an organization"*

11:45 am– 12:00 pm	**Dr. Sherbaz Khan** Department of Business Administration-JUW *"The Role of Government Policies in Shaping Leagile Supply Chain Management for Sustainable E-Commerce Growth: A Comprehensive Analysis of Last-Mile Delivery and Socio-Cultural Impacts"*
12:00 pm -12:15 pm	**S. Kiran Zehra** Department of Business Administration-JUW *"Relationship Between Tax Revenue and Economic Growth: A Case Study of Pakistan"*
12:15 pm – 12:30 pm	**Faiza Maqbool** Department of Business Administration-JUW *"The Interplay between Financial Inclusion, Financial Stability, and Monetary Policy: A Case Study of Financial Development in Pakistan"*
12:30 pm – 12:45 pm	**Concluding remarks by the Chair and Co-Chair**
12:45 pm – 1:00 pm	**Shield Distribution**
1:00 pm	**CLOSING CEREMONY OF CONFERENCE**
2:00 pm	**LUNCH**
Session II: Pioneering Business Innovations for Organizational and Economic Sustainability	
Room# E8 **11:30 am**	**Chair: Dr. Syed Ammad Zafar** Associate Professor DHA Suffa University, Karachi, Pakistan **Co-Chair: Dr. Muhammad Asadullah** Assistant Professor/ Cluster Head Accounting, Finance, & Economics, College of Management Sciences (COMS), KIET University, Karachi
11:30 am - 11:40 am	**Anam Qamar** Department of Business Administration-JUW *"Empowering Women Investors: Investigating Factors and Attitudes that Shape Investment Choices in the Context of Sustainable Economic Development"*
11:40 am - 11:50 am	**Sobia Jamil** Department of Business Administration-JUW *"The Role of HR Technology in Enabling HR Analytics: Implications for Organizational Performance"*
11:50 am - 12:00 pm	**Afifa Shoaib** Department of Business Administration-JUW

	"Investigating the Impact of Demographic Factors and Perceived Inconvenience on Consumer Adoption of Eco-Friendly Products in Developing Economies: A behavioral approach"
12:00 pm - 12:10 pm	**Tayyaba Rafique** **Department of Business Administration-JUW** *"Predicting Brand Loyalty through Social Media Marketing: An Innovative SEM-Neural Network Method with a Cross-Country Comparison of China and Pakistan"*
12:10 pm - 12:20 pm	**Vipul Mahesh** Department of Business Administration-JUW *"Exploring the Interplay of Environmental Consciousness, Health Safety, and Economic Viability on Consumer Purchase Intentions for Organic Food: A Cross-Cultural Study with the Mediating Role of Consumer Involvement"*
12:20 pm - 12:30 pm	**Ammara Sabir** Department of Business Administration-JUW *"How Does Green Human Resource Management Improve Sustainable Organizational Performance in Public Services?"*
12:30 pm - 12:40 pm	**Syeda Halima Sadia** Department of Business Administration-JUW *"The Impact of Smartphone Advertising on Consumer Purchase Intentions: A Multi-Dimensional Analysis of Attitude, Ad Formats, and 8 Demographic Moderators"*
12:40 pm- 12:50 pm	**Concluding remarks by the Chair and Co-Chair**
12:50 pm -1:00 pm	**Shield Distribution**
1:00 pm	**CLOSING CEREMONY OF CONFERENCE**
2:00 pm	**LUNCH**

DAY 3 (NOVEMBER 30TH, 2024)	
TIME/ VENUE	**SESSION: PHARMACY** **Organized by Faculty of Pharmacy**
Muhammad Uzair Auditorium **09:50 am**	**Chair:Prof.Dr.GhulamRazaque** Department of Pharmacy Mastung Campus University of Balochistan ,Quetta and **Prof.Dr.SafilaNaveed** Faculty of Pharmacy and Pharmaceutical Sciences University of Karachi, Pakistan. **Co-chair: Prof. Dr. AbuKholdun Al-Mahmood(Online)** Biochemistry, Ibn Sina Medical College, Bangladesh Scientific Secretary, Bangladesh Society of Medical Biochemists (BSMB), Executive Committee Member: Federation of Islamic Medical Association (FIMA) Editor in Chief, SCOPUS Journal Bangladesh Journal of Medical Sciences, IJHHS.
Session I: Sustainable Solutions and Advancements in Pharmaceutical Sciences	
09:50 am -10:00 am	**Opening Remarks**
10:00 am -10:25 am	**Key note Speaker** **Prof. Dr. Lua Pei Lin(Online)** Professor of Pharmacy Practice Faculty of Pharmacy, Universiti Sultan ZainalAbidin, K. Terengganu, Malaysia *"Knowledge, attitude and perceptions of complementaryand Alternativetherapies amongpatients withepilepsyin Malaysia"*
10:25 am -10:50 am	**Key note speaker** **Prof. Dr.MuhammadAkhtar(Online)** Department of Pharmaceutics Faculty of Pharmacy The Islamia University of Bahawalpur Pakistan *"Lipid-polymer hybrid nanoparticles for delivery oftamoxifencitratetoenhancesafetyandtherapeuticefficacy"*
10:50 am -11:15 am	**Key note speaker** **Dr.MuhammadAmir(Online)**

	Clinical Informatics Pharmacist Albury, New South Wales, Australia *"Pharmacyinformatics:awayforward to patient qualityand safety"*
11:15 am -11:35 am	**Invited Speaker** **Dr.Abdur Rauf** Department of Chemistry, University of Swabi, Khyber Pakhtunkhwa, Pakistan *"NewdimericnaphtoquionesfromDiospyroslotusrootsanditsbiologicalscreeningfordiscoveryof new drugs"*
11:35 am -12:00 pm	**Key note speaker** **Prof. Dr.RabiaBushra** Dean, Faculty of Pharmaceutical Sciences Dow University of Health Sciences Karachi, Pakistan *"Implementationofqualitybydesign(QbD) approachinproductdevelopmentofpharmaceuticals"*
12:00 pm -12:25 pm	**Key note speaker** **Prof. Dr.GiovanniRibaudo(Online)** Department of Molecular and Translational Medicine University of Brescia, Italy *"From traditional knowledge of natural compounds tomodernmedicinalchemistry:newtechnologiestowards sustainability"*
12:25 pm - 12:30 pm	**Q & A Session**
12:30 pm -12:45 pm	**Session Concluding remarks by the Chair and Co-Chair**
12:45 pm -1:00 pm	**Shield Distribution**
1:00 pm	**CLOSING CEREMONY OF CONFERENCE**
2:00 pm	**LUNCH**
Session II: Sustainable Solutions in Phytotherapy, Pharmacotherapy and Pharmaceutical Drug Development for Combating Emerging Challenges	
Room # C-37 **10:00 am**	**Chair: Prof.Dr.SubiaJamil** Professor, Faculty of Pharmacy, Jinnah University for Women and **Prof. Dr. Aisha Sana** Professor, Faculty of Pharmacy, Jinnah University for Women **Co-Chair: Dr.SaimaAsif** Associate Professor Faculty of Pharmacy, Jinnah University for Women

10:10 am -10:20 am	**Dr. Sana Bibi** Faculty of Pharmacy, Salim Habib University *"Evaluation of Electronic Health Records (EHR) Implementation in Primary Care: A Global System Review"*
10:20 am -10:30 am	**Dr. Sana Bibi** Faculty of Pharmacy, Salim Habib University *"Advancing Healthcare Professionals' Capabilities: Visual Analysis of Phytomedicines and Multivitamins to Address Substandard Medications"*
10:30 am -10:40 am	**HafizaSumaiyya Jamal** HEJ Research Institute of Chemistry, University of Karachi *"Collagenase Hybrid Nanoflowers: A Novel Approach for Stabilization and Amyloid Fibril Degradation"*
10:40 am -10:50 am	**Aqsa Khurram** Faculty of Pharmacy, Salim Habib University *"Formulation and Characterization of HPMC-Stabilized Silver Nanoparticles for Enhanced Antimicrobial Activity of Ampicillin"*
10:50 am -11:00 am	**Faiza Akhtar** Faculty of Pharmacy, Ziauddin University *"Targeting Drug-Resistant Tuberculosis: Synthesis and Pharmacokinetic Evaluation of Pyridine Analogues as Antimycobacterial Agents"*
11:00 am -11:10 am	**ArzooAijaz** Faculty of Pharmacy, Jinnah University for Women *"Anti-Tuberculosis Efficacy of Sulfamethoxazole Metal Complexes Against Resistant Strains of Mycobacterium Tuberculosis: Design, Synthesis, Characterization and Docking Studies"*
11:10 am-11:20 am	**Dr. Sana Shamim** Faculty of Pharmacy, Dow College of Pharmacy, Dow University of Health Sciences *"Synthesis of Silver Nanoparticles stabilized with Succinic Acid (AgNPs/SA) and optimization with response surface methodology to investigate synergistic effect with antibiotics"*
11:20 am- 11:35 am	**Concluding remarks by the Chair and Co-Chair**
11:35 am-12:00 pm	**Shield Distribution**
1:00 pm	**CLOSING CEREMONY OF CONFERENCE**
2:00 pm	**LUNCH**

DAY 3 (NOVEMBER 30TH, 2024) CLOSING CEREMONY	
TIME/ VENUE **Muhammad Uzair Auditorium** **1:00 pm- 1:15 pm**	**Address by Chief Guest** **Mr. Qaiser Waheed** **President & CEO** Medisure Laboratories Inc. Karachi, Pakistan
1:15 pm – 1:20 pm	**Address by Mr. Wajeeh Uddin Ahmed** Chancellor, Jinnah University for Women, Karachi
1:20 pm – 1:30 pm	**Closing Remarks by** **Conference Chair** **Prof. Dr. Huma Dilshad** Dean Research and Director DASR, JUW Jinnah University for Women, Karachi
1:30 pm – 2:00 pm	**Distribution of Shields and Group Photo**
2:00 pm	**LUNCH**

https://icsdgs.juw.edu.pk/

TABLE OF CONTENTS

Abstracts

Key note Speaker

The SDGs on Health, Education and Environment: Where do we stand?

By Prof. Dr. Masoom Yasinzai
Rector of the International Islamic University, Islamabad, Pakistan, President Masoom's Education Complex, Pakistan

Pakistan has affirmed its commitment to the 2030 agenda for sustainable development by adopting the SDGs as its National Development agenda through a national assembly resolution in 2016. 2030 is just round the corner and it is time to analyze as to where do we stand. The Government has taken steps to localize the SDGs for improvement but the recent ranking in 2024 has ranked Pakistan 137th in the SDGs. The major factor in the challenges that this country faces are political instability and economic constraints. Some recommendation for achieving the SDGs in Pakistan include enhancing political will; institutional frame works; data collection and international collaboration.

Great advancements have been made in the field of Health Sciences. The advancement made in the last couple of decades are earth shaking, and promises great remedies in the days to come. These will be reviewed in the presentation. In Pakistan's context, science for sustainable development calls for enhancing scientific understanding and building up scientific capacity and capability.

The education sector in this country has gone through doldrums in the last 3-4 years, however, some harmonization in that has recently put back things on track. It is good to notice nationwide the realization of adopting newer trends in education at the basic level such as critical thinking, Analytical ability and better communication skills which will pave the way for innovation and discoveries; The future we want. Tertiary education in the country currently is facing many challenges among these lack of resources and lack of qualified faculty are on top of the list.

The climate change and environmental concerns are grave for us. Although we have policies at the national and provincial levels but crisis after crisis in the last 4-5 years, which has hit Pakistan badly, shows our failure to implement those. In addition to climate governance, we have to safeguard our water security and pay serious attention to water management. These and other related issues will be discussed in the presentation.

Keywords: Health Sciences, Harmonization, Tertiary education, Water management

Peace Education in the EFL Classroom

Marisa Constantinides
Centre Director, Cambridge Celta and Delta,Athens, Greece

This presentation argues for the integration of peace education into English Language Teaching (ELT) practices. With the increasing diversity of classrooms, ELT has become a fertile ground for fostering intercultural understanding and conflict resolution skills. By drawing on theories of peace education and practical classroom activities, this paper explores how ELT can contribute to building a more peaceful and inclusive world. It highlights the importance of developing communication skills, empathy, critical thinking, and problem-solving abilities within the language learning context. Practical examples of classroom activities are provided to illustrate how these skills can be effectively integrated into ELT curricula. Ultimately, this presentation aims to inspire ELT practitioners to embrace their role in promoting peace through language education.

Keywords: Integration, English Language Teaching, Empathy, ELT Curricula

Fostering Sustainability and Peaceful Coexistence in Pakistan: A Pathway through Faith and Shared Responsibility

Dr. Farooq Hassan

Department of Essential Studies, NED University of Engineering & Technology, Karachi, Pakistan

Environmental stability means acting in ways that benefit the planet, its people, and all living beings. The world is moving towards age-old wisdom and indigenous ways to protect the environment. In Pakistan, where unpredictable weather intensifies environmental challenges, blending stewardship with social harmony-driven by faith and shared responsibility-is key to sustainability. This keynote addresses how intolerance breeds prejudice and sectarianism, causing social and ecological issues. Can faith-based values and communal responsibility drive pro-environmental behavior? How can Pakistan address climate change as defined by the WMO? How can Pakistanis be actively involved in shaping and implementing environmental policies and initiatives? While nations declare war on enemies who kill their people, they often ignore climate change, whose rising death rates are just the start of a larger problem. How can eco-centric ethics guide actions toward sustainability and well-being? How can climate-focused ulama and advocates drive environmental stewardship in Pakistan through grassroots initiatives? Keywords: indigenous wisdom, unpredictable weather, faith-based values, pro-environmental behavior, communal responsibility.

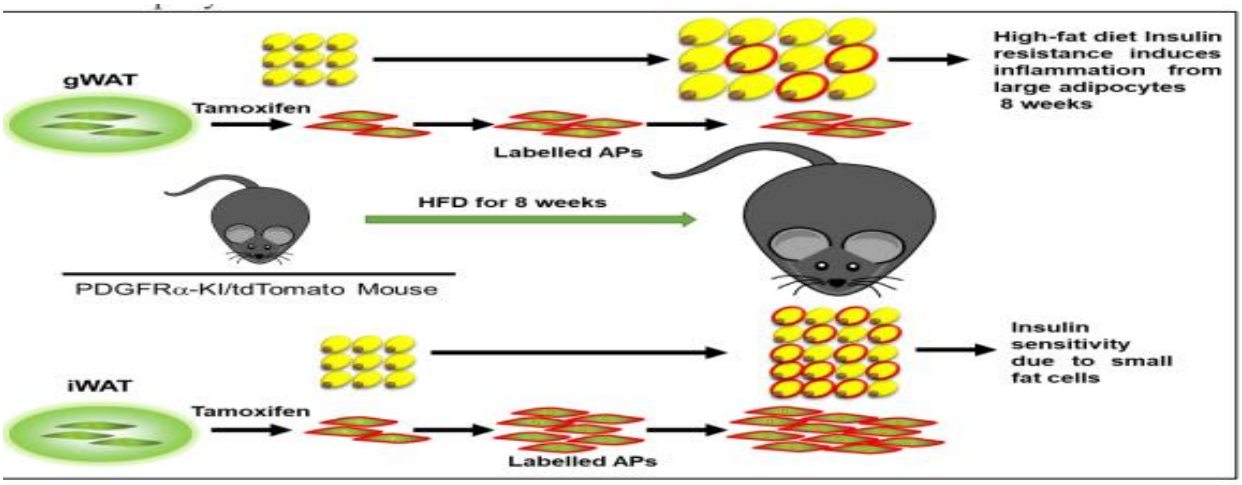
Keywords: Environmental stability, Ecological issues, communal responsibility

Subcutaneous inguinal adipose tissue plays a protective role in high-fat diet-induced obesity

Muhammad Bilal

First Department of Internal Medicine, Faculty of Medicine, University of Toyama, Toyama, Japan 930-0194.

Background: Expansion of white adipose tissue (WAT) via recruitment of adipocytes (hyperplasia) is metabolically healthy, whereas that through the enlargement of pre-existing adipocytes (hypertrophy) leads to metabolic complications. Previous reports suggest that in animals receiving a high-fat diet (HFD), only adipocyte progenitors (APs) in gonadal WAT (gWAT) have proliferative potential. However, the proliferative and adipogenic capacity of APs in the inguinal WAT (iWAT) of male mice remains contradictory. **Objective:** Our objective is to elaborate on the proliferative and adipogenic potential of APs in iWAT of HFD-fed male mice. **Method:** We generated PDGFRα-GFP-CreERT2/tdTomato (KI/td) mice and performed analysis, including immunohistochemistry, flow cytometry, and gene expression analysis. **Results:** Contrary to the findings of others, we found increased numbers of newly generated tdTomato+ adipocytes in iWAT than that in gWAT of male mice. We found that in male mice, iWAT has more proliferating tdTomato+ APs with higher expression of Dpp4 and Pi16 than gWAT of mice fed HFD for 8 weeks. **Conclusion:** Collectively, in male mice, compared with gWAT, iWAT has a protective role and undergoes hyperplasia in response to 8 weeks of HFD feeding through the recruitment of newly generated adipocytes.



Keywords: White adipose tissue, High-fat diet, Hyperplasia, Adipocytes.

Evaluating Positional Release versus Myofascial Release Techniques for Managing Patellofemoral Pain Syndrome: A Randomized Clinical Trial

Dr. Priyanka Ratan Kumar

National Institute of Physical, Therapy and Rehabilitation Sciences, Dow University of Health Sciences, Karachi, Pakistan

Background: Patellofemoral pain syndrome (PFPS) is a common knee issue characterized by anterior or peripatellar pain aggravated by activities stressing the patellofemoral joint. It often involves weak hip muscles, especially the gluteus medius, which contributes to PFPS. Myofascial trigger points in this muscle are linked to the condition and can cause pain and dysfunction. This study compares the effectiveness of positional release technique (PRT) and myofascial release technique (MFRT), combined with strengthening exercises, in treating PFPS. The aim is to determine if PRT and MFRT are equally effective in managing PFPS. **Objective:** This study aimed to compare the effectiveness of positional release and myofascial release techniques on gluteus medius trigger points, combined with exercise therapy, in managing patellofemoral pain syndrome. **Method:** A single-blind, randomized clinical trial was conducted at the Department of Physiotherapy, Sindh Institute of Physical Medicine, Karachi, from December 7, 2020, to March 24, 2021. Participants with patellofemoral pain syndrome and gluteus medius trigger points were randomly assigned to either the positional release technique group (Group A) or the myofascial release technique group (Group B). Both groups received 18 sessions (3 per week for 6 weeks, each lasting 45 minutes). Outcomes were measured using the Anterior Knee Pain Scale for function, the Visual Analogue Scale for pain, a hand-held dynamometer for strength, and the WHO Quality of Life Brief Questionnaire for quality of life, along with the pressure pain threshold of the gluteus medius trigger points assessed by an algometer. Measurements were taken at baseline and after 6 weeks. Data analysis was performed using SPSS 21. **Results:** Of the 64 participants, 38 (59.4%) were female and 26 (40.6%) were male. Both groups consisted of 32 participants, with a mean age of 29.50 years. Both positional release and myofascial release techniques resulted in significant improvements in pain, function, pressure pain threshold, strength, and quality of life (p0.05**). Conclusion:** Both positional release and myofascial release techniques, when combined with exercise therapy, were equally effective in managing gluteus medius trigger points in patients with patellofemoral pain syndrome. ClinicalTrials.gov ID: NCT04667091 Keywords: Anterior knee pain, Exercise therapy, Trigger points, Manual therapy

Keywords: Patellofemoral pain syndrome, Positional release technique (PRT), Myofascial release technique (MFRT)

Innovative Smart Food Systems for Sustainable Community Health and Wellbeing

Dr. Syed M. Shahid

School of Health Science, Eastern Institute of Technology (EIT), Auckland Campus, New Zealand

Sustainable development requires sustainable health and wellbeing of communities and populations. Therefore, among United Nation's 17 Sustainable Development Goals (SDGs), goal 3 (SDG-3) is crucial in ensuring healthy lives and promoting wellbeing for all ages. Healthy people and communities are the foundation of healthy economies. The COVID-19 pandemic has placed health and wellbeing at the top of the global sustainable development agenda, revealing an urgent need to strengthen health systems and capacity for future emergencies. Many research reports advised population health improvement globally before the COVID-19 pandemic indicating an increase in life expectancy, a reduction in morbidity and mortality as evidence. However, due to co-existing chronic diseases (CDs), a new situation is created called as "Syndemic". People recovering from COVID-19 are more likely to develop long term CDs including diabetes, cancers, cardiovascular, respiratory and mental illnesses, that kill over 41 million people annually, equivalent to 71% of all deaths globally, and creating a great burden on the health economy. According to the World Economic Forum, the global economic impact of five leading CDs could reach US $47 trillion over the next 20 years. Research at the University of Auckland estimates the managing weight related long term health problems such as obesity costs at least NZ $2 Billion per year. These costs can be decreased by managing the modifiable metabolic risk factors such as smart food and dietary choices, appropriate physical activity, quitting smoking and controlling the excessive use of alcohol. In collaboration with the Ministry of Health NZ (central government), Auckland Council (local government), & the Asian Network Inc. (NGOs) a series of health talks and workshops were organised and successfully conducted to create awareness and provide practical knowledge about smart food and dietary choices (e.g., intermittent fasting, one-meal-a-day, keto and Mediterranean diet plans) to the community for achieving sustainable health and wellbeing outcomes. Yesteryears workshops were actively participated and greatly appreciated by multiethnic community members across Auckland. The participants were inspired by the awareness and knowledge provided about risk of developing and preventing CDs using evidence-based facts, especially about the role of smart food and dietary choices in improving health and wellbeing. Several workshops and facilitated sessions are planned to be organised at further locations in the future. Based on the

findings and followup community surveys it was evident that continued education and practical guidance on smart food and dietary choices has led to measurable improvements in community health outcomes. By fostering a deeper understanding of how lifestyle modifications can mitigate the risk of CDs, a significant reduction is expected in incidence of such conditions and a corresponding decrease in healthcare costs associated with their management. These efforts align with our commitment to sustainable health and wellbeing, offering a scalable model for other regions to address similar challenges. Future research will focus on evaluating the long-term impact of these interventions on community health metrics and their potential to influence national health policies.

Keywords: SDG-3, Sustainable Health & Wellbeing, Innovative Dietary Choices, Smart Food Systems, Chronic Diseases, Syndemic, Community Engagemen

Molecular parasitology and its significance in Public Health

Khalid M. Shaikh
Texas Wesleyan University, Fort Worth, Texas
Assistant Professor of Biochemistry | School of Arts and Science, USA

Public health and molecular parasitology specifically deal with the diverse type of diseases and infections affecting human health, animals and the environment. The parasites involved that cause diseases in human populations are mainly prevalent in tropical and sub-tropical areas of the world. There are many factors including environmental and epidemiological that effects the parasites' ability to propagate and expand their capabilities and virulence to impact and cause diseases. The strategies to prevent and control parasitic diseases using molecular parasitology interventions has major implications in public health. One of the strategies is to prevent and control the autophagy. Autophagy is the cell survival mechanism in which cellular components are targeted to lysosomes followed by their degradation in these organelles. Autophagy has been shown to play a major role in adapting metabolism to the different nutritional conditions encountered in yeast and mammalian cells. During the life cycle, the parasites encounter highly different environmental conditions and undergo major metabolic and morphological changes even throughout evolution. So far, 27 autophagy-related genes(ATGs) have been identified in *S. cerevisiae*. The genesis of autophagosomal structures requires the activity of a protein conjugation system involving a ubiquitin-like protein, ATG8, being proteolytically processed and activated by ATG4, and linked to PE via ATG7 and ATG3. ATG8-PE has been a useful marker for visualizing autophagosomes in yeast and mammalian cells.

We investigate if autophagy plays a major role in human parasites such as *Trypanosoma brucei*, malarial parasite *Plasmodium falciparum*, and possible emerging parasite *Crithidia fasciculata*. Thus, the autophagy-related proteins 3, 4, 7 (TbATG3, TbATG4, TbATG7), autophagy-related protein ATG4 (PfATG4), autophagy-related protein 3, 4, 8 (CfATG3, CfATG4, CfATG8) are characterized and analysed using heterologous expression for protein and through bioinformatics. Furthermore, in these parasites, our research focuses on the protein structure-function analysis and characterization of the conserved region of these autophagy related proteins. Therefore, the aim of these studies is to focus on the conserved domains, the active catalytic site, and the 3D structure of autophagy related proteins in these parasites to relate protein structure-function relationship and in the future, search for targeted screening of inhibitors.

Keywords: Autophagy-related genes, *Trypanosoma brucei*, Malarial parasite

Bridging the Gap: Computational Chemistry in the Era of Drug Design and Enzyme Engineering for Sustainable Development Goals

M. Qaiser Fatmi

COMSATS University Islamabad, Islamabad Pakistan

The advancement of computational chemistry has revolutionized the Fields of drug design and enzyme engineering. It offers innovative approaches to address some of greatest challenges faced by the humankind, as outlined in the Sustainable Development Goals (SDGs), a set of 17 global objectives established by the United Nations in 2015 to promote peace and prosperity for people and the planet. This presentation will explore the synergistic integration of computational techniques in the rational design of novel therapeutics and the engineering of enzymes with enhanced functionalities. In the realm of computational drug design, molecular dynamics (MD) simulations and quantum mechanical calculations facilitate a comprehensive understanding of molecular interactions, binding afFinities, and conformational changes. These insights pave the way for the development of more effective and selective drugs. Computational tools allow for the rapid screening of extensive chemical libraries, which signiFicantly reduces the time and cost associated with traditional hit-and-trial approaches. Similarly, enzyme engineering has greatly beneFited from computational techniques. By employing advanced algorithms and simulations, we can predict and optimize enzymesubstrate interactions, design enzymes with improved stability and activity, and tailor their speciFicity for industrial applications. These advancements are critical for the development of sustainable biocatalysts that can replace hazardous chemical processes, thereby contributing to environmental sustainability and green chemistry. This presentation will highlight key case studies and recent breakthroughs in the use of computational chemistry for drug discovery and enzyme redesign. My talk will focus on the practical applications of these computational technologies, used in conjunction with experimental methods, in achieving SDGs, such as good health and well-being (SDG 3), industry innovation and infrastructure (SDG 9), and responsible consumption and production (SDG 12). By bridging the gap between theory and its practical implementation, we can contribute our role in advancing sustainable development and creating a healthier, and more sustainable future by 2030, as envisioned by the United Nations.

Keywords: Computational chemistry, Sustainable Development Goals (SDGs

The Silent Pandemic of AMR and Innovations in the Fight Against Resistance: A Step Towards Good Health and Well-Being (SDG-3)

Kashif Ali
Department of Biosciences, Faculty of Life Sciences,
Shaheed Zulfikar Ali Bhutto Institute of Sciences and Technology (SZABIST) University

Millions of people are affected by antimicrobial resistance (AMR) every year, which poses a serious threat to decades of advancements in medicine. With regard to Sustainable Development Goal-3 (SDG-3), which encourages health and well-being, this "silent pandemic" has serious ramifications for public health, the economy, and sustainable development. New developments in the fight against AMR give optimism despite these obstacles. This talk examines innovative tactics and solutions that have the potential to completely transform how we fight resistant infections. Bacteriocins, which are naturally occurring antimicrobial peptides made by bacteria, are important breakthroughs because they offer a promising, little harmful, and specifically focused treatment. In order to find current medications with possible anti-AMR qualities and hasten the release of new treatments, drug repurposing is a productive substitute for the conventional drug discovery pipeline. With nanoscale drug delivery technologies improving antibacterial activity, reducing toxicity, and avoiding conventional resistance pathways, nanomedicine is progressing. Furthermore, antibiofilm substances are becoming more well-known due to their capacity to break up biofilms and stop chronic infections. Collectively, these developments represent a paradigm change in our fight against AMR. We make great progress toward accomplishing SDG-3, guaranteeing healthy lives and advancing everyone's well-being, by combining these tactics. This keynote will discuss the promise and challenges of each approach, emphasizing the need for collaborative, interdisciplinary efforts in research and policy to combat AMR and safeguard the future of global health.

Keywords: Antimicrobial resistance, bacteriocins, biofilms, drug repurposing, SDG-3

Establishment of Doxorubicin Resistant Stem-like Cell Line from MCF-7 Cells

Syed Zulfiqar Ali Naqvi[1], Faiza Naz[1] and El-Nasir Lalani[2]
1Department of Molecular Pathology, Liaquat National Hospital and Medical College, Karachi, Pakistan
2Department of Pathology and Laboratory Medicine, Aga Khan University, Karachi, Pakistan

Background: Conventional therapy of Breast cancer (BCa) is associated with numerous challenges, relapse being the topmost. It has been shown that disease relapse occurs due to the existence of cancer stem cells (CSCs), residing within the tumor.
Objectives: To develop a cancer stem cell line model by exploiting the property of stem cells to resist treatment with anti-cancer therapeutic agents and to develop novel therapeutic interventions targeting the elimination of CSCs.
Methods: Single-cell clones from MCF-7 cells were established in 96-well plates using culture medium containing 5% FBS. Enrichment of cancer stem cells was carried out from established single cell clones which were initially cultured in a serum-deprived nutrient medium for six weeks, followed by Doxorubicin treatment. Doxorubicin-resistant clones were established and evaluated for their growth and sphere-forming abilities. Further, these clones were characterized based on the presence of stem-cell markersusing semi-quantitative reverse transcription-polymerase chain reaction and results were compared with the parental MCF-7 cell line.
Results: In complete medium, these spheres differentiated and started growing as a monolayer with differential expression levels of genes involved in stemness. When these spheres were sub-cultured again in stem-cell medium and detached to give rise to singlecells, these clones retained sphere-forming ability. Doxorubicin-resistant clones showed a tendency to grow in spheres in a stem-cell medium with serum-deprived culture conditions.
Conclusion: Our results provide undeviating evidence of the successful establishment of clones of MCF-7 cell line exhibiting stem cell-like properties. These cell lines have been reprogrammed as stem cell-like models and can be used to delineate recurrent breast cancer attributed to CSCs.

Keywords: Breast Cancer, Cell Line, Cancer Stem Cells, Drug-Resistance, Doxorubicin

Empowering Women in Biomedical Sciences for Sustainable Healthcare

Dr. Sidra Abid Syed
Department of Biomedical Engineering
Sir Syed University of Engineering and Technology, Karachi, Pakistan

Empowering females in biomedical sciences is essential for sustainable healthcare advancements. Increased women inclusion and command in research, healthcare coverage, and generation have led to revolutionary, accessible, and culturally sensitive healthcare solutions. Here we examine the challenges that women faces and highlight initiatives like mentorship, investment assist, and inclusive guidelines that may foster gender equity, via embracing numerous views, These efforts force a sustainable healthcare atmosphere better prepared to fulfill worldwide fitness wishes.

Keywords: Biomedical Sciences, Revolutionary, Mentorship,Sustainable HealthcareAtmosphere.

Sustainability and Innovation: A Path Forward

Dr. Farrah Arif
Hull University Business School,UK

In an era of unprecedented environmental challenges and technological advancements, the convergence of sustainability and innovation offers a transformative opportunity for industries worldwide. This keynote speech explores how these two forces, once seen as separate, are now recognized as deeply interconnected. By examining case studies in renewable energy and the circular economy, the speech highlights the significant progress that can be achieved when innovation is directed toward sustainable goals. From cost reductions in solar and wind energy to the reinvention of resource use in the fashion industry, sustainable innovation is not just a response to environmental concerns but a driver of economic growth and resilience.

However, integrating sustainability into innovation strategies requires more than just technological advancement. It demands visionary leadership that balances profitability with long-term environmental stewardship, and fosters a culture of creativity and experimentation. The speech also underscores the importance of cross-industry collaboration, public-private partnerships, and supportive policy frameworks in creating the conditions for sustainable innovation to thrive. Examples like the European Union's Green Deal illustrate how policy can incentivize and accelerate the transition to a more sustainable economy.

Looking ahead, the role of technology will be crucial in driving sustainable innovation. Advances in artificial intelligence, biotechnology, and digitalization are opening new possibilities for optimizing energy use, reducing waste, and enhancing supply chain efficiency. This speech offers a comprehensive vision for how businesses can leverage these technologies, alongside leadership and collaboration, to create a future where sustainability and innovation are not just compatible but mutually reinforcing, leading to a more equitable, prosperous, and environmentally sound world.

Keywords: Unprecedented, Visionary Leadership, Comprehensive Vision.

Aligning Divine Goals of Maqasid-e-sharia with SDG Goals.

Dr. Rehan Muzammil
Assistant Professor**,** In charge Business Incubation Center
Management Sciences, KIET, Karachi, Pakistan

In the contemporary discourse on sustainable development, aligning the Divine goals of Maqasid-e-Sharia with the United Nations Sustainable Development Goals (SDGs) presents a compelling framework for advancing global well-being while respecting diverse cultural and Islamic perspectives. This paper explores the synergies between Maqasid-e-Sharia, the higher objectives of Islamic law aimed at the welfare of humanity, and the SDGs, a global agenda for addressing pressing issues such as poverty, inequality, and environmental degradation. Through a comparative analysis, this study highlights the similarities and noviceness of each framework, emphasizing their shared commitment to promoting justice, equity, and sustainability. By integrating Maqasid-e-Sharia's principles—such as the protection of life, intellect, property, and religion—with the SDGs' targets, the paper proposes a unified approach to fostering holistic development. The findings offer actionable insights for policymakers, scholars, and practitioners seeking to harmonize religious imperatives with global development agendas, ultimately contributing to a more inclusive and ethically grounded pursuit of sustainable progress.

Keywords: Contemporary, Maqasid-e-Sharia, Equity,Sustainability.

Impacts of Climate Finance on Ecological Sustainability and Social Welfare In Developing Countries

Dr. Dinkneh Gebre Borojo
Yiyang Vocational and Technical Institute, Yiyang, China

As the world grapples with the escalating impacts of climate change, climate finance has emerged as a pivotal instrument in fostering ecological sustainability and enhancing social welfare, particularly in developing countries. This presentation will delve into the multifaceted impacts of climate finance, evaluating its role in advancing sustainable environmental practices and bolstering socio-economic development. We will assess how targeted financial investments support ecosystem conservation, promote green technologies, and strengthen climate resilience in vulnerable regions. Additionally, the discussion will highlight the socio-economic dimensions of climate finance, exploring how it can drive poverty alleviation, job creation, and community empowerment. Through a critical analysis of successful case studies and ongoing challenges, this address aims to provide valuable insights into optimizing climate finance strategies to achieve holistic and equitable outcomes. Attendees will gain a comprehensive understanding of how effective climate finance can serve as a catalyst for both environmental stewardship and social progress in the developing world.

Keywords: World Grapples, Escalating Impacts, Financial Investments, Vulnerable Regions

Knowledge, Attitude and Perceptions Of Complementary And Alternative Therapies Among Patients With Epilepsy In Malaysia

Prof. Dr. Lua Pei Lin
Professor of Pharmacy Practice**,** Faculty of Pharmacy,Universiti Sultan Zainal Abidin, K. Terengganu, Malaysia

Complementary and alternative therapies (CATs), including spiritual practices and diet therapy, has served as the primary treatment for epilepsy long before the advent of conventional medicine, with these approaches often rooted in cultural traditions and holistic views of health in managing the condition. This study aimed to determine the knowledge, attitude, and perceptions (KAP) of CATs' usefulness among patients with epilepsy (PWEs) and to compare medication adherence based on KAP level. This cross-sectional study was conducted across three hospitals in Malaysia, involving 193 PWEs. Participants completed validated questionnaires covering socio-demographics, KAP related to CATs, and adherence. Descriptive statistics and chi-square tests were analysed using SPSS 26. The mean age of participants was 35.26 years (±12.57). Most were female (54.9%), Malay (96.9%), Muslim (96.9%), unmarried (56%), and employed (35.2%). Additionally, 61.1% reported using CATs. About 52% had poor knowledge of CATs, which was assessed based on their understanding of whether CATs require a prescription, their side effects, approval status in Malaysia, and potential interactions with conventional medicine. Around 70% of PWE held a neutral attitude towards CATs, 25% had a negative attitude, and only 3.1% had a positive attitude. Perceptions of the CATs' usefulness were higher for mind-body practices like prayer (53.9%), massage (51.3%), and structured exercise (33.2%) compared to consumed products and traditional medicines. No significant association was found between knowledge, attitude, and medication adherence. However, there were significant associations between perceptions of the usefulness of mind-body practices, like massage ($p<0.001$) and structured exercise ($p=0.029$), and adherence. This study highlights that while knowledge and attitude towards CATs did not significantly impact adherence, positive perceptions of mind-body practices were associated with better adherence. These findings suggest that promoting mind-body practices may support improved medication adherence in epilepsy care.

Keywords: epilepsy, complementary and alternative therapies, patients

Pharmacy Informatics a way forward to patient quality and safety

Dr. Muhammad Amir
Clinical Informatics Pharmacist**.** Albury, New South Wales,**,** Australia

In Pakistan, pharmacy informatics is an emerging field that has the potential to revolutionize healthcare by leveraging technology to improve medication management and patient care. Despite challenges such as limited resources and infrastructure, many hospitals and pharmacies in Pakistan are adopting electronic prescription systems, automated dispensing systems, and other digital solutions to enhance patient safety and streamline clinical workflows. Moreover, various initiatives are underway to develop and implement standardized electronic health records, clinical decision support systems, and telepharmacy services, particularly in urban centers like Karachi and Lahore. As the country continues to embrace digital transformation in healthcare, pharmacy informatics is expected to play a vital role in improving health outcomes, reducing medication errors, and advancing the profession of pharmacy in Pakistan.

Keywords: Informatics, Telepharmacy, Transformation.

From traditional knowledge of natural compounds to modern medicinal chemistry: new technologies towards sustainability

Prof. Dr. Giovanni Ribaudo
Department of Molecular and Translational Medicine University of Brescia, Italy

Traditional knowledge on natural compounds inspires drug discovery. The history of pharmacy is indeed rich in examples of therapeutic options which were designed and optimized starting from molecules found in Nature. Modern drug discovery tools, such as advanced computational ligand-based and structure-based studies, can provide new life to natural molecules as they allow to translate into contemporary medicinal chemistry the traditional uses of Nature-inspired derivatives, or to identify novel potential targets for such compounds. In particular, such tools are particularly useful in the identification and elucidation of the mechanism(s) of action, crucial for the development of more efficient derivatives. In this contribution, the role of new technologies making the drug discovery process faster and more sustainable will be discussed. Moreover, the results of some selected studies based on the use of in silico tools for investigating the bioactivity profile of natural compounds will be presented.

Keywords: Traditional, Drug Discovery, Nature-Inspired Derivatives, Elucidation

Lipid-polymer hybrid nanoparticles for delivery of tamoxifen citrate to enhance safety and therapeutic efficacy

Prof. Dr. Muhammad Akhtar
Department of Pharmaceutics, Faculty of Pharmacy, The Islamia University of Bahawalpur
Pakistan

Background and Aim

Tamoxifen citrate (TC), is a widely prescribed drug for hormone-sensitive breast cancer treatment. However, its poor aqueous solubility and potential side effects have limited its therapeutic potential. To overcome these limitations, we present herein a comprehensive study detailing the synthesis and characterization of lipid-polymer hybrid nanoparticles encapsulating TC achieved through the ionic gelation method. Our research explores the synergistic combination of TC, Lipoid E80 S, Chitosan, Tween 80, and Sodium Tripolyphosphate (STPP) to create a versatile drug delivery system.

Methodology

The formulation development process employed the ionic gelation method to modify the ratios of polymer, lipid, and emulsifier. These modifications resulted in the creation of lipid hybrid nanoparticles (LHNPs). The characterization of these LHNPs involved a comprehensive range of analytical techniques, including zeta sizer analysis, assessment of entrapment efficiency, differential scanning calorimetry (DSC), scanning electron microscopy (SEM), Fourier-transform infrared spectroscopy (FTIR), thermal gravimetric analysis (TGA), powdered X-ray diffraction (PXRD), in vitro drug release studies, cytotoxicity evaluations, hemocompatibility assessments, toxicity studies, and in vivo pharmacokinetic investigations. To determine drug entrapment in formulations, the entrapment efficiency formula was applied. The SEM examination was conducted to examine the external surface characteristics of the nanocarriers. Thermal stability was assessed through DSC and TGA experiments. FTIR was used to investigate the compatibility between the polymer, lipoid E80 S, and the drugs. PXRD was employed to determine whether the newly developed formulations exhibited crystalline or amorphous properties. In vitro drug release behavior was investigated using a dialysis membrane-based in vitro dissolution study. Various in vitro kinetic models were employed to analyze the drug release process. For an assessment of in vivo bioavailability, lipid hybrid nanocarriers were orally administered to female Albino rabbits, and blood samples were periodically collected and subjected to HPLC analysis. Zeta sizer analysis was utilized to conduct extensive stability investigations. In vivo toxicity testing involved the examination of biochemical, physical, and histopathological characteristics in rabbits. Hemocompatibility testing

was performed to ensure the compatibility of the newly formulated formulations with blood. Lastly, an in vitro cytotoxicity study was conducted using MCF-7 breast cancer cell lines.

Results

The use of a zeta sizer confirmed the creation of lipid hybrid nanocarriers. Both DSC and TGA analysis provided evidence of the stability of formulations with different ratios polymer and emulsifier. PXRD examination verified the shift of the drug from a crystalline state to an amorphous one. The nanoparticle size within the carriers ranged from 136.8 to 287.1 nm, with zeta potentials spanning from 10.6 to 21.7 mV, and polydispersity index values ranging from 0.31 to 0.515. SEM imaging revealed that the optimized formulation exhibited spherical shapes with smooth surfaces. In a rabbit model, the heart, liver, kidney, spleen, and lungs showed no adverse effects upon oral administration, indicating safety. Furthermore, FTIR analysis indicated that the constituent components of the formulation are compatible and do not undergo chemical interactions. An in vitro release examination revealed an initial biphasic drug release profile within the first 24 hours, characterized by an initial burst, followed by a controlled release extending up to 72 hours. Kinetic modeling demonstrated that all the produced formulations exhibited a non-Fickian diffusion profile and were best described by Higuchi's square root and Korsmeyer-Peppas models. Toxicity studies conducted on female albino rabbits provided evidence of the compatibility and absence of toxicity of the produced particles within biological systems. Hemocompatibility assays also confirmed that the developed system is safe and compatible with blood. In vitro cytotoxicity tests using MCF-7 and MDA cell lines indicated that the formulation had a more significant cytotoxic effect compared to the free drug (TC). The in vivo pharmacokinetic (PK) investigations have revealed that the utilization of lipid hybrid polymeric nanoparticles resulted in an increased maximum plasma concentration (Cmax) and improved area under the curve (AUC0-t) when compared to the administration of the free drug. These findings suggest the potential for the development of lipid hybrid nanocarriers (LPHNPs) as a viable oral delivery system for controlled release of TC, with potential benefits for enhanced breast cancer therapy.

Conclusion

These results suggest that LM1 has better drug release and regulated oral bioavailability. The polymeric nanoparticulate systems with the requisite physicochemical characteristics was successfully produced using lipoid E80 S as lipid and chitosan as polymer. The novel nanoparticulate system was all safe for oral administration and exhibited improved chemotherapeutic activity

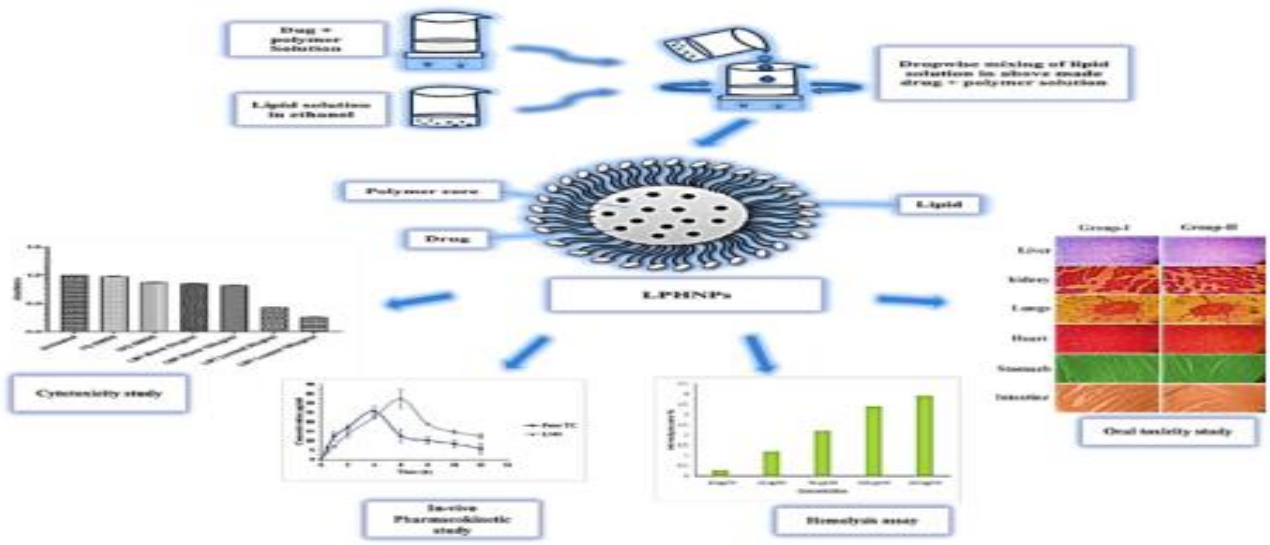


Figure: 1 Graphical Abstract

Keywords: Lipid Hybrid Nanoparticles, Scanning Electron Microscopy (SEM), Fourier-Transform Infrared Spectroscopy (FTIR),Korsmeyer-Peppas Models

Implementation of quality by design (QbD) approach in product development of pharmaceuticals

Prof. Dr. Rabia Bushra
Dean, Faculty of Pharmaceutical Sciences**,** Dow University of Health Sciences

Quality excellence is a fundamental requirement in the pharmaceutical industry and healthcare sectors, as it greatly affects patient satisfaction, safety, and treatment adherence. Quality by Design (QbD) is a relatively new concept that consistently develops high-quality products, thereby enhancing therapy outcomes. QbD is a systematic framework that ensures the quality of pharmaceutical products by setting a Quality Target Product Profile (QTPP) and identifying Critical Quality Attributes (CQAs) for any dosage form, preparation, or procedure. Failure Mode and Effect Analysis (FMEA), along with Ishikawa diagrams, are utilized to assess and measure potential risks for any underlying study. The Risk Priority Number (RPN) is also a significant tool in QbD, which is estimated in numerical values based on the criticality of risks at three different levels: mild, moderate, and severe. Finally, the design space and Design of Experiments (DoE) are used to establish a comprehensive relationship among the independent and dependent variables of composition and manufacturing processes. Based on the findings, a strategic plan is developed for continuous improvement in product quality to avoid rework, market recalls, and ensure regulatory compliance.

Keywords: Quality excellence, Quality by Design (QbD), Critical Quality Attributes (CQAs), Risk Priority Number (RPN)

New dimeric naphtoquiones from Diospyros lotus roots and its biological screening for discovery of new drug

Dr. Abdur Rauf
Department of Chemistry, University of Swabi, Khyber Pakhtunkhwa, Pakistan

Diospyros lotus Linn commonly known as date plum has multiple usages in the traditional system. Various parts of Diospyros lotus are used for curing hemorrhage, insomnia, hiccup, lumbago, and constipation. The extracts and their fractions have been reported for diverse biological activities such as anti-inflammatory, sedative, antioxidant, anti-microbial, febrifuge, vermifuge, and antihypertensive. Diospyros lotus is a rich source of producing valuable natural products most precise and effective way. The promising biological profile of Diospyros lotus is due to the presence of bioactive molecules. The main objective of this finding is the isolation of Di-naphthodiospyrol (AH) from Diospyros lotus. The defatted chloroform extract was subjected to normal phase column chromatographic analysis which afforded eight new e dimeric naphthoquinone namely; Dinaphthodiospyrol (A-H). The chemical structures isolated from Di-naphthodiospyrol (A-H) were elucidated by advanced spectroscopy including; 1H-NMR, 13C-NMR, HMBC, HSQC, NOSEY, and mass spectrometry. The isolated Di-naphthodiospyrol in bulk quality was assessed for various in vitro and in vivo biological activities. The crude extracts, fractions, and their compounds exhibited anti-nociceptive, sedative, anti-inflammatory, antipyretic, and acute toxicity. The tested compounds showed significant antiproliferative and reversal of MRD in mouse lymphoma cells. The crude extract and isolated compounds were also screened for enzyme-inhibitory activity. Amoun the entire extracts, the chloroform and ethyl acetate extract exhibited very strong activity as compared to the standard drug. The compound isolated in bulk was also screened for analgesic, antipyretic, and sedative activity. The tested compounds showed promising analgesic, antipyretic, and sedative effects. Di-naphthodiospyrols isolated from Diospyros lotus are also assessed for muscle relaxant effect which showed excellent activity as compared to standard drugs

Keywords: Di-naphthodiospyrol (AH), Lymphoma Cells, Di-naphthodiospyrols.

ABSTRACTS OF ORAL PRESENTERS

Faculty of Social Science

Strategies for Inclusive Education in Diverse Classrooms: A Case Study in Government Schools

Prof. Dr. Safia Urooj, Ms. Huma Salman, Dr. Wahaj Muhammad Khan

University Of Karachi, Karachi, Pakistan

As classrooms in government schools become increasingly diverse, the demand for effective inclusive education strategies is rising. Inclusive education seeks to ensure equitable learning opportunities for all students, including those with disabilities, language barriers, and varying socioeconomic backgrounds (UNESCO, 2020). This qualitative case study investigates the strategies used by government schools to foster inclusive education, focusing on the challenges faced by teachers, administrators, and students in adapting to diverse learning needs. Through semi-structured interviews and classroom observations in government schools in Karachi, Pakistan, this study explores how teachers are implementing inclusive practices. The research highlights strategies such as differentiated instruction, collaborative teaching, and the use of assistive technologies that help accommodate the varied needs of students (Florian & Black-Hawkins, 2011). It also uncovers the critical role of teacher preparedness, school leadership, and community support in advancing inclusive education efforts. (Loreman, 2017; Forlin, 2010).Findings show that while government schools are increasingly committed to inclusivity, significant barriers persist, including inadequate teacher training, limited resources, and systemic constraints (Ainscow, 2020). Teachers report that without ongoing professional development and institutional backing, it is difficult to meet the diverse needs of students effectively (Booth &Ainscow, 2016; Sharma &Nuttal, 2016).. Additionally, the study emphasizes the importance of parental involvement and policy reform to create a more inclusive and supportive school culture this study adds to the growing body of research on inclusive education in government schools, offering practical insights for educators, policymakers, and stakeholders. It suggests that comprehensive teacher training programs, improved resource allocation, and stronger collaboration between schools and communities are essential for achieving inclusive education in government school settings.

Keywords: Opportunities, Semi-Structured, Differentiated Instruction, Collaborative Teaching.

Assimilating Hellenismin the Poems of John Keats' As Non-Escapist Poet

Mahrukh Aslam
Jinnah University for Women, Karachi, Pakistan

The discerning of John Keats' non-escapism and Hellenism is the subject of this study. People create their own beautiful worlds through transient flight in the inventive fantasy realm, where they investigate the truth to endure in a painful reality. All human beings use this ability to survive in this oppressive environment, as he has used his vivid imagination to help him through his painful life. In addition, Keats' penchant for Hellenism has contributed elegance to his writings. Because the poems contain references to Greek mythology, readers can trust them to uplift their spirits and accept the contentment that follows hardship in the real world. It aims to sketch John Keats's portrayal of Hellenism and Non-Escapism in his poems. This qualitative study uses purposive sampling to gather data and focuses on Keats' distinction of the Non-Escapist and Hellenist method of art creation.Through his poetry, John Keats has essentially created a means of escape from the painful, harsh facts of life. To be solidified and achieve the spirit to face the severely tortured reality of life, everyone must escape the ferocity of fatal pains for which they currently support themselves by engrossing themselves in dialectic imagination. In essence, Keats has distinguished himself as a non-Escapist and Hellenist by illustrating the magnificent morality scriptures in his poetry through Hellenism. These depictions are certain to educate readers.

Keywords: Transient Flight, Hellenism, Non-Escapism, Purposive Sampling

Movies are Not just a Form of Entertainment but a Catalyst for Social Change

Sanobar Nadir, HinaYousuf, SundasRana
University of Karachi, Karachi, Pakistan

Contemporary cinema is increasingly focusing on portraying social issues, making it an essential medium for raising public awareness, influencing their perception, and ultimately leading to change. Movies that address topics such as gender inequality, violence, and societal norms hold particular influence in societies, as most people refrain from talking about these topics for various reasons. Therefore, this study explores how Pakistani movies contribute to societal change by addressing critical issues such as gender inequality, societal taboos, and justice. The primary objective is to analyze how movies address social issues and analyze their narratives to understand how movies shape public perception and spread awareness about societal issues. The researchers adopt a content analysis method to study the movies Bol(2011), Verna (2017), and ZindagiTamasha (2020). These movies are selected through convenience sampling. At the same time, the key themes are extracted through repeated viewings and in-depth analysis of the storylines. This study can help to gain insight into how cinema engages with the masses and disseminates awareness about social issues. The findings revealed recurring themes of gender inequality, societal judgment, and institutional failure. In Bol, Zainab, a determined young woman, challenges her father's oppressive beliefs, advocating for the rights of women and transgender individuals. Verna highlights the story of Sara, a survivor of sexual violence who battles systemic barriers within the legal system to seek justice against her powerful assailant. Meanwhile, in ZindagiTamasha, RahatKhawaja confronts public humiliation when his private life becomes fodder for gossip, highlighting the harsh realities of societal judgment and moral policing. Cinema has emerged as a crucial medium for meaningful social change by addressing and educating the public about pressing social issues. Through fictitious tales and real-life incidents, movies contribute to raising awareness of various societal problems that would otherwise stay buried deep in the dark corners of our society.

Keywords: Public Awareness, Social Issues, Harsh Realities, Public Humiliation.

Jinnah University for Women
1st International Conference on Innovative Cross-Disciplinary Solutions for Sustainable Development Goals (IC-SDGs)
(November 28th – 30th2024)

Situation Analysis of Social Sustainability of Children Accompanying Their Imprisoned Mother in Central Jail, Karachi

Romana Jabeen
Jinnah University for Women, Karachi, Pakistan

This study aims at exploring the situation of children accompanying their imprisoned mothers inCentral Jail Karachi. Several studies reveal that these children have no or very limited choice to enjoy their childhood; mostly they live in very critical circumstances. Weak socioeconomic system in the country has caused the vulnerable sections of society to live below the poverty line. Resultantly, they find refuge in criminal world. With this bleak scenario, rising crime rate in the country has reached at the alarming stage, where married women are also entering into this world. Mostly, prison try to re-socializes their companion into criminal norms, within the extreme situations then people become de-institutionalized and incompetent to reintegrate into society after released. It is a common observation that prisoners usually adopt criminal habits while living under a criminal environment. This study intends to focus on expected future criminals, children who accompany their accused mothers in prison. The objectives of this studywere to look into possibilities how to grow such child would be become a good member of society. To seek data, Purposive qualitative research methodology was selected for this study. The primary and secondary data were applied to investigate the issue. The data was collected from imprisoned mothers of Central Jail Karachi, jail officials, NGOs, police officials and lawyers.Sampling method and the measures used in the study to analyze the imprisonment effect on children living with their imprisoned mothers in Central Jail Karachi. Data was collected through questionnaire. The units of analysis were imprisoned mothers, jail officials, selected members of civil society, judiciary and police officials. They were interviewed with the help of semi-structured questionnaire, while it was administered through formal processes of seeking permission for interviews. The finding showed that children go through psycho-social issues. The research study concluded the need for policy makers and legislation to rehabilitate the jail environment from unkind to sociable conducive learning centers for these children. This study is winded up that imprisonment is widespread in the forms of psychological as well as physical punishments. After detention the young children of imprisoned mothers have no care taking facility. Thus those children face helplessness. It is therefore, no opportunity for them to keep them in a safe place but to keep them in the jail. This study gave a name to such type of children ‘Innocent Victim’.

Keywords: De-Institutionalized, Refuge, Criminal Environment, Helplessness.

Syntactic Adaptationand Classificationof English Nounphrasesby Non-Native Speakers: A Study of Morphosyntactic Variabilityand Cognitivelinguistic Approaches

Zafreen Ali Mirza
Jinnah University for Women, Karachi, Pakistan

The central concern of syntax is to develop an understandable sentence structure that integrates other linguistic elements, which are universal across languages. However, the structural forms and functions in syntax contribute to building meaningful utterances, though the general principles of syntax remain consistent across languages, the patterns and usage may differ according to linguistic context. An essential aspect of this variation is morphosyntactic variability**,** which refers to the changes in word forms and sentence structures that occur as speakers adapt syntactic rules across different languages. This variability is particularly evident in the way non-native speakers modify noun phrases (NPs), influenced by the grammar of their first language (L1). Moreover, the cognitive linguistic approach provides a deeper understanding of how speakers mentally process and produce language. It emphasizes the role of cognitive strategies, such as conceptual metaphors, analogies, and linguistic transfer, which non-native speakers use when adapting syntactic structures like noun phrases. This study has explored the syntactic adaptation and classification of English noun phrases (NPs) by non-native speakers, focusing on morphosyntactic variability and cognitive linguistic approaches. By analyzing spoken and written data from diverse linguistic backgrounds, the research examines how non-native speakers modify and structure English noun phrases, influenced by their first language (L1). The study employs corpus analysis and semi-structured interviews to identify common syntactic patterns and cognitive strategies, such as transfer, analogy, and simplification. The results reveal significant morphosyntactic variability, with frequent alterations in determiners, modifiers, and word order. Cross-linguistic comparison highlights the impact of L1 on NP adaptation, contributing to a deeper understanding of how non-native speakers process and produce English NPs. The findings have implications for linguistic theory and English language teaching, particularly in identifying the specific challenges non-native speakers face in mastering English noun phrases.

Keywords: Understandable Sentence Structure, English Noun Phrases, Linguistic Approaches

Gul e Rehmat, Dr Bushra, Tahira Akber, Yasmeen Kanwal, Asifa Aftab
Jinnah University for women, Karachi, Pakistan

This study examines the positive role of religion in peace building, exploring how religious beliefs, practices, and leaders can contribute to healing divided communities and fostering lasting peace. Despite the historical and ongoing association of religion with conflict, this research highlights the significant potential of religious teachings and leaders to promote reconciliation and unity. The study's literature review synthesizes insights from various academic disciplines, including politics, international relations, and peace and conflict studies, to provide a comprehensive understanding of how religion can be leveraged for peace building efforts. The objectives of the study are threefold: to explore how religious teachings encourage peace and forgiveness, to examine real-world examples where religious leaders and communities have successfully fostered unity, and to identify the challenges that these peace building efforts face. A qualitative research approach is employed, involving a review of existing literature on religious peace building practices, case studies of successful interfaith initiatives, and interviews with religious leaders and peace building practitioners. Data is drawn from diverse geographical regions, including Africa, Asia, and the Middle East, offering a broad perspective on religious contributions to peace building. The findings indicate that when religious teachings are embraced with openness and compassion, they can serve as powerful tools for healing divisions and bringing people together. The study presents numerous examples from different regions where religious leaders have played critical roles in mediating disputes and fostering dialogue. However, it also acknowledges the challenges inherent in religious peace building, particularly when religious identity is used to justify exclusion or marginalization.In conclusion, the research underscores the potential of religion to be a significant force for peace, provided its positive aspects are nurtured. Promoting interfaith dialogue and actively involving religious leaders in peace efforts are essential strategies for harnessing this potential. By focusing on the peace-promoting capabilities of religion, more effective approaches to conflict resolution can be developed, contributing to a more peaceful world.

Keywords: Healing Divided Communities, Marginalization, Interfaith Dialogue, Religious Leaders

Digital Media empowers Women to Drive Sustainable Goal growth by breaking Barriers

HinaYousuf, Sanobar Nadir, SundasRana
University of Karachi, Karachi, Pakistan

In the age of digital media, entrepreneurs, particularly women, have utilized social media platforms to connect with the global economy. This transition toward digitalization has provided great opportunities for women from developing countries who want to overcome traditional barriers and geographical limitations. Many Pakistani female entrepreneurs have successfully leveraged the power of social media to establish and expand their businesses. This study aims to investigate how digital media empowers female entrepreneurs and contributes to achieving Sustainable Development Goals (SDGs). A qualitative research approach has been adopted for this study, focusing on 10 female entrepreneurs based in Karachi, Pakistan. Convenience sampling is employed to select participants of this study. In-depth and detailed interviews were conducted to understand how digital platforms like Facebook, Instagram, and WhatsApp are used to establish business, increase outreach, promote business growth, and improve socio-economic sustainability. This research reveals that digital media has emerged as a critical player in diminishing the barriers for female entrepreneurs by providing equal chances to excel in their careers. Digital media offers them cost-effective marketing tools, well-organized customer engagement, and networking opportunities. Entrepreneurs emphasize that these social media platforms have made the process of entering into entrepreneurial business easier. Moreover, they underscore that digital media has made launching and sustaining business relatively easier as compared to traditional methods. At the same time, social media has helped people, specifically women, learn and polish different skills, giving them an opportunity to become financially independent. Digital media is crucial in promoting women's entrepreneurship and contributes directly to the Sustainable Development Goals by promoting gender equality and economic inclusion. Despite the opportunities, the results also highlight ongoing challenges such as digital illiteracy, lack of financial resources, and constant socio-cultural constraints. Therefore, digital literacy is essential to maximize the benefits of digital media and empower females to become self-sufficient. These steps will drive sustainable development and create more opportunities in the future.

Keywords: Sustainable Development Goals (SDGs), Digital Media

Exploring the Relationship between Problematic Internet Use And Aggressive Behavior

Alishba Faheem, Shazia Jabeen
Jinnah University for Women, Karachi, Pakistan

This quantitative study aimed to investigate the relationship between Problematic Internet Use (PIU) and aggressive behavior. PIU is characterized by excessive, uncontrollable, and compulsive internet use that significantly interferes with an individual's daily life, including work, social activities, and personal responsibilities. The hypothesis formulated for the study was that there would be a significant positive relationship between problematic internet use and aggressive behavior. The study consisted of a sample of 128 participants (41 males and 98 females), ages between 18 and 50 years old. Participants were recruited to complete a standardized online survey. To measure the level of problematic internet use, the study employed the Problematic Internet Use (PIU) Questionnaire. Aggressive behavior was assessed using the Aggressive Behaviour Scale (ABS), which captures both verbal and physical expressions of aggression. Pearson Product Moment Correlation was applied for data analysis using SPSS v.26. A significant positive relationship between problematic internet use and aggressive behavior was found ($r = 0.413$, $p<0.001$). The findings of this study are expected to contribute to the broader understanding of PIU's impact on mental health outcomes like aggressive behavior, offering valuable information for professionals working in the fields of mental health, and internet addiction.

Keywords: Problematic Internet Use (PIU), Recruited, Pearson Product Moment Correlation

Exploring the Relationshipbetween Academic Procrastination and Perfectionism among Young Adults

Javeria Shahid Majeed, Khansa Iftikhar, Mehwish Khan
Jinnah University for Women, Karachi, Pakistan

Academic procrastination and perfectionism are pervasive issues affecting students' academic performance, mental health, and overall well-being. Despite their prevalence, the interplay between these constructs remains understudied. This study aims to investigate the relationship between academic procrastination and perfectionism among young adults, shedding light on potential correlations and implications for student well-being. A convenience sample of 250 undergraduate and graduate students has completed standardized questionnaires: the Procrastination Assessment Scale for Students to assess academic procrastination and the Frost Multidimensional Perfectionism Scale for perfectionism. Data is analyzed using SPSS for correlations, regression analyses, and descriptive statistics. The study findings demonstrate a correlation between academic procrastination and perfectionism, suggesting that students with higher perfectionistic tendencies have experienced increased procrastination. The findings contribute to understanding the complex relationship between academic procrastination and perfectionism, informing strategies for educators, counselors, and students to mitigate these issues and promote academic success. Future research should consider longitudinal designs to explore causal relationships and experimental designs to test targeted interventions.

Keywords: Academic Procrastination, Perfectionism,CausalRelationships,Experimental Designs

The rawness of reality's gaze: a reader-response criticism of the novel moth smoke

Rumasha Hanif, Mahrukh Aslam
Jinnah University for Women, Karachi, Pakistan

In the enthralling realm of diasporic literature, Mohsin Hamid is acknowledged as a prominent figure who vivaciously intricate the different shades and complexities of reality, gender, and symbolism in his novels. However, one of the biggest obstacles faced by a diasporic writer is the case of representation of their true culture and society. Hence, to evaluate the reader's engagement and participation in the novel Moth Smoke, the reader response theory is used in this research to explore to what extent the readers engaged with the text on a personal level. The study aims to analyze the reader's response to realism in the diasporic novel Moth Smoke by Mohsin Hamid, to explore the reading community's views on the idea of feminism portrayed in the Moth Smoke, to evaluate the inferences from symbolism made by readers in Moth Smoke. A qualitative research methodology is employed to explore participants' perceptions through Goodreads, where reviews discussing realism, feminism, and symbolism are evaluated through content descriptive analysis. After a detailed analysis, it is found that the reading community finds Mohsin's portrayal of Pakistani society as realistic through the protagonist, Daru, and his descent into moral and financial ruin. Moreover, the community perceives the portrayal of feminism as detached from its cultural roots. Finally, the participants engaged with the novel in-depth as they recognized the intricate symbolism found in the novel. To conclude, it is evident that the reading community directly emerges as an active participant in the narrative surrounding realism, feminism, and symbolism.

Keywords: Enthralling Realm, Diasporic Literature,Participants' Perceptions.

A Pragmatic Analysisof Discoursein the Context of Grice's Maxims

Salma Niazi
Jinnah University for Women, Karachi, Pakistan

Pragmatics is an important concept in conversation (Yule,2022). Grice's Cooperative Principle, embodied in the four maxims—Quantity, Quality, Relation, and Manner serves as a guiding framework for effective communication. However, in daily conversations, these maxims are often violated, intentionally or unintentionally, leading to various pragmatic effects. This paper investigates the nature and reasons of discourse analysis in interactions. The study employs a qualitative approach. By analyzing conversations, it explores how individuals strategically flout these maxims to achieve humorous, polite, or ambiguous outcomes, or to navigate social norms and relationships. The findings demonstrate that violations of Grice's maxims are not necessarily disruptive; they often enhance communication by adding layers of meaning, fostering rapport, or facilitating indirectness. Through this analysis, the paper presents communication's dynamic and flexible nature, revealing the battle of words while communicating and contributing to linguistic diversity and arbitrariness.

Keywords: Pragmatics, Qualitative Approach,Violations, Indirectness.

Unfolding Gender Portrayalin the Movie Barbie: A Study Based On Critical Discourse Analysis

TasneemAkhtar, Maheen Fatima
Jinnah University for Women, Karachi, Pakistan

Language is considered as a mean of communication but it also plays a crucial role in shaping and reflecting the societal perceptions and norms of gender and it also reinforces stereotyping and power dynamics through media representation (Santoniccolo et al, 2023). Additionally, the portrayal of gender roles in movies, dramas and any other media leaves significant influences on how audiences perceive and internalize these roles. The Barbie movie (2023) utilizes satire, humor and role reversal to challenge traditional gender norms, making it a valuable case study for examining how media can both reflect and shape gender perception. Analyzing the film through a Feminist Critical Discourse Analysis (FCDA) framework can reveal how language and representation contribute to perpetuating or challenging these norms. FCDA can uncover all the underlying biases and promote more equitable representations. This research aims to analyze the language and portrayal of gender roles in the Barbie movie using FCDA. Furthermore, it identifies scenes and dialogues that reflect gender stereotyping and power dynamics and also criticizes it. Additionally, provided strategies for leveraging media to promote the Sustainable Development Goals, particularly those related to gender equality and reducing inequalities. A qualitative approach is used to conduct a study. Feminist Critical Discourse Analysis (FCDA) given by Michelle M. Lazar is used to dissect key scenes and dialogues from the movie. Five principles of FCDA focused on identifying patterns of gendered language, representation of power dynamics, and traditional stereotypes presented by the media. Findings were then connected to the objectives of IC-SDGs, with recommendations developed for media literacy and policy interventions. The results of the study reveal the implicit criticism on traditional gender norms and power dynamics. Moreover, the scenes where Barbie is depicted in leadership roles that directly criticize stereotypes, while portrayal of Kens struggling with identity reflects restrictive masculinity. The Barbie movie serves as a powerful medium for critiquing and reflecting on gender norms. Applying FCDA to its content highlights the role of media in shaping societal attitudes and the potential for media to support the achievement of gender equality and reduced inequalities. Recommendations include enhancing media literacy programs and advocating for more gender-sensitive media policies to promote sustainable development.

Keywords: Indirectness, Interventions, . Feminist Critical Discourse Analysis

Community Engagement and Dynamic Engagement

Shagufta Zain, Dr. Kaneez Fatima
Jinnah University for Women, Karachi, Pakistan

Community Empowerment and Dynamic Engagement emerged from 19th-century social reform efforts, developing into a focus on grassroots activism and participatory development. Now, it highlights the importance of collaboration and flexibility in addressing disparities and promoting sustainable community progress. Community empowerment serves as the foundation for social advancement, cultivating environments. It aims at empowering communities and establishing platforms wherever voice is acknowledged, resources are distributed fairly, and opportunities for development are available to all. This process is vital in addressing systemic challenges such as inequality, marginalization, and social stagnation. The research methodology adopts a mixed-methods approach, combining qualitative case studies with quantitative analysis to assess the impact of community empowerment and dynamic engagement on resilience. Data is gathered through document reviews, offering a comprehensive insight into the factors that drive sustainable community development. The results indicate that To bring about long-term development, local empowerment and dynamic engagement have to coexist. When communities are empowered, they are better positioned to engage dynamically with their surroundings, using collaboration and innovation to address challenges. The paper explores the vital roles that involvement and awareness perform in building community resilience. Through case studies and theoretical analysis, it highlights how these principles, when effectively integrated, can help communities overcome barriers to growth and achieve sustainable development. The outcomes highlight the worth of sustaining community-based projects which emphasize a spotlight on equality, cooperation, and ongoing involvement with the goal to build an ecosystem that feels more fair and equal.

Keywords: Community Empowerment, Dynamic Engagement, Cultivating Environments

Exploring the impactof gender on big five personality factors

Maleeha Tariq, Sana Sher
Jinnah University for Women, Karachi, Pakistan

This study investigated the influence of gender on the Big Five personality factors among university students of Pakistan. The hypothesis of the study was to question whether or not there are significant gender differences in terms of personality of openness, agreeableness, conscientiousness, extraversion, and neuroticism. The hypothesis formulated for the study was that there would be a significant gender difference in personality traits among university students. The present study included 136 university students aged 18 to 29 from different universities around the country. Participants completed the short version of the Big Five Inventory (BFI-10) that measures the five basic personality dimensions. SPSS v.21 was used to analyze the data and the scores of male and female students in each personality factor were compared by independent sample t-tests. Statistical analysis of the data showed that female participants score significantly higher on neuroticism personality trait compared to their male counterparts ($t = 1.849$, $df = 134$, $p<0.05$). No significant difference was found between male and female students on personality traits of extraversion, agreeableness, conscientiousness and openness (all p's>0.05). Knowledge of the differences between male and female students can help modify educational and support systems in various ways that will serve male and female students better

Keywords: Personality Factors, Conscientiousness, Extraversion, Neuroticism.

Investigating the Effectiveness Of Teaching Efl Descriptive Writing Using Multi-Sensory Skills: A Qusai-Experimental Study At Slum School Of Karachi

Maryam Tanoli, Maheen Fatima
Jinnah University for Women, Karachi, Pakistan

This study investigatesthe efficiency of multi-sensory approach, in improving English language writing skills at secondary level of a sum schoolmainly focusing on sight, hearing, and touch modalities. The study focuses on the 8thgrade students, recognising their needs, aiming to enhance students' mastery of descriptive writing.Concerning EFL contexts, Kim and Kim (2005, p. 69) affirm that due to a limited exposure of English language, it is difficult for learners to get competency over writing skills. In Pakistan, English language proficiency is considered a crucial aspect of academic success and future opportunities. Writing skill plays an important rolebut it lacks the attention it requires. However, for EFL secondary level of slum education, it's more challenging as they have primarily received instructions in their national language.Student's ability to learn through different modalities can help them to learn more effectively by using visual, auditory, kinesthetic, and tactile methods (Schwed&Melichar-Utter, 2008). Through this research, SDG-4 of quality education is targeted, as the study aims to provide a sustainable solution for the underprivileged students to improve EFL writing skills using multi-sensory skills because such students mostly rote memorise the essays and doesn't focus on quality education (Ali, 2019). This research addresses the inclusivity and quality education. It also contributes to SDG-10 by bridging language barriers for Urdu-medium slum learners. Further SDG-17 is also highlighted as this will help in collaborative research and foster partnership between researcher and policymakers. The studyinvestigates the effectiveness of multi-sensory skills in improving the EFL writing proficiency of secondary students learning English as a foreign language at urban slum school.This study uses a quantitative approach with the experimental research design to determine the effectiveness of multi-sensory techniquestargeting the sample of 8th grade students. After pre-writing test, a four-weeks teaching treatment was provided to students that involve multiple lessons and writing practices with audio visual aids. On completion of the treatment, a post-test was conducted to assess the improvements; further*t*-test was utilized on the collected data. Test results depict significant improvements in English languagedescriptive writing of the students. Hence it can be concluded that multi-sensory as skill can be effectively used to improve the writing skills of the students and can maximise long-term impact, ensuring sustainable student growth.

Keywords: English Language Proficiency , Multi-Sensory Approach, Pre-Writing Test.

Impact of Educational Computer Games on Child's Motivation in Various Subjects at Primary Level in Karachi, Pakistan

Dr. Rabia Abdul karim, Hamna Nadeem Khan, Areeba Ayaz
Jinnah University for Women, Karachi, Pakistan

This research study aims to investigate how educational computer games influence primary school student's motivation. Children are motivated to study by educational computer games because they provide them with exciting, compelling experiences that make learning enjoyable. Through interactive content and systems for rewards, these games develop independence, confidence, and engagement, offering a more successful and unique approach than traditional approaches. The purpose of the study is to measure how educational computer games affect students' mindsets toward learning and to look at the barriers and limitations that affect their motivation. It seeks to figure out how innovative games might enhance traditional teaching techniques, identify important motivators like intrinsic interest, and assess how innovative game design raises student achievement. The research employs a quantitative methodology. In this study, the researcher employed the descriptive approach. In this research, private schools are chosen as the population. A purposive sampling of ten schools is made and then we collect data randomly from 50 students, 30 teachers, and 20 parents from each of these schools. The researcher employed a questionnaire as a tool for data collection with 24 questions for teachers, for students, and for parents. To analyze data, one uses the basic percentile method. Since educational computer gaming engages students more successfully than traditional methods, it should be included into all courses to facilitate deeper learning and retention. Incorporating immersive and interactive learning experiences can help students get ready for the future as technology advances.

Keywords: Educational Computer Games, Motivators, Intrinsic Interest, Immersive, Interactive

Examining the Effectiveness Of Teaching Esl Pronunciation Through Tongue Twisters: A Quasi Experimental Study At Tertiay Level

Zarmeena Khan, Maheen Fatima
Jinnah University for Women, Karachi, Pakistan

This study evaluates the effectiveness of tongue twisters as a pedagogical tool for improving ESL pronunciation and fluency at Pakistani tertiary-level, specifically targeting the first-year students of the English department, as they are required to learn standardized pronunciation. In Pakistan, students at tertiary level come from diverse cultural backgrounds and since English is not the primary spoken language, they frequently face challenges with sounds that do not exist in their native languages, resulting in common pronunciation errors. Khalid, Mustafa and Anwar (2023) investigated the pronunciation errors Pakistani ESL learners make while speaking in which they concluded that many pronunciation errors involve the influence of mother tongue. This research aims to fill the gap by implementing an innovative approach to address the pronunciation and fluency deficits among ESL learners, ensuring that students can effectively communicate in English. This research directly relates with SDG-4 by promoting inclusive and equitable quality education to improve pronunciation and fluency among Pakistani tertiary-level students. This study also contributes to SDG-9 as it brings innovation in the field of language learning by using tongue twisters as pedagogical tools. Furthermore, it also has a broader link to SDG-17 as this will help in collaborative research and foster partnership between researcher and policymakers. The objective of this study is to evaluate the effectiveness of tongue twisters in improving ESL pronunciation and fluency among Pakistani tertiary level English language learners. The study employs a quantitative, quasi-experimental design, to evaluate the efficacy of tongue twisters. Students were engaged in different activities that helped them to articulate diverse sounds. Pre and post-test were conducted to investigate the changes in the speaking patterns of learners. The study has applied *t*-test on the collected data and results revealed that the students showed notable improvements in pronunciation accuracy and fluency. The respective research provides a conclusion that tongue twisters prove to be an excellent pedagogical tool in improving pronunciation and fluency of the learners. Students who face difficulties in pronouncing different sounds can use this tool as an exercise in order to develop a complete command of their speaking skills.

Keywords: Tongue Twisters, Pedagogical Tool, Fluency, Quasi-Experimental Design

Free Will as the Causeof Dominationof Doctor Faustusand Macbeth

Maryam Nasir, Mahrukh Aslam
Jinnah University for Women, Karachi, Pakistan

The main aim of this study is to corroborate with the proposition that human beings are free agents who use free will to control their lives irrespective of the incursion of fate. This proposition is validated through the epitome of two classical tragic heroes, Doctor Faustus and Macbeth. In fact, they caused damnation upon themselves through their own hamartia rather than their fate. Tragedy is a genre of drama written to portray the travails of a tragic hero that reduces a sense of pity and fear in the audience leading them to catharsis. This genre is enriched with numerous magnificent plays written by eminent playwrights that offer their audience with enthralling emotions. Through tragedy, individuals purify their minds and especially their souls. It helps them in comprehending the verities of life regarding distress, loss, despair, misfortune, and redemption. Doctor Faustus by Christopher Marlowe deals with curiosity and thirst of knowledge. Macbeth by William Shakespeare deals with greed and lust of power. It aims to identify the cause of damnation of Doctor Faustus and Macbeth, to explore the notion of individual accountability for theirown actions rather than fate, to explore the analogy between the damnation of Doctor Faustus and Macbeth.The methodology opted for this research is qualitative research which dealt with textual and comparative analysis of both the tragedies.The apparent sin that led Doctor Faustus and Macbeth to make these grave decisions was their hamartia, hubris. This hubris confounded Doctor Faustus leading him to despair and ignore the Divine Mercy. On the contrary, Macbeth was enveloped in the deadly sin of pride as well, inciting him into underestimating his opponent. Therefore, resulting in their tragic demise and eternal doom.To conclude, we can say that human beings are rational species that are bestowed with the power to make their own decisions which is free will. Hence, humans are free agents who can think freely and make decisions according to their own understanding, beliefs and priorities. All the actions and decisions whether wicked or virtuous have their repercussions that humans are solely responsible for.

Keywords: Irrespective, Incursion, Textual, Comparative Analysis

Social Media And Language Dynamics:A Study Of Language Contact And Change

Umama Arshad Ali, Hina Mohib
Jinnah University for Women, Karachi, Pakistan

Social media has had an immense impact on the world. It has accelerated global connectivity, expedited the spread of information, and played a role in toppling authoritarian regimes. However, its most significant impact may be the profound changes it has made to language.Language is the foundation of human connection, comprising grammar and vocabulary. It transcends single modes of transmission, embracing speech, sign language, and writing. Most languages, including the most widely spoken, possess writing systems that capture sounds or signs for later retrieval. Remarkably, human language adapts and evolves across cultures and time. Social media has revolutionized the English language by re appropriating existing words, infusing them with new meanings in online contexts, which then permeates verbal communication. This research paper examines the transformative impact of social media on language and communication & how digital discourse has revolutionized linguistic norms and communication practices. The research also explores the evolution of language on social media, highlighting the emergence of innovative linguistic strategies such as abbreviations, hash tags, and memes. Moreover, it showcases how social media has enabled linguistic innovation, fostering the democratization of language and the creation of new expressions.This study employs a mixed-methods approach, combining qualitative & quantitative methods to explore the impact of social media on Language. Data collection involves surveys, interviews with social media user & language experts, as well as content analysis of social media platforms. Data analysis includes thematic analysis; critical discourse analysis & ethnographic analysis are used to examine linguistic innovation. The influence of social media on linguistic norms is also scrutinized, including the increasing acceptance of nonstandard forms, language convergence, and the blurring of language boundaries. Social media has profoundly influenced the linguistic landscape, yielding both positive and negative consequences. On the one hand, it has empowered language preservation and promotion, particularly for minority languages, and facilitated language learning and cultural exchange. However, the dominance of a few global languages on social media platforms threatens to marginalize lesser-known languages, potentially accelerating language homogenization and loss. Furthermore, the emphasis on visual content may erode written language skills, compromising linguistic diversity. To mitigate these risks, it is essential to promote language awareness, support language education, and celebrate linguistic diversity on social media.

Keywords: Accelerated, Global Connectivity, Transformative, Convergence

ABSTRACTS OF ORAL PRESENTERS

Faculty of Medical and Allied Health Science

Detoxification Through Nature: "Evaluating The Laxative Effects Of Cassia Senna Containing Herbal Formulations In Loperamide-Induced Constipated Animal Models

Dr. Aymen Owais[1], Dr. Mahr Fayyaz[1], Sana khalid[1], Aahila Noor[1], Fatima Zehra[1], Zainab Sohail, Amna Khalil, Uroosa Saleem, Syeda Hafsa
Jinnah University for Women
Hamdard University
University of Toyoma, Japan

The increasing global reliance on herbal remedies underscores their significance in modern healthcare, particularly regarding gastrointestinal health. Constipation affects approximately 16% of adults worldwide, often linked to dietary habits and lifestyle choices, highlighting the need for effective and safe detoxification methods. This study aims to investigate the efficacy of herbal capsules containing Cassia senna, Foeniculum vulgare, and Rosa damascena in alleviating loperamide-induced constipation, specifically focusing on fecal evacuation time and intestinal luminal transit. Chronic constipation was induced in albino mice through subcutaneous injections of loperamide (4 and 8 mg/kg) over four days, followed by a three-day rest. Two groups were established; control and experimental. The experimental group received herbal extracts via gavage Cassia senna (100-300 mg/kg), Foeniculum vulgare (50-200 mg/kg), and Rosa damascena (50-100 mg/kg). Parameters such as body weight, food and water intake, and the number of fecal pellets excreted were measured three times daily. The study evaluated the effect of an herbal formulation on bowel movement frequency and stool consistency, comparing it to the established laxative Habb-e-Tinkar. The herbal formulation significantly enhanced bowel movement frequency and stool consistency. Cassia senna increased fecal pellet counts from 5-10 pellets (control) to 10-15 pellets (treatment), with stool consistency scores improving from 1-2 to 3-4. Foeniculum vulgare raised fecal output from 5-8 (control) to 8-12 (treatment) pellets and improved stool consistency from 1-2 to 2-4. Rosa damascena increased pellet numbers from 4-6 (control) to 7-10 (treatment), with stool consistency scores improving from 1-2 to 2-4. The results demonstrate that this herbal composition is a potential effective treatment for constipation, showing similar effects to conventional laxatives. This study supports the use of herbal medicine in managing gastrointestinal health and highlights the need for further research into its therapeutic applications.
Keywords: Global Reliance, Herbal Remedies, Foeniculum Vulgare, Rosa Damascena.

Evaluation of Biosal (Neem Formulation®) Efficacy against Callosobruchus Analis Using Hplc Analysis after 24-Hour Exposure

Dr. Samina Arif, Shazia Nisar, Rakhshanda Khurram, Sadaf Tabbasum, Uzma Mehboob
Hands- Institute of Development Studies, Federal Urdu University, Karachi,Pakistan

The current research was aimed at assessing the impact of Neem-based compound Biosal on Callosobruchus analis by different approaches: Direct Application Method (DAM), Glass Film Method (GFM), and Filter Paper Impregnation Method (FIM). The objective was evaluation of the toxicity of Biosal by the determination of the median lethal concentration (LC50) and the realization of this process after 24-hour exposure. The calculated LC50 values of the exposed samples were 1.378445 e-06 µl/cm² for DAM, 11.372 µl/cm² for GFM, and 5.411417 µl/cm² for FIM, manifesting a mixture of the effectiveness of these methods. High-Performance Liquid Chromatography (HPLC) was done in this study to figure out the presence of pesticide residues and the efficacy of Biosal against C. analis. Azadirachtin was the DAM analog that was also the reference in the work only one major peak at 102387 µm was observed while the withdrawn sample treated with Biosal had two peaks at 111990 and 2679 µm having one missing. The GFM with the reference had four peaks (6743, 62559, 6765, 1842 µm), and the treated sample had peaks at 10818, 37728, 2954, and 1277 µm. On the contrary, the FIM, Azadirachtin had one peak at 1339 µm and the Biosal-treated sample had peaks at 7527, 30040, and 1013 µm. The test was made on this rigorous HPLC by means of a Zorbax TMNH2 column, which was packed and n-hexane was used as the mobile phase for pesticide residues separation. Soxhlation was run in order to extract fats from insect tissue, and the chromatographic sorption was performed for the extracts concentrating. The HPLC study showed that Biosal is certainly working on C. analis if you are looking at the difference in peak patterns that signal the presence of active ingredients in the treated samples. The report indicates that the use of neem-based biopesticides like Biosal in the market can be an environmentally friendly alternative to synthetic pesticides and will thus help in reducing the risks of pest resistance and harmful residues. As a whole, this research endorses the fact that Biosal could be a useful biopesticide for the management of agricultural pests with the least ecological damage.

Keywords: Neem-based compound, Biosal, High-Performance Liquid Chromatography HPLC.

Effects of Pilates Exercises Versus Pelvic Floor Muscle Exercises Among Elderly Women With Urinary Incontinence – A Randomized Control Trial

Humera Ahmed
Memon College of Physical Rehabilitative and Medicine, Karachi, Pakistan

Urinary incontinence is the most commonly encountered, yet mishandled, health issues in the world. It occurs in both males and females but women are mainly affected. Post menopause urinary incontinence is one of the types which significantly affects quality of life of most of the females. Pelvic floor muscle exercises (PFME), abdominal muscle exercises (AME) and Pilates exercises are used as a physiotherapy treatment protocols. Yet there is no definite literature to show the better effects of one exercise over others. To compare the effects of Pilates exercises versus pelvic floor muscle exercises among elderly women with urinary incontinence. A randomized control trial (RCT) was conducted at SIPM&R and Civil hospital Karachi. Elderly women above 60 years of age experiencing urinary incontinence who met the inclusion criteria were eligible for the study. Sample size of 70 patients with non-probability and purposive sampling technique were screened and consent was taken. All participants were assessed using screening Performa. Frequency was measured by using voiding diary and Stamey's incontinence scoring system. Pre & post treatment scores were documented. The subjects were allocated into two groups through simple random sampling. Group A received Pilates exercises along with Electrical muscle stimulation(EMS) while group B received pelvic floor muscle exercises along with Electrical muscle stimulation(EMS). A maximum drop-out rate of 10% was assumed. Recorded data was entered into SPSS V-16. Variables between groups were compared using repeated measure 2-way ANOVA at baseline and. p value of less than 0.05 was considered. The number of participants was 70. After 4 weeks of treatment, both the Pilates and pelvic floor muscle (PFM) exercise groups experienced improvement in urinary incontinence (UI) symptoms after four weeks of treatment. In the Pilates group (Group A), there was significant improvement observed in all UI parameters, including IQOL questionnaire (p value 0.01), voiding diary (p value 0.01), and Stamey's urinary incontinence (p value 0.01). Similarly, in the pelvic floor muscle exercises group (Group B), there was also significant improvement ($p<0.05$) in all UI parameters except for pad changes in the voiding diary. Pilates exercises demonstrated better outcomes compared to PFM exercises concerning Stamey's urinary incontinence and all parameters of the voiding diary. However, there was no significant difference observed between the two groups in terms of IQOL. In conclusion, Pilates exercises and pelvic floor muscle exercises both are equally effective in improving quality of life of patients with urinary incontinence. However, Pilates exercises are more effective in improving Stamey's urinary incontinence system scores and all parameters of voiding diary (pad change, urine leaks and urgency).

Keywords: Pelvic floor muscle exercises (PFME), Electrical muscle stimulation(EMS)

Medplant-Sdg: Bridging Ancient Wisdom and Modern Science

Shafia Arshad, Amina Arif
Islamia University of Bahawalpur,
University of Central Punjab, Lahore

This article examines traditional knowledge on medicinal plants in Pakistan while using modern methods to incorporate into inequity alleviation thus addressing the sustainable development goals in Cholistan Desert. The study seeks to authenticate existing ethnomedicine using plants, provide new drug and pharmaceutical forms, and enhance management strategies for environmental and community health and well-being. Ethnobotanical interviews were carried out in 30 villages of the Cholistan Desert and a total of 150 medicinal plants and their uses were recorded. The evaluation involved the selection of five most used plants in practice for detailed phytochemical and pharmacological assessment. Isolation and characterization of biologically active principles were performed through advanced methods like HPLC-MS and NMR techniques. Antimicrobial and anticandidous effects were exhibited by extracts of Salvadora persica and Fagonia cretica, which concurred with folklore medicine. A novel triterpenoid isolated from Aerva javanica showed rather active antidiabetic activity in the in vitro system. Initial studies of developed microencapsulated herbal formulations proved to enhance bioavailability and stability. The two strategies are surmised to increased household income by 40% and decreased exploitation of wild plants by 25% in two years for households that are involved in sustainable harvesting regimen and community based farming initiatives for these medicinal plants. This programme will enhance the achievement of SDG 1 on No Poverty, SDG 3 Good Health and SDG 15 on Life on Land. It illustrates how traditional and modern medicine can be synergised to achieve safe and holistic healthcare systems while focusing on environmental and economic issues. This systematic approach provides a unique solution on the application of traditional practices on the use of medicinal plants for attainment of sdg goals in other regions rich in biodiversity.

Keywords: Ethnobotanical, Anticandidous, SDG 1**,** SDG 15.

Jinnah University for Women
1st International Conference on Innovative Cross-Disciplinary Solutions for Sustainable Development Goals (IC-SDGs)
(November 28th – 30th2024)

Exploring the Challenges and Coping Strategies of Young Dpt Students During Clinical Placements in Pakistan

Sehrish Aslam, Mahrukh Siddiqui, Fatima Zehra
Jinnah University for Women, Karachi, Pakistan

Clinical placements areas play a pivotal part in bridging the hole between hypothetical information and real-life situations for Physical therapy students under studies. In spite of their centrality, Physical therapy students regularly confront considerable challenges that affect their well-being and learning results. This study investigates the challenges and adapting strategies experienced by young Physical therapy students under studies amid their clinical placements in Pakistan. A subjective phenomenological examination was conducted to dive into the experiences of Physical therapy students under studies. Information was collected through comprehensive interviews, focus groups, and reflective journals from 30 Physical therapy students under studies of Jinnah University for Women. NVivo computer program helped in coding and categorizing the information to distinguish key themes. The findings revealed that students face considerable stress and anxiety, primarily due to their workload organization, performing under pressure, and taking care of complex quiet cases. Adapting procedures like self- care, looking for social support, and time administration were to some degree viable. The study highlighted the significance of peer support and the need for clinical administrators to supply more organized and steady help. Moreover, challenges such as phonetic and social contrasts and varieties within the quality of clinical situations over educate were noteworthy. The study provides insightful information about the obstacles that young DPT students face during their clinical placements in Pakistan as well as the methods they use to get past them. The study highlights how important it is for students to have support networks and effective coping mechanisms in addition to addressing the major stress and workload management challenges they face. This study results offers important information to teachers and policymakers to create compelling frameworks custom fitted to need of these students.

Keywords: Physical Therapy, Phenomenological, Comprehensive Interviews, Focus Groups, Reflective Journals

Effects of Kinesio-Taping and Muscle Energy Technique On Chronic Sacroiliac Joint Dysfunction Among Post-Partum Females-A Randomized Controlled Trial

Sabrina
ILUKA Holistic Wellness

Post-partum sacroiliac joint dysfunction (SIJD) is a common condition in Pakistan, affecting 66.4% of women and leading to pain and disability. Dysfunction in the sacroiliac joint can cause severe pain, limited mobility, and reduced participation in daily activities. Physical therapy is the primary treatment approach for SIJD, and recent advancements have introduced techniques like Kinesio-taping (K-taping) and Muscle Energy Technique (MET) to manage pain and dysfunction. This study compared the effectiveness of K-taping and MET in post-partum women with SIJD, focusing on pain, pelvic asymmetry, and disability after four weeks of treatment. A randomized controlled trial was conducted on 52 women at two hospitals in Karachi. Participants were divided into two groups: one received K-taping with conventional therapy, and the other received MET with conventional therapy. Both groups attended 12 sessions over four weeks. Pain was measured using the Numeric Pain Rating Scale (NPRS), pelvic asymmetry with a Palm pelvic inclinometer, and disability with the Roland Morris Disability Questionnaire (RMDQ). Results showed that both K-taping and MET significantly reduced pain, pelvic asymmetry, and disability within each group. However, there was no significant difference between the groups in reducing pain and asymmetry. K-taping and MET were equally effective in these areas. For disability, K-taping proved slightly more effective, with a significant advantage over MET. In conclusion, both techniques are valuable for managing SIJD in post-partum women, but K-taping may offer a slight benefit in reducing physical disability.

Keywords: Post-partum sacroiliac joint dysfunction (SIJD), Kinesio-taping (K-taping) .

Augmented Histological Adaptations in Central Veins As Compared To Artery; Potentially Valuable Effect of Moderate Intensity Continuous Exercise in Rehabilitation Protocols

Fatima Hamza, Syed Nudrat Nawaid Shah, Amna Aamir Khan, Sumaira Imran Farooqui, Kevin Joseph Jerome Borges
Ziauddin University, Ziauddin College of Physical Therapy, Ziauddin Medical College, Karachi, Pakistan

Exercise has supreme importance in holistic approach to the management of vascular disorders. Unfortunately, despite playing a crucial role during physical activity the effect of exercise on the ultrastructure of the large veins are not meticulously investigated and documented. Although, arterial remodeling consequent to exercise is well recognized in literature. Aim of our study was to determine the effects of Moderate Intensity Continuous Exercise (MICT) on the histological parameters of large veins i.e. Superior Vena Cava (SVC) and Inferior Vena Cava (IVC) and Aorta. The study was conducted on twenty-four young males, young healthy Sprague Dawly rats divided randomly to two equal groups. Exercise group A was assigned to MICT at 70% of the maximal exercise capacity, while Control Group B was kept sedentary in same environment. Exercise assigned to group A comprised of purpose-built treadmill work out 5 days/week for 22 to 24 mins for 4 weeks. Warmup and cool down were given at commencement and termination of the session for 5 mins. After completion of intervention rats were sacrificed, target tissues were obtained and stained with H&E dye. Nikon Ts 2R – FL microscope was used to obtain images and image J software was used for histomorphometry. Luminal Diameter, wall thickness and media thickness were measured. Statistical analysis was performed using SPSS 23. Exercise group of IVC showed significant surge in all parameters with luminal Diameter ($p<0.0001$), wall thickness ($p=0.04$) and media thickness ($p=0.016$). SVC Luminal diameter of exercise group was insignificantly increased ($p=0.8$) while wall thickness ($p=0.0001$) a media thickness ($p=0.009$) were significantly enlarged compared to control group. In exercise group of Aorta, statistically insignificant change was observed in luminal diameter ($p=0.9$), wall thickness ($p=0.95$) and media thickness ($p=0.16$) compared to control group. This study has shown Large veins i.e. SVC and IVC show early and profound effects in contrast to large artery i.e. Aorta after exercise. As four weeks of MICT revealed more pronounced impact on veins which showed significant alterations in histomorphometry of exercise group as compared to control. These findings highlight augmented venous morphological adaptations to cater amplified demands of exercise.

Keywords: Moderate Intensity Continuous Exercise (MICT),Superior Vena Cava (SVC).

Unlocking Resilience: How Endurance Resistance Training Transforms Knee Cartilage In Young Male Rats

Kiran Yameen, Kevin Joseph Jerome Borges, Sumaira Imran Farooqui, Amna Aamir Khan, Syed Nudrat Nawaid Shah
Ziauddin University, Ziauddin Medical College, Karachi, Pakistan

Rat knee joints resemble human knee joints in structure, with ligaments and menisci that ensure stability and shock absorption. Hyaline cartilage reduces friction, and changes to the extracellular matrix can lead to disorders like osteoarthritis. Exercise improves muscular strength and alleviates symptoms of joint diseases, highlighting its role in joint health. Research suggests that weight-bearing exercises help slow down degenerative knee diseases, yet limited data exists. This study examines how endurance resistance training affects the thickness of young male rats' knee joint hyaline cartilage. These results can later be replicated for the benefit of humans, and an appropriate exercise-based plan can be designed accordingly. A total of twelve young, healthy male rats were divided into two equal groups: the endurance resistance exercise (EG) group and the control group (CG) group. The EG group exercised by carrying weights up a ladder, adapting to the exercise with three sets of 5% of their body weight at first. They increased their carrying percentage week by week until week five when they were carrying 10% for three sets, 20% for four sets, 30% for five sets, and 40% for six sets. Every training session lasted 30 minutes and consisted of five days a week, with 12–15 repetitions per set and two-minute rests. It was discovered that the EG had considerably thicker femoral hyaline cartilage than the CG ($p=0.0048$, Rt side; $p=0.0049$, Lt Side). The effects on tibial hyaline cartilage thickness were also significantly favoring EG over CG ($p<0.001$ on both sides). This study indicates that endurance resistance exercise significantly improved femoral and tibial hyaline cartilage thickness parameters. These results collectively imply that endurance resistance training can potentially enhance cartilage integrity and general health. These results support our hypotheses and point to promising directions for future research in exercise-based interventions for cartilage health. In particular, our findings imply that resistance training with endurance may benefit both hyaline cartilages in the knee joint of young male rats.

Keywords: Osteoarthritis, degenerative, exercise, cartilage

Effects of Simulated Equestrian Therapy (Set) Vs Neuro-Motor Therapy (Mnt) In Improving Motor Proficiency and Gait Parameters of Down Syndrome Children

Maha Siddiqui
Ziauddin University, Karachi, Pakistan

Down syndrome is one of the rising paediatric disabilities worldwide, identified as a growing public health concern. The cascade of complications this population faces requires rehabilitative therapies from a very young age. However, poor compliance to traditional approaches leads to slow progress imposing a significant economic burden. Literature therefore supports the use of innovative paediatric therapies to increase the compliance of child and to add an element of independence and enjoyment. The objective of this study was to evaluate the effects of SET on the Motor proficiency (Balance, Coordination, Strength, Speed, Agility) and Gait parameters (Cadence, Gait Velocity) among children with Down syndrome and compare its effects to Neuro-motor Therapy. This study was a single blinded randomized controlled trial that was conducted between April-Dec 2023 after enrolling n=60 participants having Down syndrome (DS). The allocation of participant was done randomly to the SET group (n=30) and the NMT (n=30) group. Blinding of the participants and their guardians was ensured throughout the study. Each participant was assessed thrice during the protocol i-e at baseline, after completion of week 6 and week 12 via Bruinink's test of motor proficiency (BOT-2) and 10-meter walk test (MWT). Medcalc software was used to analyze the data. The results revealed significant results and indicated the improvement in motor proficiency and gait parameters for within the group comparison in both SET ($p<0.01$) and NMT ($p<0.0001$) groups after 12-weeks of intervention. Moreover, both groups showed no differences between the tested parameters in pairwise comparison ($p= >0.05$). This study concluded that SET was more promising than NMT in improving parameters of Coordination, Strength, Speed and Agility, Whereas, both the interventions SET and NMT were equally effective in improving Balance, Cadence and Gait Velocity in DS children.

Keywords: Down syndrome, motor, balance, Bruinink's test

ABSTRACTS OF ORAL PRESENTERS

Faculty of Business Administration and Commerce

Leadership Language Influence On Sustainability of Workers in an Organization

Uzma Rasool Khan, Dr. Syed Imran Zaman
Jinnah University for Women, Karachi, Pakistan

The purpose of the research is to inspect and classify how leadership language persuades social sustainability of workers and their numerous factors. The research employed the DEMATEL approach in analyzing the associations among the factors of Leadership communication and sustainability of workers. The research selects a purposive expert sampling process by way of consulting ten capable experienced professionals to present their opinions and distinguish well-known factors; the similar experts then came to consent of 16 vital factors of Leadership Language and Social Sustainability of workers as of the group of 33 factors. The DEMATEL technique has been used to be familiar with cause and its effect associations in among Leadership Language and Social Sustainability of workers, as Motivational Language Theory (MLT) underscores the extent of how heads of company correspond in construct confidence, capability and job contentment. The consequences observed that unlock and creative statement with all workforce levels limits on track giving language and management's work out of vigorous listening which can endorse the relationship of employees with their job. Likewise, a leader's utilize of sympathy, motivational and intellect making language allows for considerate atmospheres that revolve around cooperation, lowers anxiety, and enhance employee's contentment among their job beside with their social sustainability.

Keywords:DEMATEL, Leadership, Language**,** Sustainability

The Role of Government Policies in Shaping Leagile Supply Chain Management For Sustainable E-Commerce Growth: A Comprehensive Analysis Of Last-Mile Delivery And Socio-Cultural Impacts

Dr. Sherbaz Khan,Dr. Adeel Shah
Institute of Business Management, Jinnah University for Women, Karachi, Pakistan

This study aims to provide a comprehensive analysis of the critical role of efficient last-mile delivery in the expanding realm of e-commerce. The primary objective is to examine the various factors influencing last-mile delivery performance, including delivery costs, delivery time, modes of delivery, technological advancements in facilities, product variety, and the impact of government policies. Through an in-depth exploration of these elements, the study seeks to identify strategies for enhancing customer satisfaction and overall supply chain efficiency.A survey-based methodology employing convenience sampling was utilized to collect field data, which was subsequently analyzed using Structural Equation Modelling (SEM) to determine the relationships between the key variables. Descriptive and discriminant validity analyses were performed to validate the data. While acknowledging limitations, such as potential biases inherent in preference sampling and the generalizability of findings, the study presents valuable insights into last-mile delivery dynamics.The results reveal that agile supply chain principles significantly influence the factors affecting last-mile delivery performance. Positive correlations were identified between agile methodologies and variables such as delivery cost, delivery time, delivery mode, product variety, and certain sociocultural factors. However, facility technology and some sociocultural variables were found to have no significant impact. Additionally, government policies emerged as a critical moderating factor that interacts with agile practices to shape last-mile delivery outcomes.Theoretically, this research advances our understanding of last-mile delivery in emerging economies by considering the interplay between logistics, infrastructure, and sociocultural dynamics. The findings suggest that future research should adopt a holistic approach, emphasizing the importance of local infrastructure and sociocultural factors. Practically, the study offers valuable insights for businesses and managers seeking to optimize last-mile delivery strategies, adapt to diverse market conditions, and improve customer satisfaction. This research is distinguished by its focus on sociocultural norms and the challenges posed by local infrastructure in emerging economies, contributing to a deeper understanding of last-mile logistics. The findings are particularly relevant for businesses and managers operating in similar contexts, providing actionable insights for enhancing supply chain performance.

Keywords: Structural Equation Modelling, sociocultural, economies, infrastructure

Relationship between Tax Revenue and Economic Growth: A Case Study of Pakistan

S. Kiran Zehra, Prof. Dr. Sagheer pervaiz Ghauri
Jinnah University for Women, Karachi, Pakistan

This study is conduct to gauge the nexus between total tax revenue and economic expansion of Pakistan by employing monthly data covering period from July 2001 to June 2024. Sources from where secondary data extracted are Pakistan Bureau of Statistics and Federal Board of Revenue. Descriptive statistics, Stationarity analysis, ARDL and ECM are the techniques applied to draw the conclusion. The observed findings represents that ARDL short run coefficients are negative and statistically significant which validates the long run relationship between variables for all three models as stated in ARDL bound test. From the results of ARDL (3, 0) – Model 1, at 5% significance level, llsm(-1) and lTrev has positive and statistically significant long run relationship with economic growth but no short run relationship is found between economic growth and tax revenue. From the results of ARDL (1,4,4) – Model 2, at 5% significance level, D(lDT(-1)), D(lDT(-2)) and D(lDT(-3)) had positive; D(lIDT(-1)), D(lIDT(-2)) and D(lIDT(-3)) had negative; but significant short run relationship with economic growth. With respect to the results of ARDL long run coefficients, at 5% significance level, llsm(-1) and lDT(-1) had positive; lDT(-4), lIDT(-1) and lIDT(-4) had negative but statistically significant long run relationship with economic growth. From the results of ARDL (1,4,3,4,0) – Model 3, at 5% significance level, D(lST(-2)) and D(lCD(-3)) had negative; D(lDT(-1)), D(lDT(-2)), D(lCD(-3) and D(lCD) had positive and significant short run relationship with economic growth. Lastly, from the results of ARDL long run coefficients, llsm(-1), lDT(-1), lST(-3), lCD and lCD(-4) had positive significant; lDT(-4), lCD(-1), lCD(-3) and lFED had negative significant long run relationship with economic growth at 5% of significance level. The result of diagnostic test such as normality, serial correlation LM test, residual diagnostic and stability test exhibits that ARDL all three model are stable at 5% significance level.

Keywords: Tax, economic, descriptive statistics, stationarity analysis, significant

The Interplay between Financial Inclusion, Financial Stability, and Monetary Policy: A Case Study of Financial Development in Pakistan

Faiza Maqbool Shah, Prof. Dr. Sagheer Pervaiz Ghauri
Jinnah University for Women, Karachi, Pakistan

This study explores the complex interplay between financial inclusion (FI), financial stability (FS), and monetary policy (MS) and their collective impact on economic growth, population growth, unemployment rates, and trade openness, with a focus on Pakistan's evolving financial landscape. Adopting a quantitative approach and rooted in a positivist philosophy, the research utilized an explanatory research design to examine the causal link between these financial variables and Pakistan's financial development. The study draws on longitudinal data from 25 banks spanning 2015 to 2022. The results reveal that while FI, FS, and MS have an insignificant relationship with economic growth in the short term especially during periods of macroeconomic instability their impact on population growth is significant, with FI improving access to education and healthcare. Although FI showed limited influence on unemployment, FS and MS played a crucial role in employment stability. Furthermore, trade openness is primarily influenced by FS and MS, with stable financial systems and well-coordinated monetary policies fostering a conducive environment for international trade. The study provides novel insights into the challenges faced by emerging economies like Pakistan, emphasizing the need for a holistic approach to financial development. By examining trends over time, it offers a more civilized understanding of how economic policies shape opportunities for growth, employment, and trade, urging policymakers to prioritize financial stability and inclusiveness for sustainable development.

Keywords:financial inclusion (FI), financial stability (FS), and monetary policy (MS)

Empowering Women Investors: Investigating Factors and Attitudes That Shape Investment Choices inthe Context of Sustainable Economic Development

Anam Qamar, Sobia Jamil, Areesha Rizwan & Zoya Hanif
Jinnah University for women, Karachi, Pakistan

As the demographics are changing it has been examined that women are now contributing more in economic activities. They are engaging in household decisions as well as participating in the stock market in the exponentially growing numbers. This variation in perspective becomes particularly compatible when analyzing the evolving number of women investors. Research suggests that they might manifest different behavioral patterns than men compared to the traditional model. Understanding these potential distinctions of gender is significant for several reasons. To examine the impact of socio-economic factors, personal factors and behavioral factors on women investment decisions mediated by women investment attitudes.The explanatory research is conducted with all the women individuals of Pakistan who use to invest in stocks are considered as the population for the study and the sample size comprises of 152 respondents. Using deductive approach and collected data through questionnaire survey and analyzed through PLS-SEM. The questionnaire for this research consisted of eight main sections measured through Lickert Scale.The findings suggest the significant positive impact of market factors, social factors, personal factors and regret bias on women investment decision with mediating role of women investment attitude while loss aversion exhibit no significance.The study confesses a potential association between women's loss tolerance and financial decision making of stock investment. It reveals that women with have a robust understanding of financial insights may unveil a better comfort level with calculated risks which make them potentially leading to more diversified portfolios. Moreover, Investment goals appeared as a significant aspect. Women ranking long-term financial security might be more liable than short-term security for the reason of market fluctuations compared to those inspired of near-term returns and think that higher the risk, high rate of return they will get. The significance of this study is to make women understand these choices and options well so that they can tend to invest wisely. Their financial knowledge and independence will ultimately increase after this. The study can assist in order to diminish the gender gap between men and women because they make financial world more comprehensive.

Keywords: Demographics, Lickert Scale, portfolios, market fluctuations

The Role of HR Technology in Enabling Hr Analytics: Implications for Organizational Performance

Sobia Jamil, Dr Sherbaz Khan, Adeeba khan
Jinnah University for Women, Karachi, Pakistan

This research investigates the uncertain influence of human resource (HR) analytics on organizational performance, aiming to clarify the mechanisms, methodologies, and timing through which HR analytics enhances performance outcomes. Utilizing a structural equation modeling approach, the study examines a chain mediation model that links HR technology, HR analytics, and organizational performance. Data were collected from a diverse range of organizations to support the analysis. The results validate the proposed chain model, revealing that the availability of HR technology significantly facilitates the adoption of HR analytics. This adoption, in turn, fosters employee engagement and positively influences organizational performance. This study contributes to the field of HR analytics by elucidating the reasons and tools through which HR analytics enhance organizational performance. It highlights that access to HR technology is a crucial enabler of effective HR analytics, thereby offering valuable insights for organizations aiming to leverage analytics for improved performance outcomes.

Keywords: Technology,human resource, methodologies, leverage analytics

Jinnah University for Women
1st International Conference on Innovative Cross-Disciplinary Solutions for Sustainable Development Goals (IC-SDGs)
(November 28th – 30th2024)

Investigating the Impact Of Demographic Factors And Perceived Inconvenience On Consumer Adoption Of Eco-Friendly Products In Developing Economies: A Behavioral Approach

Afifa Shoaib, Dr. Sherbaz Khan
Jinnah University for women, Karachi, Pakistan

This study aims to analyze the consumption of eco-friendly products (EFP) in developing countries and shows how personal, demographic and socio-environmental variables affect consumers' purchase intentions. It is also focused on the explanatory and moderating effects of demographic characteristics and personal inconveniences on purchasing EFPs.

The study measured variables i.e. attitude, subjective norms, perceived behavioral control, green self-identity and perceived personal inconvenience. The study used a quantitative approach using a sample size of 252 middle-class consumers in Karachi. The data were collected through structured questionnaires from the participants. The analysis of data was done through Partial Least Squares Structural Equation Modeling (PLS-SEM).The findings suggested that subjective norms, attitudes towards environmental protection and perceived personal inconvenience had a direct, positive impact on purchase intention. Meanwhile, environmental consequences and green self-identity had no direct impact on purchase intention. The demographic factors of age and income both moderated the relationship between purchase intention and purchase behavior. This research offers politicians and marketers some insights as to what's keeping consumers from making green behavioral changes. A key strategy should be to reduce perceived inconvenience and increase environmental education, with a particular focus on emerging middle-class consumers in developing countries. This study contributes to the current literature on ecologically responsible consumption in the emerging economics context by emphasizing the relationship between demographic factors and inconveniences and filling the gaps in the literature on eco-responsible consumption in the developing world.

Keywords: Eco-friendly products, demographic, socio-environmental, attitude

Predicting Brand Loyalty through Social Media Marketing: An Innovative Sem-Neural Network Method with a Cross-Country Comparison of China And Pakistan

Tayyaba Rafique[1], Dr. Sherbaz Khan[2]
[1]ATLAS Asset Management
[2]Jinnah University for Women, Karachi, Pakistan

The study's methodology and design involved statistical analysis of the 405 online surveys using Smart PLS 4. SMMA had a positive impact on consumer trust, brand attachment, and loyalty, indicating a substantial impact on these metrics. Many studies and applications have focused on the significance of client trust in social media marketing (e.g., Facebook and Instagram) (Brun et al., 2020; Rather et al., 2019). Belief in a brand causes consumers to remain loyal to that brand over time. So et al. (2016)b and Wei et al. (2013) found that when customers have a positive experience with a brand, they are more likely to trust it. According to Huang (2017) and Veloutsou (2015), customer faith also affects brand loyalty within the company. Consequently, consumer loyalty to a brand may be influenced by customer involvement, which fosters trust between the two sides.

This study's results show that SMMA has a significant impact on customers' trust, attachment, and loyalty to a brand. Additionally, research has demonstrated that bonding with and trusting a brand can moderate the impact of brand loyalty. This study found that in order for companies to reach their marketing objectives and maintain their performance, they need to make sure that their marketing materials follow the SMMA and CE guidelines. Findings indicate that SMMA is a better predictor of return visits than brand trust. The degree to which customers have faith in the brand also moderates the relationship between SMMA and repeat business. There is evidence that trust in the brand mediates the relationship between SMMA and the likelihood of a return visit. In recent years, social media has grown into an essential component of any fruitful advertising strategy. Companies will utilize SMMA to create an ongoing, interactive relationship with their customers. Using the stimulus-organism-response paradigm, this study looked at how social media marketing via micro-advertising (SMMA) affected the trust and loyalty of target audiences, as well as their intentions to visit the online presence of that business on social media sites like Instagram, Facebook, and Twitter. Therefore, in order to build stronger connections with customers and ultimately generate sustained performance from their actions, businesses that use SMMA must select the right marketing materials. If Facebook's SMMA campaigns are successful, consumers will have more faith in the company and be more loyal to its brand. Consequently, the customer is more inclined to arrange for a subsequent visit. Brand executives on social media platforms (like Facebook) should, therefore, advocate for and engage in SMMA on behalf of their companies in order to boost consumer trust in those businesses. These findings fill a gap in the literature by linking SMMA with revisit intention and conducting a holistic investigation of the effect of SMMA on revisit intention via brand trust as a mediator, an approach not taken by previous studies.

Keywords:SMMA, likelihood, stimulus-organism-response paradigm, Brand executives

Exploring the Interplay Of Environmental Consciousness, Health Safety, And Economic Viability On Consumer Purchase Intentions For Organic Food: A Cross-Cultural Study With The Mediating Role Of Consumer Involvement

Vipul Mahesh, Dr. Sherbaz Khan
Jinnah University of Women, Karachi, Pakistan

The purpose of the study is to determine the relationship between consumer purchase intentions for organic food and the intervening role of consumer involvement in the process of organic food purchase. The main aim was to identify the relationship between consumer purchase intentions for organic food and perceived health consciousness and food safety, as well as the intervening role of consumer involvement among consumers of Pakistan.This study employs a quantitative method to analyze 254 respondents 'consumer behavior in relation to the specific case of food safety concerns using Partial Least Squares Structural Equation Modeling (PLS-SEM). The data were gathered through a structured questionnaire, which included items that measure healthiness consciousness, safety concern about food (independent variables), consumer involvement in food choices and the level of purchase intention (dependent variables). The model is evaluated by reliability tests, convergent and discriminant validity, and hypothesis testing using bootstrapping. The findings show that health consciousness and food safety concerns significantly influence consumers' intention to purchase organic food. The level of consumer involvement serves as an important mediating role where both the factors, i.e., health consciousness and food safety concern, play a significant role in the purchase intention of the consumers. The study elucidates a strong association between consumers' motivation and their buying behavior.The results might give pause to organic-food marketers eager to emphasize health and food safety benefits. In contrast, they give policymakers and producers ideas on how to better design strategies to promote sustainable and healthy food consumption.Our study contributes to the literature by demonstrating the importance of a less explored environment of a developing nation, Pakistan, in how it associates health consciousness and food safety-related concerns with consumer involvement and purchase intentions. The proposed conceptual model offers a holistic approach to better comprehending the underlying factors related to consumer involvement and purchase intentions in an organic food market. The study also provides new avenues of research and actionable implications for the stakeholders of the organic food sector.

Keywords:organic food, health, food safety, consumer

The Impact of Smartphone Advertising on Consumer Purchase Intentions: A Multi-Dimensional Analysis of Attitude, Ad Formats, and Demographic Moderators

Dr Sherbaz Khan, Syeda Hafiza,Halima Sadia
Jinnah University for Women, Karachi, Pakistan

To explore the effects of Smart phone advertising on consumers' purchase intention, with the mediating role of attitudes toward advertised products and brands and the moderating role of demographic information such as age, gender and income.

The research utilizes a quantitative approach through a structured online survey among Smart phone users. The sample consists of 100 respondents. The data was analyzed using statistical approaches, including regression and moderation analysis, to understand the relationship between Smart phone advertising and attitudes and purchase intentions.Smartphone advertising exposure exerts a significant positive effect on consumers' purchase intention, with this relationship mediated by consumers' attitudes toward the advertised product or brand. Users are differently influenced by video ads and display advertising. Age and income are moderating factors that can strengthen or weaken the relationships. Younger consumers and higher-income users have stronger purchase intentions than their counterparts.The study's results can provide marketers with direct implications for designing Smartphone advertisements. Smart phone advertisements should be highly engaging and persuasive, especially for the younger generation, but they should also be enjoyable for the older generation. Advertisers' ultimate goal should be creating positive attitudes towards a brand, which in turn can lead to higher purchase intentions.

This research's findings would help further unveil the incredibly evolving ways smart phone advertising can affect consumers' psychological processes in cognition, intention and behavior. The findings also shed light on the role of attitudes in mediating the relationship between advertising appeal and purchase intention. Moreover, demographic factors such as age and gender have been shown to moderate this relationship.

Keywords: Smart phone, demographic, gender, advertisements

How Does Green Human Resource Management Improve Sustainable Organizational Performance In Public Services?

Sobia Jamil, Anam Qamar, Ammara Sabir
Jinnah University for Women, Karachi, Pakistan

This research is set to examine the complex associations between Green Human Resource Management (GHRM) practices and Organizational Sustainable Performance (OSP) in corporate sectors. This research is quantitative in nature and our approach is deductive Employing a structured questionnaire with a Likert scale, data is collected from 83 participants through a convenient sampling method. Four independent variable Digital Technologies (DT), Employer Green Behaviors (EGB), Green Training and Development (GTD), and Green Career (GC) are examined as potential contributors to OSP. Based on our analysis there was a strong positive influence of digital technologies, Employee Green Behavior and Green career on the dependent variable Organizational Sustainable Performance, however no association of influence was found on our 3rd independent variable which was Green training, which indicates that it little to no effect on our dependent variable.

Keywords: Green Human Resource Management, Organizational Sustainable Performance, Employer Green Behaviors, Green Training and Development

ABSTRACTS OF ORAL PRESNTERS

FACULTY OF PHAMACY

Evaluation of Electronic Health Records (Ehr) Implementation in Primary Care: A Global System Review

Sana Bibi
Salim Habib University, Karachi, Pakistan

The implementation of Electronic Health Records (EHRs) in pharmacy practice has transformed patient care by enabling better clinical decision-making through comprehensive and accessible patient history. Pharmacists play a crucial role in this digital transition, yet their contribution is often underemphasized. This systematic review aims to examine the role of pharmacists in the implementation of EHR systems globally, focusing on processes, benefits, and obstacles in various healthcare settings. A comprehensive literature search was conducted across multiple databases, including PubMed, Scopus, and Web of Science. Studies were included if they evaluated the role of pharmacists in EHR implementation in any healthcare setting. Exclusion criteria were non-English publications and studies lacking specific data on pharmacists' roles. Data extraction and quality assessment were performed independently by two reviewers. The review included 35 studies from diverse geographic locations. Key findings indicate that pharmacists enhance medication safety, improve workflow efficiency, and contribute to better patient outcomes through the use of EHRs. However, challenges such as interoperability issues, training needs, and workflow integration were identified. Quality assessment revealed moderate to high certainty in evidence, though publication bias was noted in studies funded by EHR vendors. Pharmacists significantly impact the successful implementation and utilization of EHRs in healthcare. Addressing the identified barriers and enhancing interoperability and training can further optimize the benefits of EHRs in pharmacy practice. Future research should focus on longitudinal studies to assess long-term outcomes and develop standardized guidelines for EHR integration in pharmacy settings.

Keywords: Electronic Health Records, implementation, PubMed, Scopus, and Web of Science

Advancing Healthcare Professionals' Capabilities: Visual Analysis Of Phytomedicines And Multivitamins to Address Substandard Medications

Sana Bibi
Salim Habib University, Karachi, Pakistan

Herbal medicines and multivitamins are crucial for global health, but in low- and middle-income countries (LMICs), substandard products increase treatment failure and mortality risks. Poor storage and transportation further degrade quality. Current quality assurance (QA) guidelines mainly target manufacturers, leaving healthcare workers with limited tools for on-site assessment. Visual inspection methods have effectively identified risks in studies from the Democratic Republic of Congo and Sudan. This study aims to enhance healthcare professionals' capabilities by developing an improved visual inspection checklist for evaluating herbal medicines and multivitamins in retail and commercial pharmacies. By focusing on crucial quality indicators like packaging integrity, color, and labeling accuracy, the checklist serves as a practical tool for detecting substandard products. With the growing use of these treatments, ensuring their safety and quality is vital for public health. A cross-sectional study was conducted over three months to evaluate the quality of herbal and multivitamin medicines available at retail pharmacies in Saddar, Garden, Korangi, and Nazimabad, Karachi. The study involved 200 samples and utilized a visual inspection checklist adapted from a survey in the Democratic Republic of Congo. This checklist helped healthcare workers quickly identify and assess poor-quality products based on color, physical state, packaging integrity, dosage form, and manufacturer information. Products were categorized into three risk levels: A) Safe for dispensing, B) Dispense with explanation, and C) Quarantine for risk-benefit assessment. The study focused on retail and commercial pharmacies, excluding hospital pharmacies, and included a survey to identify recurring quality issues. Data was analyzed with descriptive statistics to highlight quality control gaps in distribution. The implementation of the visual inspection checklist revealed several key quality issues in herbal remedies and multivitamins across pharmacies. Only 38.5% of products had external packaging, with intact packaging observed in just 34.6%. Internal packaging was intact in 46.2% of the products. Label accuracy was suboptimal, as active ingredients were listed on the packaging of only 46.2% of products, and dosage amounts were provided for 38.5%. Expiry dates were encoded in 42.3% of cases, hindering clarity. Regarding physical appearance, 53.8% of products had a uniform color, and 57.7% were free from lumps, clots, or foreign particles. Clear instructions for oral liquid solutions were found in 34.6% of cases, and improper storage conditions were observed, potentially compromising product safety. The study highlights significant quality issues with herbal remedies and multivitamins in pharmacies. Key concerns include inadequate packaging integrity, with a low percentage of products having intact packaging. Label accuracy was

lacking, with fewer than half of the products providing clear information on active ingredients, dosage amounts, and expiry dates. Additionally, physical appearance varied, showing irregularities in color and texture. These findings highlight major quality control gaps in commercial distribution, suggesting that current QA measures are inadequate. Stricter quality control protocols and regulatory oversight are needed to ensure product safety and efficacy

Keywords: Herbal medicines, multivitamins, active ingredients, physical appearance

Collagenase Hybrid Nanoflowers: A Novel Approach for Stabilization and Amyloid Fibril Degradation

Hafiza Sumaiyya Jamal and Syed Abid Ali
Third World Center for Science and Technology, H.E.J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences (ICCBS), University of Karachi,

Enzymes are versatile macromolecules possessing distinct intrinsic properties such as excellent catalytic activity and environment friendly nature for which they have been extensively studied. Despite their use in various industries, it is important to highlight that the main obstacles to their efficient use as catalysts are their poor reusability, high environmental sensitivity, low operational stability, and difficulty in recovering them from reaction systems. To overcome these obstacles, several enzyme immobilization approaches have been used, which is a prolific area in research. Organic-inorganic hybrid nanomaterials are considered as promising immobilization matrix for enzymes owing to their markedly enhanced stability and reusability. To assess the efficacy of inorganic hybrid nanoflowers in stabilizing collagenase and boosting its proteolytic properties and anti-amyloid for advanced biomedical applications. Hierarchical flower-like collagenase inorganic hybrid nanoflowers were synthesized and synthesis conditions were optimized. Hybrid nanoflowers were extensively characterized by various spectroscopic and microscopic techniques. Nanoflowers were systemically subjected for catalytic behavior, thermal and pH stability, tolerance towards various solvents and surfactants, shelf life, and reusability were also investigated. Finally, application of the synthesized Col-hNFs was also established as a novel anti-amyloid agent.SEM images of Col-Zn-hNFs showed flower-like morphology with average size of 5.1 µm and zeta potential of - 14.3 mV. Col-Zn-hNFs demonstrated superior relative activity across wide pH and temperature ranges, presence of organic solvents and surfactants as compared to its free form. Moreover, Col-Zn-hNFs exhibited excellent shelf life stability and favorable reusability. Col-Zn-hNFs showed the ability to suppress and eradicate fully developed insulin fibrils in vitro (IC_{50} = 2.8 µg/mL). The synthesized nano-biocatalyst demonstrated significant enhancement in enzyme performance, remarkable reusability, thermal and storage stability, catalytic efficiency, and the abilityto withstand organic solvents and surfactants and long-term storage. Col-Zn-hNFs exhibited a considerably greater capacity for amyloid degradation. Collagenase hybrid nanoflower is a novel innovation in pharmacological research, offering the potential for treating neurodegenerative diseases and improving global health outcomes.

Keywords: Enzymes, catalytic activity, operational stability, immobilization

Formulation and Characterization of Hpmc-Stabilized Silver Nanoparticles for Enhanced Antimicrobial Activity of Ampicillin

Aqsa Khurram
Salim Habib University, Karachi, Pakistan

The overuse of antibiotics and prophylactic overutilization are significant contributors to increasing bacterial resistance. Nanotechnology, particularly silver nanoparticles (AgNPs), has emerged as a promising approach to combat resistance. AgNPs exhibit strong antimicrobial properties due to their ability to release silver ions (Ag^+), which disrupt bacterial proteins, DNA, and cell membranes. Their broad-spectrum efficacy and low resistance development make silver an ideal candidate for infection control. This study aimed to synthesize polymer-stabilized silver nanoparticles (HPMC-AgNPs) using a cost-effective chemical reduction method and enhance their antibacterial activity by loading them with ampicillin in two formulations: F1 (60 mg) and F2 (80 mg). The efficacy of the antibiotic-loaded nanoparticles (Amp-HPMC-AgNPs) against various bacterial strains was also evaluated. Amp-HPMC-AgNPs were synthesized using sodium borohydride ($NaBH_4$) as a reducing agent and HPMC as a stabilizing polymer. UV-visible spectroscopy and FT-IR validated the chemical synthesis, while FT-IR also confirmed drug interaction and loading. Morphological analysis was performed using Scanning Electron Microscopy (SEM), and the Polydispersity Index (PDI) and zeta potential were measured by Dynamic Light Scattering (DLS). The antibacterial activity of the formulations was evaluated by measuring the zone of inhibition (ZOI) and Minimum Inhibitory Concentration (MIC) against various bacterial strains. The average particle sizes of HPMC-AgNPs, Amp-HPMC-AgNPs (F1), and Amp-HPMC-AgNPs (F2) were 42 nm, 87 nm, and 92 nm, respectively, with corresponding PDI values of 0.171, 0.235, and 0.261. Zeta potential ranged from -8 mV to -27 mV. SEM showed spherical morphology without aggregation, and drug loading efficiency was 66% and 60% for F1 and F2, respectively. MIC values for Amp-HPMC-AgNPs were between 5.12 and 10.76 µg/mL, lower than the 16 µg/mL for free ampicillin, demonstrating enhanced antibacterial activity. The synthesized Amp-HPMC-AgNPs exhibited significant antibacterial activity, with potential as a cost-effective solution to combat bacterial resistance by synergizing the effects of silver and ampicillin.

Keywords: Prophylactic, Nanotechnology, silver nanoparticles, antibiotics

Jinnah University for Women
1st International Conference on Innovative Cross-Disciplinary Solutions for Sustainable Development Goals (IC-SDGs)
(November 28th – 30th2024)

Targeting Drug-Resistant Tuberculosis: Synthesis and Pharmacokinetic Evaluation Of Pyridine Analogues As Antimycobacterial Agents

Faiza Akhtar[1], Somia Gul[2]
[1]*Ziauddin University, Karachi, Pakistan*
[2]*Jinnah University for Women, Karachi, Pakistan*

The increasing trend of drug resistance, particularly in tuberculosis (TB), poses a growing threat to global public health. TB continues to account for the highest mortality rate worldwide, with drug-resistant strains requiring new therapeutic approaches. Pyridine-based compounds have long been under focus for their antimycobacterial properties, particularly in the treatment of TB. This study links with the United Nations Sustainable Development Goal 3 (SDG 3) that focuses on Good Health and Well-being for all, to end epidemics including TB, through better treatment. The primary objective of this study is to design, synthesize, and evaluate new pyridine-based analogues to improve binding affinity and potential efficacy against drug-resistant Mycobacterium tuberculosis. The study also aimed to assess the in-silico drug-like properties and pharmacokinetics of the designed analogues. Nine pyridine-based analogues were designed and virtual screening was performed to analyze their binding energies with selected target receptor. Analogues with higher binding affinities than the reference compound were taken for the synthesis. Four were obtained from positional transformation of two positions present in pyridine ring. Spectroscopic techniques were employed to validate their structures, also physical characterization and in-vivo pharmacokinetics studies were performed. The virtual screening of 9 pyridine analogues with superior binding affinities compared to reference compound. In silico screening revealed that these compounds demonstrated optimal bioactivity, drug-likeness, and favorable pharmacokinetic profiles. Out of 9, 4 compounds FI 01, FI 05, FI 06, FI 03 were synthesized and their structures were confirmed via spectroscopic spectra's along with physical characterization. Docking studies further supported the potential of these analogues as effective antimycobacterial agents, showing improved target binding compared to the standard pyridine scaffold. The newly synthesized pyridine-based analogues show promise as potential candidates for the treatment of mycobacterium tuberculosis. This work aligns with the agenda of the SDG by striving to find the best approach to fight drug-resistant diseases. It is consistent with strategies implemented by global health agencies for the enhancement of the general health of citizens.

Keywords: Tuberculosis, drug resistance, therapeutic approaches, Pyridine-based compounds

Jinnah University for Women
1st International Conference on Innovative Cross-Disciplinary Solutions for Sustainable Development Goals (IC-SDGs)
(November 28th – 30th2024)

Anti-Tuberculosis Efficacy of Sulfamethoxazole Metal Complexes Against Resistant Strains Ofmycobacterium Tuberculosis: Design, Synthesis, Characterization And Docking Studies

Arzoo Ajaz[1], Somia Gul[1], Mahwish Akhtar[2]
[1]*Jinnah University for Women, Karachi, Pakistan*
[2]*Dow University of Health Sciences, Karachi, Pakistan*

Globally, respiratory infections, particularly tuberculosis (TB), still pose significant global health challenge. The rising prevalence of drug-resistant strains of *Mycobacterium tuberculosis* further complicates efforts to eradicate this infectious disease. However, emergence of metal complexes as an antimicrobial treatment modality has offered new hope. Sulfamethoxazole (SMZ) are well reputed for their extensive antimicrobial therapeutic effects. In this study, we aimed to synthesize, docked, spectroscopically characterize, and assess the antimycobacterial as well as antimicrobial efficacy of SMZ metal complexes. Six SMZ metal complexes were synthesized by reacting [4-amino-N-(5-methyl-1, 2-oxazol-3-yl) benzene sulfonamide] with metal salts of zinc (Zn), iron (Fe), silver (Ag), copper (Cu), cobalt (Co), and manganese (Mn). The synthesized complexes were then subjected to physical (color, melting point and solubility) and chemical characterization Elemental analysis and spectroscopic techniques i.e., FTIR and ^{1}HNMR. Moreover 1% proportion method and broth dilution methods were used to evaluate antimycobacterial and antimicrobial activity. Finally, the synthesized metal complexes have been docked into selected target proteins for *Mycobacterium tuberculosis*, *E. coli* and *S. aureus*. Prior to synthesis, the stoichiometric studies revealed the coordination of ligand to metal in the ratio of 2:1. The outcomes obtained via spectroscopic techniques have confirmed the bi-dentate coordination of SMZ-Metal complexes through sulfonamide nitrogen and oxygen atom. The outcomes obtained against *M. Tb* showed that SMZ (Fe, Cu, Mn) complexes showed highly significant activity against INH resistant, MDR and XDR-TB. However, antimicrobial activity results demonstrated that all synthesized complexes showed highly significant activity against *E. coli* and *P. aeruginosa, E. mirabilis and S. aureus* with MIC (0.048µg/ml). Moreover, docking algorithm of synthesized complexes proved them as promising antimycobacterial and anti-microbial agents with better binding affinities than reference drug (SMZ). SMZ-metal complexes could serve as a therapeutic substitute in cases of MDR and XDR-TB as well as very active antagonizing therapeutic modulates against microbes.

Keywords: Tuberculosis, *Mycobacterium tuberculosis,* Sulfamethoxazole, antimicrobial activity

Synthesis of Silver Nanoparticles Stabilized With Succinic Acid (Agnps/Sa) and Optimization with Response Surface Methodology to Investigate Synergistic Effect with Antibiotics

Irshad Begum, Sana Shamim, Zubia Rashid, Zahid Hussain Soomro, Afsheen Arif
Dow University of Health Sciences,
Pure Health Laboratory, Mafraq Hospital, Abu Dhabi, United Arab Emirates.
The Karachi Institute of Biotechnology and Genetic Engineering, University of Karachi.

Silver nanoparticles (AgNP) have gained their importance as crucial materials, either for designing innovative devices or drug delivery system, as they possess unique physical and chemical properties. Current research aims to synthesize and stabilize AgNPs by a fast, simple (one-step) and low-cost route using Sodium borohydride acid as a reducing and Succinic acid as the stabilizing agent. The effect of experimental conditions on the synthesis of AgNPs was also analyzed with Response Surface Methodology (RSM); the most extensively used statistical approach for process optimization. Here, silver particles were reduced by chemical reduction method followed by encapsulation leading to stabilization by succinic acid followed by optimization through prominent Surface Plasmon Resonance (SPR) feature, dependent upon nanodimension and nanostructure. Characterization by UV/Vis and FT-IR, indicates a narrow and sharp surface plasmon resonance band (SPR-band) at 400 nm, and a clear drift in the carbonyl frequency at 1697 cm^{-1} to 1631 cm^{-1}, respectively. The spherical yellow to brownish color nanoparticles of size 80-95 nm, exhibits relatively narrow size distribution and the z-average diameter of 121.2 nm with low poly dispersity index (PDI) of 0.381 were determined by SEM, DLS technique and zetasizer.Response surface methodology (RSM) approach was adopted to conclude the impacts of experimental parameters on production and stabilization of AgNPs taking $AgNO_3$ concentration, concentration of stabilizer and stirring time into account as independent variables. RSM study determines that $AgNO_3$ concentration significantly influenced the size of AgNPs/SA with an anticipated value of 1.527 at conc. of $AgNO_3$ (1.00 mM, **A**), stabilizer (2.12mM, **B**), and stirring time (1 min, **C**) for AgNPs/SA. To attain maximum absorbance of stabilized AgNPs these independent variables were linked together as a well-designed relationship in a selected quadratic model, concluding that all the factors played pivotal roles in getting the desired outcomes.These synthesized, characterized and stabilized AgNPs/SA were screened for their activity alone and in synergism with selected fluoroquinolones against selected gram +ve and –ve organisms. Expediting that these AgNPs/SA were significant against *S.typhi* and *K.pneumonea* in synergism with azithromycin in comparison with fluoroquinolones.

Keywords: Silver nanoparticles, Sodium borohydride acid, plasmon resonance, stabilized AgNPs

ABSTRACT OF ORAL PRESENTERS

FACULTY OF SCIENCE

Characterization of Lactobacillus, a Probiotics Isolated From Milk Sample

Zobia Ansari*, Aliya Hayat,FarkhandaAfaque
Jinnah University for Women, Karachi, Pakistan.

The rising incidences of antimicrobial resistance among gastrointestinal pathogens is a current global acumen regarding to public health menace due to the unjustified usage of commonly available classes of antibiotics and raised healthcare expenditures. Complementary and alternative medicine has drawn interest and has contemporary insights for which the capacity of probiotic bacteria, *Lactobacillus* species, to inhibit pathogenic microorganisms has shown promising results, are in great demand. Raw milk samples were collected from a local market in Karachi. The Lactobacillus spp were isolated on MRS media. The isolated colonies were then characterized based on morphology and biochemical reactions. The ability to produce enzymes and bacteriocins was also detected. The molecular characterization of Lactobacillus species based on 16S rRNA gene was performed using universal primers. The bacteriocins production was analysed using the cross streak method against *E.coli*and*Enterococcus fecalis*. From 15 raw milk samples, two isolates of *Lactobacillus* species were selected for this study. The organisms were identified as gram-positive, large rods. The organism showed variable results of carbohydrate fermentation. the 16SrRNA genes were amplified and found to be 580bp length. The organisms have ability to produce bacteriocin against *Enterococcus fecalis*and *E.coli*. The field of probiotics has an emerging potential insight to overcome the resistance related issues and can be efficiently utilized on a commercial scale as an alternative treatment tool.

Keywords:*Lactobacillus,*antimicrobial resistance, antibiotics, *Enterococcus fecalis*

Application of Archimedean and Meta-Elliptical Copulas in Monsoon Rainfall Impact Assessment For Flood Prediction In Pakistan

Umme Layba*, Syed Ahmad Hassan, Mehwish Shafi Khan
University of Karachi, Karachi, Pakistan.

Pakistan, a country with a varietyof natural resources and a large river system, faces frequent and devastating floods due to its diverse climatic conditions. Flood fluctuations significantly impact agricultural productivity, highlighting the need for improved flood prediction methods.Moreover, the traditional methods for example, linear regression assumes a linear relationship between variables and has limited ability to model tail dependenciesthat copulas address. In this study, two types of copulas have been applied: Archimedean and Meta-Elliptical copulas, to obtain the most suitable bivariate distribution between two rain gauge stations: Bunji and Gilgit-Gupis. For the purpose,monthly monsoon rainfall data for both stations collected from the Pakistan Meteorological Department from 1980 to 2004. The best Copula is selected based on goodness-of-fit test Akaike information criterion and Bayesian Information Criteria. Results indicate that the Frank copula found to be suitable for monthly monsoon rainfall and Ali-Mikhail-Haq copula found to be best for total monsoon rainfall data; both are the type of Archimedean copulas. The fitted copula is then applied to derive the bivariate distribution, conditional distribution and joint return period. Bivariate rainfall data is generated with the fitted copulaand it is observed with the increase of sample size, the generated data is able to capture the correlation. This information proves invaluable for future flood prediction and may improve hydrological resource management in Pakistan. The enhanced accuracy of flood forecasting offered by the copula method can significantly contribute to mitigate the effects of floods on agriculture and other infrastructure.

Keywords: Archimedean, Meta-Elliptical copulas, Meteorological Department, hydrological resource

To Study the Parasites in the Intestine Of Frog Rana tigrina

Rimsha Naqvi*, Mary Mahwish, Rabail Sultana
Jinnah University for Women, Karachi, Pakistan.

The intestinal parasites of frog are very common in the worldwide unlike Pakistan where no study took place on that parasite. The investigation was performed to decide the impact of intestinal parasites on the intestine of frog(Rana tigrina) because investigation of many cases of intestinal infection in frogs. Studied 53 frogs (40 females and 13 male) observation occur in 30 days did dissection and observe the parasite under the microscope which attached to the wall of intestine. We find out two different parasite *Echinostoma* and *Enterobius vermicularius* causing gastrointestinal disease. Identification made easy by the permanent slide process due to which parasite internal organs visible and can be recognize specimen easily. According to the result these parasites swollen the intestine change morphology and left intestine whitish and yellowish colour and spot on the intestine.Although frogs rarely cause waterborne illnesses, several of their internal viruses have the potential to pollute water sources. This is especially true of their intestines.The bacteria *Salmonella*, which is present in the intestines of frogs and other amphibians, is the cause of salmonellosis.Giardiasis is a parasitic ailment brought on by the *Giardia* parasite, which is occasionally detected in water that has been tainted by animal or frog excrement.Water habitats may be indirectly impacted by chytridiomycosis, a fungal illness that affects frogs but not humans.The *Rana tigrina* was taken from fresh water and euthanized by chloroform.,all organs removed except intestine dissect and observed under microscope and examined to find out the parasite observed live parasites. For observation use permanent slide method.The last outcome demonstrate that the intestinal parasite *(Echinostoma& Enterobius vermicularius*) are highly infectious parasites which low the growth ratio, cause fatal infection in gastrointestinal track. The host's compatibility determines the changes that *Echinostoma*causes in the intestinal mucosa. High levels of infection are induced by the infection in hosts with high compatibility. Consequently, more experimentation is required to control the infection and high death rate.

Keywords:intestinal parasites, Rana tigrina, Giardiasis, infectious

AI-Driven Design of Metap-2 Inhibitors Using Deep Learning and Md Simulations

Rubinaa[1] and Syed Tarique Moina[2]
[1]Third World Centre for Science and Technology, H.E.J. Research Institute of Chemistry,
[2]InternationalCentre for Chemical and Biological Sciences, University of Karachi, Karachi, Pakistan

Methionine Aminopeptidase-2 (MetAP-2) is a metalloenzyme and its gene is found in almost all types of cancer. This enzyme has been identified as a potential target for the search for new anti-cancer agents since no FDA-approved drugs are available against MetAP-2-associated cancer. The traditional drug discovery process is costly and time-consuming but recent advancements in Artificial Intelligence (AI) and Machine Learning (ML) offer a more sustainable approach by accelerating drug design while reducing costs and environmental effects. The current study aims to search for new and effective MetAP-2 inhibitors using AI-driven *de novo* drug design, molecular docking, and molecular dynamics (MD) simulation, thereby assisting sustainable drug discovery.For*de novo* drug designing, the fragment of a potent inhibitor was selected to train the deep learning (DL) model for drug generation at the MetAP-II pocket. For further screening of the obtained drug-like candidates, docking, all-atom MD simulation, and free-energy calculation were carried out. The efficiency of the designed inhibitors was compared with the reference potent inhibitor of MetAP-II. Numerous inhibitors were designed from the fragment based on the docking score with appropriate synthetic accessibility by training AI, particularly the DL model. All the identified hits followed Lipinski's rule of five and were further screened for pharmacokinetics and pharmacodynamics properties. Based on these filtration steps, forty-one inhibitors were selected which were used for further screening. Afterward, all-atom MD simulations were performed to obtain information on good inhibitors, and based on free energy calculation five best hits were identified. The structural similarity score is between 64 to 89% indicating structural novelty. These newly designed five-hit drug candidate complexes with MetAP-II were subjected to long MD simulations to evaluate the structural and dynamical properties of MetAP-II with and without inhibitors. Moreover, the designed inhibitors' interactions with MetAP-II were also explored over time. This work offers a sustainable and efficient solution with AI and MD simulations for drug design, providing five new potent MetAP-2 inhibitors. This approach not only accelerates the identification of promising candidates but also reduces environmental impact thus helping the pharmaceutical industry become more sustainable.

Keywords: Methionine Aminopeptidase, metalloenzyme, Artificial Intelligence, MD simulations

Phytochemical Analysis of Nigella Sativa

Romaisa Azeem, Aliya Hayat & Aisha Sana
Jinnah University for Women, Karachi, Pakistan

Nigella sativa, or black cumin (kalonji), consists of small black seeds used for thousands of years in culinary and medicinal practices. According to Islamic tradition, the Prophet Muhammad (PBUH) stated that the black seed has a remedy for every disease except death. Renowned for its medicinal properties, black cumin is rich in antioxidants, essential fatty acids, and bioactive compounds. Today, black seed oil and supplements are popular alternative treatments for asthma and neurodegenerative diseases.Seeds of Nigella sativa (50g) were crushed and soaked in 100% methanol for four days at room temperature. The mixture was then filtered to remove impurities and dried using a rotary evaporator at 50°C under low pressure, the resultant extract was stored at 4°C for future use. Phytochemical analysis identified various compounds, including carbohydrates, alkaloids, steroids, flavonoids, and more. In vitro antibacterial screening was conducted using a disc-well diffusion assay against gram-positive bacteria (S. aureus, B. subtilis, E. faecalis) and gram-negative strains (K. pneumoniaeand E. coli). Antifungal activity was tested against Candida species, and radical scavenging activity was evaluated using the DPPH assay.Preliminary phytochemical analysis of the methanolic extract of black cumin revealed the presence of alkaloids, steroids, flavonoids, terpenoids, saponins, and phytosterols. However, tannins, anthocyanins and carbohydrates were absent in the extract of *Nigella sativa*. This study highlights the presence of bioactive compounds in black seeds, which also demonstrated promising antibacterial and antifungal activities. Additionally, radical scavenging activity was observed in the black cumin extract. Quantitative analysis indicated that the total phenolic content was measured as GAE/100g, while the total flavonoid content was expressed as RE/100g.The presence of different phytochemicals in black seeds helps to control various infections caused by bacteria, fungi, protozoa, and viruses. It is widely used in herbal medicine and dietary supplements for humans.

Keywords:*Nigella sativa*, medicinal practices, Quantitative analysis, methanolic extract

Development of Eco-Friendly Paper by Utilizing Organic Waste

Sabahat Aleem*, Muskan Dilpazeer, Munazza Faiz, Raahima Noor
Jinnah University for Women, Karachi, Pakistan.

Organic paper is a revolutionary development within the paper industry, representing a significant stride towards sustainability and environmental responsibility, crafted from organic materials that are grown without the use of synthetic chemicals, pesticides this study endeavours to innovate an environmentally sustainable paper by utilizing organic waste as the primary raw material, enriched with embedded mint seeds. The main goal is to develop a biodegradable alternative to conventional paper production methods that leads to the deforestation. The high number of paper demand causes the need for alternative raw material that is other than wood for paper industry. Utilizing waste peel redirects a substantial amount of organic waste away from landfills or incineration facilities. This not only minimizes the burden on waste management systems but also reduces the release of harmful greenhouse gases associated with decomposing organic matter. Comprehensive assessment is conducted to evaluate the property of grape fruit peel paper, gram mage (263.11g/m.sq),water absorption test (WAT, 26sec,4msec),oil absorption test (OAT,43sec,52msec) and thickness (0.10mm).The targeted market for this innovative paper is environmentally conscious community and industries striving for sustainable alternatives in their operations. Moreover, the biodegradability of the organic wastepaper supports a reduction in long term environmental impact, aligning with global sustainability goals.

Keywords: Organic paper, grape fruit peel, organic matter, comprehensive assessment

Development of Meat Sweets by the Incorporation Of Chamomile

Midhat Rehmani*, Misha Kamran, Sabahat Naseem, Sadia Khatoon, Wajiha Naz and Zahra Mohsin
Jinnah University for Women. Karachi, Pakistan.

Menstruation-related disorders, such as pre-menstrual syndrome (PMS) and premenstrual dysphoric disorder (PMDD), affect millions of women worldwide. Despite advancements in the food industry, few natural solutions exist to alleviate these symptoms. The objective is to develop and evaluate Meat Sweets, a unique dessert combining chicken, dairy, and chamomile essential oil, to alleviate PMS and PMDD symptoms.Meat Sweets were developed through a multi-stage process. Chicken was cooked and blended with dairy products, then mixed with chamomile essential oil and natural sweeteners. The mixture was subsequently textured and shaped into a dessert form. The product underwent sensory evaluation, microbiological analysis, and shelf-life testing. Chamomile essential oil's bioactive components (α-bisabolol, aginene, α-farnesene, and β-farnesene) were utilized for their antioxidant, antimicrobial, and relaxing properties.Rigorous testing demonstrated high shelf life and minimal microbial contamination risk under controlled storage conditions. Meat Sweets showed potential in alleviating PMS and PMDD symptoms. Meat Sweets provide a novel culinary experience, catering to the growing demand for innovative, nutritious, and flavorful food options addressing women's health concerns. Further research on chamomile essential oil's properties can enhance the product's efficacy.

Keywords: Pre-menstrual syndrome, premenstrual dysphoric disorder, Meat Sweets, antioxidant

Nutraceutical Approach for Post-Viral Symptoms and Blue Light Induced Disruptions

Meshal Answer*, Nihan Atif, AimanYaseen Butt
Jinnah University for Women, Karachi, Pakistan.

Nutraceuticals, a convergence of nutrition and pharmaceuticals, have become essential in modern healthcare, driven by increasing consumer awareness of holistic wellness. This novel nutraceutical capsule offers a comprehensive solution for common post-viral symptoms such as frustration, exhaustion, sleep difficulties, and low energy. In addition to the effects of COVID-19, future generations are increasingly exposed to blue light emissions from screens, which may exacerbate symptoms such as digital eye strain and lingering effects including persistent fatigue and cognitive challenges, leading to increased stress and a higher risk of depression. Formulated to enhance mental clarity and emotional balance, this capsule target fatigue and mood fluctuations by regulating serotonin and dopamine to boost motivation, managing cortisol for better stress resilience, and promoting cognitive health through BDNF and GABA activity. With antioxidant properties that reduce oxidative stress, this holistic approach empowers individuals to effectively navigate daily challenges, ultimately enhancing their quality of life. The formulation displays optimal physicochemical properties, with a pH of 5.2 for stability and compatibility with the body, and a density of 0.4 g/cm³ that facilitates effective encapsulation. Moisture content is kept below 5% to ensure stability and prevent microbial growth. The capsules exhibit a hardness of 4 kg, confirming durability, while friability is under 1%, minimizing crumbling risk. Notably, disintegration time is under 25 minutes, allowing for efficient release of active ingredients. While screening revealed a variety of bioactive compounds, including carbohydrates, proteins and amino acids for nutritional support. This nutraceutical capsule demonstrates optimal properties, providing a safe and effective solution for post-viral fatigue and blue light-induced cognitive challenges, ultimately enhancing overall well-being.

Keywords: Nutraceuticals, nutrition, COVID-19, antioxidant properties

Developing a Rejuvenating Overnight Topical Solution to Reduce Skin Disease Using Banana Peel and Cocoa Podshell Extracts

Nimra Arshad*, Qirat Younus, Natalya Aamir, Qandeel Ansar, Nida Iqbal
Jinnah University for Women, Karachi, Pakistan.

Skin diseases such as eczema, dermatitis, and irritation affect millions globally, causing symptoms like itching, redness, and inflammation. Traditional treatments (e.g., corticosteroids) provide short-term relief but have side effects when used long-term. With rising demand for natural, sustainable skincare, there is a need for eco-friendly solutions. This project aims to create a rejuvenating overnight topical solution using bioactive extracts from banana peels and cocoa pod shells, typically considered agricultural waste, offering a sustainable alternative to conventional treatments. The main objectives of this study are i) Promote sustainable skincare by repurposing banana peel and cocoa pod shell waste. ii) Formulate a topical solution designed for overnight use to enhance skin regeneration, hydration, and healing. iii) Assess the safety and tolerability of the solution for long-term use on sensitive skin. The solution was developed using extracts from banana peels (rich in antioxidants, vitamins A, B6, and C) and cocoa pod shells (containing flavonoids, polyphenols, and theobromine), combined with a base of shea butter, aloe vera gel, glycerin, and lavender oil. Extraction methods such as cold pressing and solvent extraction were used to retain the potency of bioactive compounds. The formulation was tested for physicochemical, proximate, and phytochemical properties, as well as in vitro antioxidant activity, in vivo patch testing, and efficacy in treating eczema symptoms. The formulation had a pH of 5.0, matching the skin's natural acidity, and demonstrated excellent spreadability and absorption, with no greasy residue. The solution showed significant antioxidant activity, combating oxidative stress and promoting skin repair. In vivo testing showed no irritation, and efficacy testing revealed improvements in eczema symptoms, including reduced redness, swelling, and itchiness. The solution proved stable for 3-6 months, with no adverse effects, offering a safe, long-term skincare option. The use of upcycled ingredients supports environmental sustainability and meets consumer demand for natural skincare solutions. In conclusion, the rejuvenating overnight topical solution using banana peel and cocoa pod shell extracts provides both therapeutic and cosmetic benefits. Its bioactive compoundspolyphenols, flavonoids, antioxidant, anti-inflammatory, skin-repairing, and anti-aging properties. The product showed excellent compatibility with the skin, with no adverse reactions in patch testing, and efficacy trials indicated significant improvements in eczema symptoms, including reduced redness, swelling, and itchiness.

Keywords: Eczema, dermatitis, corticosteroids, itchiness

Development of Designer Nutraceutical Bar Enriched With Organic Commodities for Better Brainfunctionality

Brirah Abdul Wahab*,Aiman Yaseen Butt
Jinnah University for Women,

In recent decades, the demand and variety for nutraceutical products have expandedsignificantly,driven by advancements in innovation and technology.Ongoing research isinvestigating the impact of bioactive compounds in nutraceuticals on human health,aiming tosubstantiate their potential benefits.Most individuals in Pakistan suffer from mentaldiseases like anxiety and depression, thus they require a product that enhances their mentalhealth and provides the proper nutrients.For this scenario,introducing my groundbreakingdesigner food, arevolutionary solution designed to elevate mental wellness.This innovativeproduct not only provide essential nutrients but also offers a delightful tasteexperience.Consequently, the product could have a positively impact on Pakistan'seconomy.This designer food is formulated with bioactive ingredients improves the brainfunctionality. Tulsi leaves contain bioactive compounds Ocimumosides A and B. Thesecompounds are anti-stress agents that reduces stress and balance the neurotransmitters serotoninand dopamine in the brain.Velvet beans providing a compound called L-dopa, which is aprecursor to the neurotransmitter dopamine. The Ajwa dates contain fractions of vitamins E,ascorbic acid, minerals such selenium, quercetin, and melatonine.These elements of ajwa datepossess nephron-protective properties.They can help to ease anxiety.The analysis of designerfood reveals its nutritional composition. With moisture content 8.5±1.25%,while ash contentmeasures at 2.89±0.5%, indicating the presence of essential minerals. A notable 4.56±2.75% fatcontent.Further analysis includes 69.73±0.42% carbohydrate content. Additionally, proteincontent stands at 15.76±2.75%.Upon analysis the presence of phytochemical in the designer foodwas examined. The analysis revealed the presence of protein, carbohydrates, flavonoid andphenols highlighting the product's richness in essential building blocks for health and nutrition.Now, you can indulge in a designer food that not only serves its practical purpose but alsosatisfies your taste buds.

Keywords: Ocimumosides, ascorbic acid, nutritional composition, flavonoid, phenols

ABSTRACTS OF POSTER PRESENTERS

FACULTY OF SOCIAL SCIENCE

Exploring the Intersection of Aiand Education for Sustainable Development In The Context Of Higher Education 4.0: Challenges, Opportunities, And Ethical Consideration

Atika Imran
Jinnah University for Women, Karachi, Pakistan

The integration of artificial intelligence into higher education heralds a new epoch of learning known as Higher Education 4.0, portending a shift with profound implications for sustainable development goals. This study explores how AI may intersect with educational practices to promote sustainability, as well as address attendant challenges, prospects, and ethical issues, while AI has begun remaking global academia, its adoption within Pakistan remains underexplored and underutilized. Prior work provides scant comprehensive studies of personalized learning, intelligent tutoring, or sustainable education through AI in Pakistani universities, especially regarding obstacles such as infrastructural deficits and restricted digital proficiency. The research identified several institutional hurdles, including technical barriers, financial restraints, and lack of human resources. Technical challenges involve the intricate nature of AI integration and compatibility with existing systems. Financial constraints stem from the considerable expense of implementing sophisticated AI technologies. Insufficient expertise and training impede the human element. A comprehensive document analysis has shown that AI has been doing great contribution in the transformation of education, globally with a specific focus on higher education. In Pakistan's context, research in this field needed more attention, hence present study was expected to give some deep inside into the higher education system of Pakistan. In regard to 4.0 the present study focuses on existing challenges at the University level mainly; infrastructure, digital literacy, technical support, financial and human resource limitations. Adaptation of AI in this context is perceived to bring significant development, utilizing the existing opportunities in the areas of administrative efficiency, teachers' supportive behavior, innovative teaching methodologies and other educational practices. This is a qualitative study in which required information was gathered from a variety of relevant documents, showed that, despite a general argument of the effectiveness of AI technology adoption at the higher education for a sustainable development is undeniable, the cost or its implementation, trust on the system and user friendly approach are still main areas of concern, and more detailed study is required in some focused direction.

Keywords: Artificial intelligence, higher Education, sustainable education, digital literacy

Linguistic Challenges between Russia and Ukrain: From Orange Revolution Till 2024

Dr. HumeraYaseen, ShaistaShoib
Preston University, Sindh Institute of Medical Allied Sciences

The linguistic landscape of Russia and Ukraine is shaped by a complex interplay of history, culture, and geopolitics. Despite their shared linguistic heritage—rooted in the use of both Russian and Ukrainian—the two countries have diverged significantly due to the emergence of distinct national identities and ongoing geo-political tensions.Our research aims to explore the patterns of linguistic variation across Russia and Ukraine. We seek to understand the factors influencing language choice and usage while evaluating the impact of language policies on social cohesion and national identity.Neo-Eurasianism, a geopolitical theory that advocates for a close alliance between Russia and its neighboring countries, plays a role in shaping linguistic dynamics. Proponents of Neo-Eurasianism argue for cultural unity and linguistic continuity across the Eurasian landmass. However, this perspective clashes with the realities of linguistic diversity within the region.Our findings reveal intriguing trends. Russia continues to exert significant influence in eastern Ukraine and major Ukrainian cities. In contrast, Ukrainian is more prevalent in the western part of the country. These linguistic patterns are influenced by educational systems, cultural contexts, and political agendas in both nations.Using a mixed-method approach, the study assesses language preferences and associated political implications by integrating historical analysis, and language information.To promote inclusivity and respect, effective language policies are crucial. Safeguarding the Ukrainian language involves recognizing its importance as a symbol of national identity. Encouraging bilingualism and fostering mutual understanding can bridge linguistic divides.The linguistic variety between Russia and Ukraine remains a source of tension and identity development. By embracing inclusive language strategies, we can strengthen social unity and acknowledge the historical complexities that bind—and sometimes separate—these two neighboring states.

Keywords: Linguistic , neo-eurasianism, historical analysis , national identity

The Reinforcement and Its Impact On Student Behaviour Towards Academic Performance

FarihaRehan
Jinnah University for Women, Karachi, Pakistan

Research shows the vital role of reinforcement techniques in enhancing student behavior and academic performance. Positive reinforcement like rewards and praise promotes desired behavior, while negative reinforcement deters unwanted behavior. Understanding student psychology is essential for effective strategies with ongoing teacher training. Positive reinforcement is more effective than punishment, especially for students with intellectual disabilities. Various strategies, including positive feedback and goal-setting, are used by teachers to optimize learning environments and boost academic performance. Teachers play a crucial role in improving student knowledge acquisition, critical thinking skills, and fostering a positive learning attitude. Reinforcement strategies should be implemented in classrooms to enhance student outcomes. It aims to identify and address a specific problem or issue related to the use of positive and negative reinforcement strategies in the classroom, to develop a plan to improve student behavior and academic performance through the effective use of reinforcement strategies, to develop a deeper understanding of the effects of reinforcement strategies on student behavior and academic performance and to identify the specific challenges that the stake holder faced in the implementation of effective reinforcement strategies in the classroom. the action research is used in this study. Action research is a research method that aims to simultaneously investigate and solve a problem. It is a highly interactive method often used in the social sciences, especially in educational settings. There are two general types of action research: participatory action research and practical action research This research is based on practical type of action research. Thus it is observed that positive reinforcement and motivation is important in enhancing the behavior and academic performance of the student at secondary level.We should obey the theory of B.F skinner that narrates the fruitful results of reinforcement and punishment in shaping the personality of a student. The result of this study concludes that the positive reinforcement and motivation is more effective in enhancing the behavior and academic performance of student as compared to the negative reinforcement.

Keywords: Reinforcement, student behavior, learning attitude, personality

Understanding Language Use in The Novel The Last White Man: A Critical Ldiscourse Analysis In The Context of SDGs

Fatima Arif, Salma Niazi
Jinnah University for Women, Karachi, Pakistan

Language has power; through the persuasive language, the perception will change. Most of the literary work of Mohsin Hamid used the metaphorical language that helps to change the way people think and achieve the SDGs. The right choice of words creates a new world where there is no racism, inequality, power discrimination, or injustice. It aims to analyze the choice of discourse, reduce inequalities and racism, and achieve SDGs at the glance of the last white man. The researcher will use the qualitative research method. The text of the novel is critically analyzed throughout the text to determine which language writer used the language that addresses the issue of racism, inequality, and injustice in society. Additionally, the researcher will use the content analysis and CDA with the help of pragmatic dialect. However, we see in this world the genocide, but through this novel, "burden of otherness," has been ended. The people saw each other, truly for the first time, not as enemies but as first travelers in the new world that they create where "skin color didn't matter." They gave new prospective of thinking to the readers where people communicate without fears. So these all achieve sustainable development goals where the weight of prejudice lifts.Overall, the language in the last white man is persuasive and emotionally appeals to the reader. It challenges the readers to look at their way of thinking and to reach for great ideas about race identity and human experience. Through the language, the writer creates the new world where such division will not matter, offering the world where such division doesn't matter. Where they looked beyond the skin deep, they found stories, dreams, and fears, and with each conversation that mirrored their own. The novel directly addresses SDG 10 reduced inequalities, SDG 5 gender equality, and SDG 16 peace, justice, and strong institutions.

Keywords: Language, inequalities , skin color , perception

Impact of Using Play-Way Method on Student's Academic Performance at Primary Level of Private Schools, Karachi

Syeda Fatima Rizwan ,JaveriaShehryar, Fatima Khan
Jinnah University for Women, Karachi, Pakistan

The play-way method constitutes a progressive pedagogical framework that incorporates play into the educational paradigm, with the objective of enhancing the engagement and enjoyment of the learning experience for young students. This research endeavors to examine the effects of the play-way method on academic achievement at the primary education level within private institutions in Karachi. The study primarily investigates the manner in which this instructional approach influences students' cognitive, social, and emotional growth, thereby impacting their academic results. The primary objective of this research is to assess the satisfaction levels of students and the efficacy of learning activities implemented through the play-way methodology. Furthermore, it seeks to examine the integration of the play-way approach within the curriculum and pedagogical strategies. A descriptive quantitative research methodology was adopted, employing standardized evaluations to assess the academic performance of students who received instruction through the play-way method in contrast to those educated via conventional pedagogical techniques. Data collection was conducted across various private schools in Karachi, incorporating a sample of 70 students and 30 teachers through questionnaires, aiming to furnish a comprehensive understanding of the method's efficacy. Data analysis was done by using simple percentile method. The results indicate that students who engaged with the play-way method exhibited advancements in critical thinking, creativity, and problem-solving competencies, which subsequently enhanced their academic performance. Furthermore, this pedagogical approach cultivated a more affirmative disposition towards learning, resulting in heightened engagement and motivation within the classroom environment. These findings underscore the prospective advantages of incorporating the play-way method into early educational practices, thereby suggesting its appropriateness for nurturing a comprehensive academic foundation. The study concludes with proposals for private schools in Karachi to embrace a synergistic approach, amalgamating the play-way method with traditional instructional strategies to optimize student's academic and personal development and the efficacy of recreational activities in the educational development of students.

Keywords: Play-way method, educational paradigm, endeavors, pedagogical strategies

Religion, peace building, and human rights: A synergistic approach

Dr. LubnaSunawar
National Defence University, Islamabad

Human rights, religion, and peacebuilding interact in nuanced ways that have the potential to either strengthen tensions or promote harmony. This essay investigates the possibility of a synergistic strategy in which institutions and religious values act as potent catalysts for fostering human rights and peacebuilding. It looks at how, especially in divided societies, religion teachings on forgiveness, justice, and compassion might aid in resolving disputes and promoting healing afterward. The study presents effective examples of religious leaders and organizations bridging gaps, promoting peace, and defending human dignity through case studies from the Middle East, Africa, and Southeast Asia.This study makes the case for a more inclusive paradigm that recognizes the moral authority and grassroots power of religious actors in forming social norms and behaviors, as opposed to the secular-centric peacebuilding approaches. It also highlights how crucial it is to coordinate peacebuilding initiatives with human rights principles in order to stop patriarchal or authoritarian systems from being strengthened in the name of religious customs. This paper offers methods for encouraging communication between religious and secular actors in order to establish lasting peace and defend human rights, drawing on the disciplines of international relations, peace studies, and theology. In the conclusion, the study argues that global peacebuilding efforts can be greatly bolstered by an integrated strategy that takes advantage of the ideals that human rights and religion have in common.

Keywords: Human rights, religion, peacebuilding

Exploring the Character Development of Liesel Meminger in the Novel the Book Theif through Erikson's Stages of Psychosocial Development

NimraRasheed, Syeda Sarah Junaid
Jinnah University for Women, Karachi, Pakistan

Markus Zusak's novel "The Book Thief" is set against the grim backdrop of Nazi Germanyduring WWII. It follows LieselMeminger, a young German girl who undergoes profoundpersonal growth amidst the atrocities of war. This research aims to explore the characterdevelopment of LieselMeminger, the protagonist of the novel "The Book Thief" by MarkusZusak, through the lens of Erikson's psychosocial theory. Moreover, this research is connectedwith SDG 10 (i.e.) reduced inequalities. The objective of this study is to explore the key events in Liesel's life that shape her identity particularly through the stagesof "Industry vs. Inferiority" and "Identity vs. Role Confusion."The researcher utilized a qualitative method with a content analysis research design to analyzethe character development. The data is collected from dialogues between characters and thesignificant events that influenced Liesel's character development. The analysis demonstrates that even in the face of harsh war conditions, as experienced by LieselMeminger, it is possible to develop a strong and coherent identity. Liesel's experiences with loss,friendship, and storytelling enable her to grow from a traumatized child into a confident youngwoman with a clear sense of self, demonstrating that personal growth is possible even amidstextreme societal challenges. To conclude, this research has helped us understand how social factors affect a character'sgrowth. Using Erikson's theory will show how real-life events shape fictional characters andtheir emotional journeys. It can also be concluded that a stable identity empowers individuals toadvocate for themselves and others, promoting equality and social change.

Keywords: The Book Thief, Nazi, Germany, Inferiority

Jinnah University for Women
1st International Conference on Innovative Cross-Disciplinary Solutions for Sustainable Development Goals (IC-SDGs)
(November 28th – 30th2024)

Cocomelon's Cognitive Impact on Children: a Pragmatic Investigation through Bloom's Taxonomy

Bareera Tariq Paracha, Syeda Sarah Junaid
Jinnah University for Women, Karachi, Pakistan

In this digital era, Cocomelon videos are one of ubiquitous audio-visual content that is consumed by children across the globe. From entertainment to education, Cocomelon offers a vast array of audio visual content including educational videos specifically designed for children through which they can enjoy learning with intriguing animations and catchy songs.This research investigates the impact of pragmatic acquisition of Cocomelon nursery rhymes on cognitive development of children and the perceptions of parents regarding the impacts. Utilizing Bloom's Taxonomy's Cognitive domain as a theoretical framework, the study aims to examine how Cocomelon's engaging content and interactive format influence children's cognitive development (language acquisition, vocabulary, phonology, comprehension, and creative use) under the domains of Knowledge, Understanding, and Application. This research is connected with 4th SDG of quality education. It aims to investigate the pragmatic acquisition of Cocomelon nursery rhymes and their impact on children's Cognitive development within the domains of knowledge, comprehension, and application as defined by Bloom's Taxonomy. Also it explores the perceptions of parents regarding the influence of Cocomelon nursery rhymes on their children's cognitive development. Through mixed methodology and exploratory sequential design, employing the tools of observation and questionnaire, the research explores the impacts of Cocomelon on cognitive development.According to findings, it is concluded that Cocomelon can positively impact children's cognitive development by providing opportunities for language practice, phonological awareness, and vocabulary comprehension at various levels of Bloom's Taxonomy Cognitive domain, including Knowledge, Understanding, and Application. The study foregrounds the importance of engaging edutainment media, such as Cocomelon nursery rhymes, in encouraging sustainable development goals, particularly in early childhood education. With responsible exposure and practice by parents and teachers, this media can play a valuable role in fostering children's cognitive development, language skills, and cultural awareness, beneficial to a more sustainable future.

Keywords: Digital , Cocomelon, taxonomy, language acquisition

Religious Forced Migration

MahaShahidSiddiqui
Jinnah University for Women, Karachi, Pakistan

The notion “Religious forced Migration” implies the unlawful expulsion of citizens or entities driven by skepticism, brutality, or intimidation stemming from their convictions regarding faith. This propensity has culminated in the global dislocation of religious minorities, attributed to social and political dynamics as well as chronology. The case history of violence based on religion that led to mass forced migration and later great Jewish migration to the US and other countries include the pogrom against the Jews in the Russian Empire in the late 19th century and early 20th century approximately with the Kishinev pogrom, the subject of the Partition of India and the Uyghur conflict in China showed how migration politics, and religion are intertwined. The focal point that the undertaking strives to tackle: how do racial prejudice and religious exploitation lead to forced migration and what are the ethnic and socioeconomic implications on the host nations and evacuated religious settlements? The goal is to evaluate the core aspects that trigger to religiously oriented migration, appraise the implications on evacuated societies, and appraise the productivity of global and territorial interventions in safeguarding religious migrants. Qualitative method has been used to collect data for the study, featuring questionnaires, as well as assessment of international asylum laws. The research explores whether prejudice based on faith works as “push” factor prompting migration, while, political, economic, and religious political climates of host nations can be conceived as “pull” factors. This paper relies on migration theory with particular focus on the push-pull model. Based on the study conducted in that research, religious persecution remains a primary reason for forced displacement and such displaced groups face challenges like resource scarce access and acculturation breakdown. It also underlines how necessary it is further to develop legislative amendments and interfere in public policy to guarantee the rights and density of religious refugees.

Keywords: Religious forced Migration, skepticism, qualitative, religious political climates

The Role of Education for Sustainable Development (Esd) In Promoting Environmental Literacy among Primary and Secondary School Sttudents

Prof. Dr. SafiaUrooj, Ms. Huma Salman, Dr. Wahaj Muhammad Khan
Jinnah University for Women, Karachi, Pakistan

Environmental literacy is critical for fostering responsible citizenship and sustainable decision-making, especially in the face of global challenges like climate change, biodiversity loss, and pollution. Education for Sustainable Development (ESD) plays a key role in equipping learners with the knowledge, values, and skills needed for environmental sustainability (UNESCO, 2017). This research study is qualitative. 50 primary and 50 secondary school students have been selected through purposive sampling. This qualitative study investigates the role of ESD in promoting environmental literacy among primary and secondary school students, focusing on curriculum content, pedagogical approaches, and student outcomes. Through semi-structured interviews and focus groups with teachers, curriculum developers, and school administrators of private and public schools i in Karachi, Pakistan, this study examines the factors that influence ESD's effectiveness in raising environmental awareness and shaping sustainable behaviors in students (Tilbury, 2011). Additionally, the research explores the challenges educators face in integrating ESD into the curriculum, such as inadequate teacher training, resource limitations, and institutional constraints (Stevenson, 2007).Guided by critical pedagogy and transformative learning theories (Sterling, 2010), this study contextualizes its findings within the broader global discourse on ESD, particularly in relation to the United Nations' Sustainable Development Goal 4.7, which emphasizes the importance of education systems promoting sustainability.

Keywords: Environmental literacy, global challenges, curriculum developers, secondary school students

Jinnah University for Women
1st International Conference on Innovative Cross-Disciplinary Solutions for Sustainable Development Goals (IC-SDGs)
(November 28th – 30th2024)

Utiizing Linguistic Humour inthe Story the Celebrated Jumping Frog Of Calaveras County To Promotr Quality Education

Fareeha Latif, Salma Niazi
Jinnah University for Women, Karachi, Pakistan

Achieving Sustainable Development Goal 4 SDG 4 ensuring inclusive, egalitarian, and high-quality education requires new ways. One unexplored possibility is the use of humor in literature. Mark Twain's "The Celebrated Jumping Frog of Calaveras County" gives an excellent opportunity to investigate how linguistic comedy might improve language acquisition, cultural awareness, and student engagement. This study shows how humor may be used to increase learning results, making education more fun and effective.This study aims to investigate the practicality and scientific validity of incorporating hilarious literature into educational environments. The study looks at how twain used humor, comedic timing, and exaggeration to promote critical thinking, linguistic understanding, and cultural awareness all crucial components of SDG 4 in addition to comedy.A qualitative content analysis was performed on significant sections from Twain's narrative to see how comedy is generated through language. Twain's use of dialect and understatement is seen in the phrase "Smiley he stood scratchin' his head and lookin' down at Daniel a long time, and at last he says, 'I do wonder what in the nation that frog throwed off for…'" These factors were evaluated for their ability to promote an engaging, inclusive teaching atmosphere.The findings suggest that Twain's linguistic humor may effectively engage pupils and help them understand complicated language and cultural themes. This method may be utilized to build more inclusive learning settings, making literature an effective instrument for furthering excellent education.This study provides an innovative, scientifically supported approach to achieving SDG 4 by incorporating hilarious literature such as twain's into educational procedures. Humor in teaching improves student engagement, cultural awareness, and critical thinking, leading to more effective and inclusive education

Keywords: Egalitarian, exaggeration, literature, educational procedures

Exploring the Impact of Stigma on Willingess to Seek Mental Health Care

Areej Nasir, Ms. Shazia Jabeen
Jinnah University for Women, Karachi, Pakistan

The objective of this study is to examine how societal stigma affects individuals' willingness to seek mental health care, with a particular focus on how cultural beliefs, stereotypes, and fear of discrimination contribute to treatment avoidance. The hypothesis posits that negative perceptions and fears of social consequences discourage individuals from seeking professional mental health support. The sample of the study consisted of 151 university students (85 males and 66 females) of ages 18 to 35. The sample of the study was randomly selected from different universities in Karachi, Pakistan, employing the Inventory of Attitudes toward Seeking Mental Health Services (IASMHS), which assesses individuals' attitudes and willingness to pursue professional help, and the Barriers to Access to Care Evaluation (BACE), which identifies obstacles to accessing mental health services; students' responses were recorded. Pearson correlation was applied for data analysis using SPSS v.21. The results indicated a significant negative correlation ($r = -0.316$, $p < 0.01$) between attitudes and barriers, suggesting that individuals with more positive attitudes toward seeking help reported fewer barriers, while those facing greater barriers exhibited more negative attitudes. These findings underscore the critical influence of societal stigma on mental health treatment decisions aimed at reducing stigma and improving access to mental health care.

Keywords: Societal stigma, discrimination, negative perceptions, barriers

ABSTRACTS OF POSTER PRESENTERS

FACULTY OF MEDICAL AND ALLIED HEALTH SCIENCE

Exploring the Awareness of Exercise Benefits among Women with Polycystic Ovarian Syndrome-A Cross-Sectional Study

Faryah Aslam, HafizaIqra M. Yaseen, Naima Abdul Malik, Rumail Pervaiz
Jinnah University for Women, Dow University of Health Sciences

PCOS, or Polycystic Ovarian Syndrome, is a prevailing endocrine condition that influences women of fertile age. It is imperative to highlight efficient prevention actions for a better life given its rising prevalence. One of the most effective therapy approaches for PCOS management is exercise. Consequently, it is critical to raise women's understanding of the advantages of exercise since greater participation is likely to result in better outcomes. This Study intends to determine the awareness of exercise as a therapy option among females diagnosed with PCOS as well as the frequency of exercise program participation in Karachi. In this cross-sectional study, 100 female patients with PCOS, ages 18 to 35, who were receiving care at several government and private institutions in Karachi were included. Individuals with thyroid conditions and expectant mothers were not allowed. A self-created questionnaire was used to gather data. Through SPSS version 20, the Chi-square test was run to estimate the relationship between exercise awareness and involvement. Frequencies and percentages of the qualitative variables were also computed. Gynecologists were the main source of information (60.6%) for 66% of female respondents who were aware of the health benefits of exercise. 67% of females reported exercising, among which 42 females preferred to walk for their exercise. Furthermore, 72% of female respondents mentioned various obstacles to exercising. The association between awareness of exercise and participation seemed to be highly significant (p=0.00). Exercise training is essential for treating PCOS. More Physical therapists are needed to provide valuable information on the benefits of exercise for PCOS and organize relevant programs.

Keywords: Polycystic Ovarian Syndrome, endocrine, exercise, participation

Awareness of Standardized Outcome Measures of Balance: A Survey among Physical Therapist in Karachi.

Aisha batool, Asma batool
Indus University, Karachi, Pakistan

Balance is necessary component of walk. Balance impairments occur in up to 75% of individuals aged 70 years or above. High pervasiveness of impaired balance and their potential effect on function, and interventions to enhance balance are significant foci of individuals practicing physiotherapy. Balance assessment is required for diagnosis, treatment plan reassessment, and it pinpoints the risk of falls and changes that occur as time passes. Balance assessment tools distinguish between the types and causes of the balance problem and can help guide the types of interventions for more effective management or treatment of balance disorders. This study will disseminate the knowledge of the standardized outcome measures of balance used by physical therapists for their appropriate use in Karachi.To assess Awareness of standardized outcome measures of balance: A survey among physical therapist in Karachi.A cross-sectional study, conducted in multiple multidisciplinary hospitals in Karachi. A sample was of 246 participants. A self-designed questionnaire derived from literature was used for data collection, and Pilot testing was done before administration. Consent was taken after explaining the study's aims and objectives. Participants were asked to fill out the questionnaire.The results show that there was no significant association between gender qualification and work experience and the components of balance assessment. However, experience was significantly associated with the assessment of balance (P-value <0.001). Majority of physiotherapists 39.4% had seen with balance disorders. Most of the physiotherapists 33.7% use BBS (Borg balance scale) to assess balance problems. 57.3% of physiotherapists assessed posture as the main component of balance. 66.3% of therapists used objective assessment. Mostly used tool for static stability by therapist >45% was Romberg while for dynamic stability it was BBS 28%.Results of this study showed that the Majority of the physiotherapists assessed more than one component of balance however, cognition and reaction control components of balance were not assessed by most. The reason for this was maybe some of them are not doing EBP because lack of knowledge or availability of tools among them.

Keywords: Balance impairments, pervasiveness, standardized, borg balance scale

Physical Therapist's Knowledge, Perception And Willingness About The Use Of Tele-Rehabilitation And The Barriers In Way Of Its Implementation During Covid-19 Pandemic in Karachi

Javeria Arshad, Rija Afaq, Muhammad Usman Sarwar, Qurat-ul-ain Aamir, SyedaUmme Habiba, Kinza Iqbal
Jinnah University for Women, Karachi, Pakistan
Dow University of Health Sciences,Karachi, Pakistan

During the recent covid-19 outbreak, many studies have startedpromoting Telerehabilitation as a suitable alternative healthcare delivery systembecause of its feasibility in treating patients with physical care needs. Manyphysical therapists across Karachi was tested in terms of their knowledge,perception, willingness, and perceived barriers towards Telerehabilitation'simplementation in therapy settings. To evaluate Karachi's physiotherapists' knowledge, perception,and willingness to use telerehabilitation during the Covid-19 pandemic and to findout the obstacles that get in the way of telerehabilitation's use and implementation. The study was conducted at Sindh Institute of Physical,Medicine and Rehabilitation SIPMR Karachi Pakistan. The study design was Cross-Sectional. A self-reported, modified questionnaire among the physical therapistsworking in various public, private and tertiary care settings and forwarded via e-mail to 200 Physical therapists who met the inclusion criteria of this study and wereactively working in health care settings all over Karachi. The questionnaire wasdivided into four sections.Only 180 completed questionnaires were received, the response rate of57.6% was positive in terms of knowledge. Physiotherapists were happy toimplement telerehabilitation in Pakistan but the biggest barrier that came throughafter the survey, there was up to 35.6% for the inadequate internet communicationtechnology. The majority was willing to make good use of telerehabilitation butcould not because of the unavailability of workplaces to execute telle rehabilitation,reportedly 76.6%. Physiotherapists in Pakistan showed a positive attitude towardsthe implementations and usage of telerehabilitation to facilitate the patients withtheir physiotherapy services. However, several barriers were brought to light inwhich technical mishaps were reportedly the highest.

Keywords: Outbreak, Cross-Sectional, communicationtechnology, rehabilitation

Patient Adherence and Outcomes in Home Exercise Programs for Obese Osteoarthritic Patients: A Meta-Analysis

Areeba Khan, Kiran Yameen
Ziauddin University, Karachi, Pakistan

Globally, osteoarthritis is recognized as a chronic joint condition that affects 528 million individuals, reflecting a 113% increase in the disease prevalence. Knee osteoarthritis is particularly prevalent, impacting 365 million cases, and poses significant challenges, especially for individuals with both knee osteoarthritis and obesity. The interplay between knee osteoarthritis and obesity intensifies pain and hinders mobility, significantly impacting quality of life. Home exercise programs offer a promising, personalized intervention to improve outcomes for individuals with both conditions. This investigation delves into the intricate dynamics among excess weight, joint degeneration, and patient adherence to home exercise regimens with and without digital supervision. The study protocol followed PRISMA guidelines for review articles. A thorough search was conducted by two researchers who examined six databases for article selection using the keywords, “exercise," "rehabilitation," "obesity,", “knee osteoarthritis” and "pain". Only articles conducted between 2019 to 2023, published in the English language that examine the effects of home exercise programs with and without digital measures on pain and physical function were included in the study. The result of four randomized controlled trials for physical function revealed a standardized mean difference of -0.084 (95% CI: -0.711 to 0.541), with an I2 of 88.55%. For pain, the analysis was done on five randomized controlled trials that showed the moderate effect of exercises and digital measures on decreasing pain with a standardized mean difference of -0.64 (95% CI: -1.115 to -0.177), with an I2 of 82.02%. The findings of this meta-analysis showed varying results of the same exercise protocol on different variables. As for pain, a home exercise program with digital measures proves to be a good intervention as it has a moderate effect on decreasing pain, whereas, for physical function, the effect of the variables was small.

Keywords: Osteoarthritis, chronic joint condition, disease, exercise, rehabilitation

Factors Affecting Compliance to Cardiac Rehabilitation in Patients after Cabg: A Cross-Sectional Study In Karachi

Muniba Khanum, Mahrukh Siddiqui, Tanveer Sikander
Al Umeed Rehabilitation Association,
Jinnah university for women,Karachi, Pakistan
Dadabhoy institute of higher Education, Karachi, Pakistan

Cardiovascular disease constitutes the most severe health care challenge globally. To tackle such a problem, it is important to have proper measures in place from the time of a patient's discharge from the hospital and offer physical activity with supervision that is highly structured. Such a program which studies available evidence, cardiac rehabilitation (CR) aims at preventing risks, enhancing the quality of life and wellbeing while encouraging healthy habits which results to better life.The primary goal of this investigation was to identify barriers or benefits that affect the adherence to the Cardiac Rehabilitation program in individuals undergoing post-coronary artery bypass grafting (CABG) surgery.A total of 255 post-CABG patients aged 30 years and above were recruited for the cross-sectional study. Patients in Phases II and III of CR were provided with a structured, self-administered questionnaire based on Likert scale. Baseline demographic and clinical information was collected about 210 patients for whom a follow-up was planned in 8 hospitals in Karachi. The data averages were determined according to frequencies and percentages for variables in qualitative forms and utilized SPSS version 20.0 statistics program.Most of patients suffering from congestive heart failure was referred to CR (51%) by a Cardiologist. Non-adherents were affected by a variety of reasons including a distance to travel to reach CR services (83.75%). Fatigue was also a reason that made person to adhere to CR (83.55%).The main obstacles to adherence to the CR program among post-CABG patients included the distance to facilities, tiredness, lack of time and transport as well as financial matters. Apart, deprivation of efficacy, literacy, barriers faced by unfriendly environments, depression, and anxiety were also responsible for the phenomenon of reduced adherence. Lower net motivational benefits combined with increasing perceived barriers led to greater attrition rates from cardiac rehabilitation programs.

Keywords: Cardiovascular, challenge, measures, non-adherents

Formulation of Herbal Supplementation for Menstrual Irregularities

Fizza Fatima, Dr. Aymen Owais,Sabira Amar
Jinnah University for Women, Karachi, Pakistan

Menstrual irregularities are common among adolescent girls, affecting daily activities and sports participation. Hormonal fluctuations during puberty often cause irregular periods, impacting 60-73% of teenage females. Cassia fistula: Stimulates gut movement and uterine contraction, improving menstrual bleeding, relieves constipation, and reduces menstrual cramps through anti-inflammatory properties.Dry mint: Relaxes uterine muscles, reducing menstrual cramps, improves digestion, and regulates hormones and menstrual cycles, with anti-inflammatory properties reducing menstrual cramps and bloating. Fennel: Regulates hormones and menstrual cycles, relieves menstrual cramps and bloating, and improves uterine tone and menstrual bleeding. The objective of this study is formulation of Herbal Supplementation for Menstrual Irregularities in Adolescent Girls.This study aimed to reduce menstrual irregularities in adolescent girls by supplementing them with fennel, dry mint, and cassia fistula. Thirty subjects with oligomenorrhea symptoms were selected, and a questionnaire collected data on socio-economic status, food habits, anthropometric measurements, and clinical information. The subjects received herbal supplementation for two months.After two months, 76.7% of subjects reported regular menstrual cycles, and 90% reported improved menstrual bleeding. Menstruation duration decreased from 7 to 5 days, and menstrual cramp intensity decreased from 7.5 to 4.5 on a 10-point scale.Herbal supplementation with fennel, dry mint, and cassia fistula may help regulate menstrual cycles and improve bleeding in adolescent girls with menstrual irregularities. Cassia fistula's purgative effect may have contributed to improved uterine contraction and menstrual bleeding.

Keywords: Menstrual irregularities, hormonal fluctuations, cassia fistula, fennel

Formulation and Evaluation of Herbal Cough Syrup

Fizza Fatima, Dr.Aymen Owais
Jinnah University for Women, Karachi,Pakistan

Coughing is a neurological reflex that contributes to the clearing of mucus as well as irritants such as dust and smoke from the airways. Coughs are mainly self-limiting and generally last for no more than three weeks and do not indicate serious sickness. A dry cough does not produce any phlegm, while a chesty cough contributes the airways in clearing with phlegm. By 2020, it is projected that respiratory diseases would be the third cause of death and the fifth cause of disability worldwide. The exact ways that common cold viruses trigger a cough are still not well-known. Through the ages, folk remedies from different parts of the world have been the preferred choice among people for their safety over synthetic medicines. One such plant is the Assyrian plum (Cordia myxa L.), which is a member of the Boraginaceae family and commonly grows in arid climates. This plant has been cultivated for medicinal purposes since ancient Egyptian times. In addition, it continues to spread in different tropical and subtropical territories, including Pakistan. In my geographical area of research, RDS aims to find the natural remedies for cough of different setbacks. Years of research proved the efficiency of one of the cough treatment – herbal syrup – through traditional and clinical use. The syrup is prepared using leaves of Cordia myxa along with black pepper which are popular medicinal plants. This medicine targets patients whose respiratory tracts suffer from seasonal, allergy, or infection-induced inflammation particularly in the cold, flu, chest, and allergic rhinitis infections in the context of low immunity. The ingredients for the formulation of the syrup were obtained from authorized suppliers and prepared in accordance with the pharmacopoeial requirements. The results obtained from the product evaluation suggested that it was successful. The herbal mixture concluded that the blend of herbs helps ease cough by bronchodilation, which is the widening of the air passages, mucolytichicomodulation, which promotes the output of mucus, immune modulation, which is the alteration of the immune system, and inflammation controlling. It is claimed that the activity of phytotherapy is determined by the combined action of the antitussive agents, stimulating reflex and central expectoration, airway parasympathomimetic, and secretory cell-activating drugs.

Keywords: Coughing, neurological reflex, airways, low immunity

Nutrition and Lifestyle during Pregnancy

Fizza Fatima, Sabira Amar
Jinnah University for Women, Karachi, Pakistan

The Academy of Nutrition and Dietetics accentuates healthy living as a prerequisite for women of reproductive age to promote well-being and minimize the chances of birth defects, impaired fetal growth, and long-lasting maternal and child's health troubles. A key aspect of a healthy pregnancy entails ensuring a healthy pre-pregnancy weight, gaining weight in the right way, staying physically active, consuming a diet with variety, and taking the necessary vitamins and minerals, avoiding alcohol and dangerous substances, and safe food handling. Pregnancy is the world of a woman where pre-pregnancy nutrition and lifestyle choices play a pivotal role in both her and baby's health. Lack of fundamental nutrients during the stages of fetal development may result in changes in fetal tissues, therefore, a child will have a higher risk of chronic conditions in the future. Enhancing the health of mothers and their children is needed for the proper growth of the coming generations. For helping a normal pregnancy, nearly 300 more calories/day are advisable, emphasizing on a balanced diet rich in protein, fruits, vegetables, and whole grains while restricting sweets and fats. Another key factor is being hydrated, thus, pregnant women must drink sufficient water and restrict caffeine and artificial sweeteners. Prenatal supplements are being often prescribed to fill up the nutritional gap, however, they should be the complement and not the substitute of a healthy diet. Folic acid helps to prevent the neural tube defects that are serious birth defects of the brain and spine. Neural tube defects can be observed already within the first 28 days of conception, hence, women must start taking folic acid before pregnancy and continue it throughout pregnancy. Some women, who are on anti-epileptic drugs, may need higher doses of folic acid and should consult their healthcare provider.

Keywords: Nutrition, dietetics, long-lasting maternal, conception

Formulation and Evaluation of Sebum Controlling and Detanning Soap

Dr. Aymen Owais, Fizza Fatima, Umama Faisal
Jinnah University for Women, Karachi, Pakistan

Sebum controlling and De-tanning soap is designed to help control excess oil on the skin, which can be great for those with oily skin or acne-prone skin. It's formulated to reduce sebum production and keep your skin feeling fresh and clean. It's a good choice for skincare routines, especially for those looking to manage oily skin. This sebum controlling soap contain ingredients, such as Rice flour, Potato and Almond Oil, which in combination works great for skin. The soap made was evaluated for physicochemical characters such as total fatty matter, moisture content, pH and for other parameters, good characteristics were observed. Human skin, the outer covering of the body constitutes the first line of defense protecting the body against various pathogens. As the skin interfaces with environment, it is constantly exposed to different environmental stimuli. This makes the skin damage prone. Severely damaged skin will often try to heal by forming scar tissue, which is often decolorized and depigmented. Plants have been used in the treatment of human diseases and infections since ages. The active constituents of plants can be formulated as ointment, cream, gel, lotion, soap, or crude/solvent extract. Utilization of plant extracts and their derived phytoconstituents have a likely future for controlling hyperpigmentation. Soaps are one among the modern-day cosmetics for maintaining and enhancing the vigor of skin. However, the Present chemical soaps quite frequently can cause dryness and irritation of the skin interestingly, the popularity of herbal-based soaps is increasing due to their efficacy on topical Disorders. The aim of this study is to formulate and evaluate the anti sebum and detanning hand-made soap using melt and pour method. The pre-made soap bases were weighed and sliced. Then mixed together the finely powdered rice flour and the excipients. The starch of potato is then incorporated. Before pouring these ingredients into the soap base, they were fully combined. Melted the base into liquid and properly incorporated all the ingredients while it was heating. Poured the liquid into the mold and placed it in the refrigerator for about 2 hours Before removing it. Allowed one day for it to sit. The soap made was evaluated for physicochemical characters such as total fatty matter, moisture content, pH and for other parameters, good characteristics were observed. The formulated soap showed considerable commercial Standard, and all the other parameters were good, and hence, it can be concluded that the formulated herbal soap is Standardized and can be used as a promising alternative to Commercial chemical containing de-tanning soaps.

Keywords: Sebum, De-tanning soap, hyperpigmentation, excipients

The Impact of Socio-Economic Factors on the Mental Health and Sustainable Development

Maryam Jan
University of Karachi, Karachi, Pakistan

Mental health is a global concern. This study used a qualitative research approach to investigate socio-economic factors that influences mental health and sustainable development. A sample of people from various socioeconomic backgrounds was chosen through the use of purposive sampling. Case study was carried out to address socio-economic indicators and thematic analysis was used to identify different themes which impacts mental health conditions and hinder sustainable development. Moreover, in-depth interviews and personal experiences with people who are directly impacted by socio-economic factors were the main sources of data. The results show that mental health problems already exists in the society and becomes worse by socio-economic factors including low education, lower income status and absence of social support network rise mental health problems and decrease the chances of sustainable development. In addition, mental health disorders were major obstacles that impacts on people's involvement, productivity, and quality of life to reaching the Sustainable Development Goals (SDGs) of the United Nations. This study supports policies to improve both mental health support network and economic stability within populations by highlighting the need for specific measures that address these socio-economic gaps and promote healthy environment for the better future of the nations.

Keywords: Mental health, socio-economic, environment, in-depth interviews

Ayurevera (Organic Acne Fighting Soap)

Tehreem Nazir, Shakila khan, Adina Amir
Jinnah University for Women, Karachi, Pakistan

Acne vulgaris, commonly known as acne, is a chronic inflammatory skin condition characterized by: Comedones (blackheads and whiteheads): Clogged pores due to dead skin cells and excess oil. Papules: Pink, tender bumps caused by inflammation. Pustules: Pus-filled bumps, often accompanied by redness and swelling. Nodules: Large, painful bumps under the skin. Cysts: Large, pus-filled bumps that can lead to scarring. Different areas of Karachi such as Azeem goth, khudadad colony & Nazimabad No 3 are informal settlements created through informal subdivisions of state or private land. Group of BEMS Final year students of Jinnah University for Women targeted one of the most populated areas of Karachi situated the above-mentioned areas where they focused on people dealing with common skin problems like Acne and their treatment was done with Aurevera (organic acne fighting soap) to check its efficacy and effectiveness. According to survey data collected of about 130 patients, Acne vulgaris was the leading complain in communities, while other conditions to which they were suffering included pimples, blackheads, whiteheads, hyperpigmentation etc. Follow up method was used to figure out the efficacy of Aurevera Soap recommended to people in this research. Aurevera Soap (organ product) used in this project was 100 % topical and naturally made with organic ingredients.

Keywords:*Acne vulgaris,* inflammatory skin condition, Aurevera, organic ingredients

Herbal Formulation of Appetizer Syrup for the Management Of Anorexia In Children

Laila Khan
Jinnah University for Women, Karachi, Pakistan

HungerGrow Appetizer Syrup is a unique culinary innovation designed to enhance stimulate digestive health. This syrup is composed of four key ingredients: coriander, tamarind, plums and fennel, each selective for their traditional use in appetite enhancement and digestive support. Coriander (Coriandrum Sativum) is known for its aromatic properties and has been shown to alleviate gastrointestinal discomfort. Tamarind (Tamarindus Indica) offers a tangy flavor profile while providing dietary fiber and antioxidants, contributing to overall digestive wellness. Plums (Prunus Domestica) rich in vitamins and minerals, has been traditionally used to improve anorexia and promote gut health. Fennel (Foeniculum Vulgare) is recognized for its carminative properties, helping to reduce bloating and discomfort, thus enhancing the overall dining experience. Hunger Grow is not just a syrup; it represents a holistic approach to meal preparation, encouraging mindful eating habits especially in children. With its carefully balanced formulation, it is suitable for individuals experiencing loss of appetite. Formulated a balance syrup that effectively combines various herbs known for their appetite-stimulation properties. The methodology for preparing herbal appetite syrup typically involves selecting an appetite enhancer herbs such as coriander, tamarind, plums and funnel. First, the herbs are dried and finely ground. Next, they are steeped in a mixture of water and natural sweetener (sugar) to extract their active compounds. The infusion is then simmered gently to concentrate the flavors and benefit. After cooling, the syrup is strained to remove solid residue and bottled for storage. Proper hygiene and preservation techniques are essential throughout the process to ensure the syrup safety and efficacy. The physically appearance of appetite syrup is dark brown with no visible separation and cloudy in nature. The syrup is slightly acidic in nature (pH: 5.8) and no adverse events were reported during study and formulation of syrup. The syrup's composition was optimized through a series of extraction methods to maximize the bioactive compounds responsible for its efficacy. Regular consumption of HungerGrow appetite syrup improve appetite, energy level, quality of food intake, abdominal fullness and satiety.

Keywords: HungerGrow, Tamarindus Indica, appetite-stimulation properties, vitamins

Jinnah University for Women
1st International Conference on Innovative Cross-Disciplinary Solutions for Sustainable Development Goals (IC-SDGs)
(November 28th – 30th2024)

Jahangiri Organic: Analgesic Balm

Zubaida Fatima, Hira Latif
Jinnah University for Women, Karachi, Pakistan

It is estimated that millions of people in Pakistan suffer from musculoskeletal disorders, chronic pain, arthritis and other diseases. It is reported that approximately 1.71 billion people worldwide suffer from musculoskeletal disorders, making them one of the leading causes of disability worldwide. The burden of life and development of diseases such as diabetes and obesity. These conditions cause widespread suffering, and many people rely on prescription medications as their primary source of pain relief. However, traditional treatment options such as non-steroidal anti-inflammatory drugs (NSAIDs) carry the risk of serious side effects such as gastrointestinal problems, kidney damage and addiction. This has led to an increasing demand for safe, natural alternatives that can deliver quality service without interruption. , formulated with different powerful natural ingredients: Gaultheria procumbens L., menthol, arnica, eucalyptus oil, camphor. Ingredients are selected based on their effectiveness in traditional medicine and supported by modern science.Ingredients selection: Gaultheria procumbens L: contain Methyl salicylate provide Anti-inflammatory, analgesic properties. Menthol: Provides a cooling effect, relieves minor aches and pains due to the presence of menthol. Arnica: Reduces bruising, swelling, and pain by the help of Sesquiterpene lactones (e.g., helenalin), flavonoids, and thymol. Eucalyptus Oil: Acts as a decongestant, anti-inflammatory agent,becouse of Eucalyptol. Camphor: Relieves pain, itching, and inflammation Preparation Process: Extraction: Herbal extracts were obtained through standard extraction processes to preserve their active compounds. Formulation: The extracts were combined in specific ratios to create the balm base, ensuring a smooth and absorbent texture. Application: Apply balm to affected areas such as joints, muscles and chest to relieve pain, headache, cough and tonsilllitis ,arthritis symptoms. Results showed that the herbal balm reduced pain and inflammation according to experimental users. User feedback was overwhelmingly positive, with reports of noticeable improvement in symptoms and minimal skin irritation.The combination of these natural ingredients in a topical balm has been proven to be an effective way to combat infection. Gaultheria procumbens L. acts as a powerful analgesic due to its high methyl salicylate content. Menthol provides a cooling sensation and helps control pain; arnica is known for its anti-inflammatory and healing properties. Eucalyptus oil also helps reduce pain and improve circulation, and camphor enhances the overall healing effect. These herbs offer a safe and effective way to manage muscle and joint pain with minimal side effects.

Keywords: Musculoskeletal disorders, Eucalyptus Oil, Gaultheria procumbens L, tonsilllitis

Jinnah University for Women
1st International Conference on Innovative Cross-Disciplinary Solutions for Sustainable Development Goals (IC-SDGs)
(November 28th – 30th2024)

Management of Constipation with Constakare (Herbal Capsule Formulation).

Kinza Hanif, Mehak Sohail, Uzma Khan, Hafiza Ammara
Jinnah University for Women, Karachi, Pakistan

Constipation is a condition in which a person has uncomfortable or infrequent bowel movements. Generally, a person is considered to be constipated when bowel movements result in passage of small amounts of hard, dry stool, usually fewer than three times a week. Different areas of Karachi such as Gulshan e Iqbal (block 6), Tahir Villa, Bufferzone, MRP Colony are informal settlements created through informal subdivisions of state or private land. Group of BEMS Final year students of Jinnah University for Women targeted one of the most populated areas of Karachi situated in the Gulshan-e-Iqbal & Saddar where they focused on people dealing with common health problem like Constipation and their treatment was done with constakare (herbal capsule formulation) to check their efficacy and effectiveness. According to survey data collected of about 100-150 patients. Constipation was the leading complain in women (age between 18 to 55) of poor socioeconomic status, second leading health disorder was joint pain (age between 25 to 60) while other conditions to which women were suffering included pimples, blackheads, whiteheads, hyperpigmentation, close comedowns, melisma, headache, anemia, fever, blood pressure, blisters, acidity, indigestion, and irregular menstruation. Follow up method was used to figure out the efficacy of constakare prescribed to patients in this research. Constakare capsule (herbal capsule formulation) used in this project was 100% made with natural ingredients.

Keywords: Constipation, bowel movements, blood pressure, constakare

Clinical Evaluation of Polyherbal Toothpaste Formulation

Hk. M. Adnan Khan, Aahila Noor
Jinnah University for Women, Karachi, Pakistan

Poor oral health may have a profound effect on general health. WHO recently released a global review on oral health, emphasizing that while populations in several countries have made significant progress toward better oral health, there are still issues on a global scale. Juglans regia leaves extract is potent antibacterial against oral pathogens and rich in phytoconstituents including phenols, flavonoids, and flavonols. The polyherbal toothpaste was formulated using Juglans regia leaves and other herbs extract. Other ingredients including calcium carbonate, sorbitol, glycerin and menthol were triturated well in mortar & pestle until a smooth, homogenous consistency of toothpaste was obtained. A randomized clinical trial was conducted involving 15 individuals across various age cohorts. Results showed that Juglans regia leaves possess anti-oxidant property significantly contributing to tooth whitening and prevention of halitosis. After the application of polyherbal toothpaste, all 15 volunteers got immediate breath freshening and tooth whitening effect. This research study demonstrated how well our polyherbal toothpaste worked to address common oral health problems by brightening teeth and improving breath. This toothpaste, which was designed to prevent the harmful effects of everyday oral exposure to bacteria, plaque, and stains, produced remarkable results in a matter of minutes, twice daily. It is the perfect solution for obtaining optimum dental health, confidence, and a radiant smile because of its natural ingredients and simple use.

Keywords: Phenols, flavonoids,anti-oxidant and flavonols

Botanical Bliss: Unlocking the Calming Potential of CNS Relaxant Tea For Women's Mental Wellbeing

Hira Latif, Hya Khan, Laiba Mehmood, Zahrah Khan, Bushra, Memoona, Anamta, Sharmeen,Maira Ibrahim, Zunaira, Zameerah, Nuzhat, Fatima Waseem
Jinnah University for Women, Karachi, Pakistan

Anxiety and depression are prevalent mental health issues affecting women worldwide, with socioeconomic adversity and relationship problems being major risk factors. A survey-based study was conducted among women in Karachi, Pakistan. Participants were given the herbal tea infusion "Bed time bliss" for 7 days, and their responses were collected. The herbal tea infusion, comprising seven herbs (Valeriana officinalis, Rosa damascene mill, Elettaria cardamomum linn, Citrus lemon linn, Borago officinalis, Lavandula stoechas linn, and Matricaria chamomilla linn), demonstrated potential anxiolytic and antidepressant effects in women. Anxiety is a feeling which makes people fear, dread and uneasy. It is a normal reaction to stress and is considered healthy because it helps us to prepare for an important event. In this product survey, we have evaluated anxiety and depression in women by giving them infusion of herbs in specific dosage form of tea. For our research, we make herbal tea in the form of infusion so the material we were used in it are: Unwoven tea bags (size: 5×5cm), 7 herbs with their medicinal parts which acts on CNS i.e.: lavender flowers, valeriana root, chamomile flowers, cardamom seeds, lemon peel, borage flowers and rose petals. The result is a compendium of herbal tea practice in Karachi, Pakistan gathered over a period of six months. The result shows nearly 84% respondents felt that their plan covers all of their medical essentials and improve their sleep disturbance. 46.2% of respondents claimed that after using the tea their mental health improves excellently. 19.2% of respondents claimed that after using the tea their improvement of anxiety is average. Over half (23%) of respondents said they were concerned about the bitter taste of their medicinal tea. 96.2% of respondents claimed that they do not faced any side effects after using tea bags. The most common psychological issue found in humans of Karachi these days is Anxiety which makes a person unhealthy, depressed and stressful. The compound in the infusion helps them improve their mental health by improving their metabolism, boosting immunity and deal with insomnia.

Keywords: Anxiety, mental health issues, Bed time bliss, compendium

Formulation and Evaluation of Polyherbal Face Scrub

Fizza Fatima, Umama Faisal, Dr. Aymen Owais
Jinnah University for Women, Karachi, Pakistan

Cosmetics have turned out to be necessary for a lot of people nowadays. All of them want to be more self-confident and well-being. You can do that by changing your daily habits.In order to remedy skin problems such as acne, tanning, and aging we created and did a research of a polyherbal face pad which is not present in the synthetic chemicals. The scrub content includes herbs that have antioxidant, antibacterial, skin-brightening, and anti-inflammatory properties. The most important ingredient in this polyherbal face pad is Poppy seeds, along with the natural substances neem powder, rose petal powder, and fuller's earth. The picks of the season have come together to form the scrub which lists the poppy seed ingredients. A scrub that the poppy seeds can be abrasive from which the results achieved were thus a quick elimination of skin- and block-blackheads issues. The aim of this project was to create a polyherbal facial scrub. the formulation process includes choosing the right supplies from safe sources, making precise measurements, and combining them according to certain instructions from diverse pharmacopoeias. The formula was then assessed according to different parameters, and the outcomes were good. The brewed scrub was finally tested for various attributes like color, odor, pH, washability, irritability, bulk density, tapped density, Carr's index, and Hausner ratio, which all presented acceptable results. The formed scrub was tested by many factors and found to be appropriate for use on the skin to create heat and radiance without chung any side effects: Ry incorporation of poppy seed as a scrubbing agent into the formulation efficiency of product increases. The other advantage is by using a scrub. It helps raise more oxygen in the skin, besides encouraging better blood flow. A surface Skin is normally made to feel softer, sleaner, and more energized after putting sub. Overall, the poly herbal face scrub tends to supply holistic skincare through both exfoliation and nourishment. It could be an excellent nedironte your semnare routine if targeting a product that heals multiple skin concerns while showcasing healthy completion.

Keywords: Cosmetics, antioxidant, antibacterial, skin-brightening, and anti-inflammatory

Physical Therapy Management in Wilson's Disease: a Case Report

Dr. Urooj Rafi, Dr. Shazia Abdul Hamid Khalfe , Dr. Muhammad Jawwad Baig Chughtai
Isra University, Karachi, Pakistan

Wilson's disease is a rare autosomal recessive disorder that leads to copper accumulation in various tissues, particularly the liver and brain. Neurological symptoms, including movement disorders and speech disturbances, are common in adult patients and can severely impact daily functioning. This case study discusses a 37-year-old female diagnosed with Wilson's disease three years ago. She presented with severe movement disorders, including tremors, uncoordinated movements, and speech disturbances, which significantly impaired her ability to perform Activities of Daily Living (ADLs) independently. The patient underwent a tailored physiotherapy regimen aimed at symptom alleviation, improving range of motion (ROM), and enhancing her ability to perform ADLs and Instrumental Activities of Daily Living (IADLs). Interventions included passive to active-assisted range of motion exercises, Proprioceptive Neuromuscular Facilitation (PNF) techniques, and functional training. Over a ten-month period, the patient demonstrated significant improvements in muscle strength, balance, and functional independence. These improvements were measured using the Berg Balance Scale, KATZ Index, and Manual Muscle Testing (MMT). Despite these gains, the patient remains at risk for falls, necessitating ongoing management. This case underscores the importance of a symptomatically designed, individualized physiotherapy plan in managing the neurological manifestations of Wilson's disease. The patient's progress highlights the potential for physiotherapy to significantly improve the quality of life in individuals affected by this condition.

Keywords: Wilson's disease, copper accumulation, speech disturbances, daily Living

ABSTRACT OF POSTER PRESENTER

FACULTY OF BUSINESS ADMINISTRATION AND COMMERCE

Impact of Organizational Culture on Employee Performance

Zill e Huma
Jinnah University for Women, Karachi, Pakistan

This research is established to find the impact of organizational culture on employee performance in Pakistan. Human resource management plays an important role in achieving a good reputation in the organizational world. The culture of any organization is a major key element of human resource management that influences employee performance. Analyzing the combined impact of risk-taking, job stress, reward systems, communication, and employee participation on employee performance using SPSS reveals significant insights into organizational culture. The results highlight that a supportive culture, which encourages risk-taking and open communication while effectively managing job stress, correlates with higher employee performance.For collecting the data, questionnaires were distributed in different companies and banks where employees gave responses. The sample size is more than 200 people. Statistical Package for Social Sciences (SPSS) software was used for testing. Linear regression and correlation tests were applied to find the relationship. Organizational culture significantly impacts employee job performance in banks by shaping behaviors, attitudes, and motivation levels. A positive culture that emphasizes teamwork, open communication, and recognition fosters an environment where employees feel valued and engaged, leading to higher productivity and job satisfaction.The interplay of risk-taking, job stress, reward systems, communication, and employee participation within organizational culture plays a crucial role in influencing employee performance. Together, these elements create a dynamic environment where employees can thrive, ultimately leading to improved job performance.

Keywords: Human resource management, Statistical Package for Social Sciences, Organizational culture, job satisfaction

ABSTRACT OF POSTER PRESENTER

FACULTY OF PHARMACY

Synergistic Effects Of Essential Oils On Anti-Fungal Treatment In An In-Vivo Animal Model Of Candida Albicans Induced Topical Infection.

Wadia Ali, Zaibun Nisa, Ramsha Amjad, Rabiya Farooq and Nabgha Zafar.
Jinnah University for Women, Karachi, Pakistan

Fungal infections, particularly mycosis, can pose serious health risks and are complicated by rising antifungal resistance and limited treatment options. Essential oils from herbal medicines like caraway, thyme, oregano, and lemon grass are being studied as alternative antifungal therapies. Caraway oil, rich in carvone, limonene, and carvacrol, shows strong antifungal properties. Similarly, thyme and oregano oils contain thymol and carvacrol, known for their antifungal and antiseptic effects. Lemon grass oil, with its key components citral and neral, has demonstrated efficacy against fungal strains, including *Candida albicans*. In vivo investigation of antifungal effect by evaluating the synergistic activity of four essential oils (caraway oil, thyme oil, oregano oil, lemon grass oil) against topical induced infection by Candida albicans in mice. Twenty mice were utilized to model skin infections. The procedure involved creating skin injuries by making scratches on the mice, followed by inoculating the scratched skin with a 1×106 suspension of Candida albicans. After the inoculation, the mice were monitored for gross lesions, and the levels of IL-6 were measured. Additionally, histopathological changes in the skin were examined. Lesion development in mice post-infection occurred within 5 days across all infected groups. The group treated with a 5 mg/ml mixture of thyme oil, oregano oil, caraway oil, and lemongrass oil exhibited lesion removal by day 4 and complete skin recovery with hair regrowth by day 7. This group also showed a significant reduction in IL-6 levels compared to the clotrimazole-treated group (2%), which had persistent dark patches by day 4 and normal skin recovery without hair regrowth by day 7. In vitro tests on agar plates revealed strong antifungal activity for all individual oils, with synergistic combinations enhancing their efficacy. Group of 4 essential oil demonstrated substantial antifungal activity against C. albicans both in vivo and in vitro. When used in combination, these oils show significant promise as alternative therapeutic agents for fungal infections.

Keywords: Mycosis, Caraway oil, Lemon grass oil,synergistic.

Migraine and Stress Relief Essential Oil Candles with Aroma Therapy Benefits

Durriya Hashmat, Simrah Zaheer, Suhima Alam, Laiba Jawaid, Tazakka Izhar
Jinnah University for Women, Karachi, Pakistan

Medicinal plants are vital resources for combating diseases. Studies show that lavender and peppermint essential oils provide stress relief and enhance cognitive function. These oils offer distinct aromas, flavors, and pathogen protection. The lavender oil candle has butterfly pea flower extract containing L-theanine which is known for relieving migraine, whereas the peppermint oil candle has mint leaves extract containing menthol which is very well known for its anxiety and stress relieving properties. The L-theanine in butterfly pea flower blocks excitatory neurotransmitters, alleviating migraines, while menthol in mint leaves acts as a natural analgesic. Lavender has Linalool and linalyl acetate while peppermint oil contains menthol and menthone as active constituents, effective for treating migraines, stress, and anxiety. Scented candles, a popular form of aromatherapy, create a relaxing atmosphere and promote well-being. The goal is to create cost-effective candles that burn long and pose no health risks while providing relief from migraines and stress. This study evaluates and prepares scented candles using plant extracts and essential oils through a distillation method.This study aims to produce practical scented candles using lavender and peppermint oils, beeswax, Tween 80, butterfly pea flower extract, mint leaf extract, glycerin, and wicks. The process involves melting the wax, blending in the ingredients, and allowing the mixture to set for 24 hours. Phytochemical analysis reveals compounds like L-theanine in butterfly pea flower, Linalool and linalyl acetate in lavender oil, menthol and menthone in peppermint oil and mint leaves promoting migraine relief, reducing stress and anxiety. This research demonstrates that medicinal plants such as lavender, peppermint, and butterfly pea flower are crucial for promoting well-being and alleviating stress. Their essential oils offer therapeutic benefits, making scented candles an effective form of aromatherapy that enhances relaxation and mental health. Active constituents in lavender oil, peppermint oil, butterfly pea flower extract and mint leaves have been confirmed through tests like specific gravity and TLC.

Keywords: Combating diseases, . Lavender, Linalool, linalyl acetate.

Formulation And Evaluation Of Poly Herbal Extract-Based Anti Inflammatory Skin Toner With Willow Bark, Chamomile And Licorice Extracts.

Saroush Kiran, Ayesha Kiran,Mahnoor Tanveer, Sulafah Shafqat, Sughra Fatima, Syeda Hafsa shafi ,Maha Mazhar
Jinnah University for Women, Karachi, Pakistan

This study focuses on developing a natural skin toner using an array of botanical extracts known for their skincare benefits. The key active ingredient, White Willow Bark (Salix alba), is known for its salicin content, which has anti-inflammatory and exfoliating properties.Chamomile (Matricaria chamomilla) for its soothing and anti-inflammatory effects, and licorice (glycyrrhiza glabra) is known for its Glycyrrhizin content for antioxidant and anti-inflammatory properties all are helps to lighten hyper pigmentation and reduce dark spots, inflammation while other herbal components complement the toner's overall efficacy. Objective of this formulation development is to:

- Maintain even tone skin by reducing inflammation and hyper pigmentation resulting by acne scars and other environmental factors by using plant extracts product.
- Research and innovation in plant-based materials and processes to create high-performance, sustainable alternatives to conventional products.
- Create viable business models that support local agriculture and communities, fostering economic development.

The formulation consists of White Willow Bark, Chamomile, and Licorice extracts. which is obtained by using soxhlet apparatus. The formulation was prepared by homogenizing all the extracts and other excipients in distilled water and rose water by using silverson mixer. Other excipient were also added to maintain overall product stability and stored in a suitable container and its physical properties such as pH, viscosity, and stability were evaluated. The herbal toner displayed favorable physical properties, with a pH of 4-5.5, which falls within the normal, skin-friendly range. The herbal skin toner containing white willow bark, chamomile, and licorice extracts is a promising natural formulation for daily skincare routines, offering anti-inflammatory, exfoliating, and moisturizing benefits.the product is effective in treating acne-prone and sensitive skin for revitalization and balanced skin tone.

Keywords: Natural skin toner, White Willow Bark, Chamomile, Exfoliating.

Assessing the Impact of Junk Food Consumption on PCOS Symptoms and Management in Young Women of Karachi

Laiba Akram, Aqsa Zahid, Areeka khurshid, Saniya Shuja
Jinnah University for Women, Karachi, Pakistan

Polycystic Ovary Syndrome (PCOS) is a hormonal condition that impacts a considerable number of women in their reproductive years. Consuming large amounts of fast food containing refined carbohydrates, sugars, and unhealthy fats can contribute insulin resistance and obesity, which are closely connected to PCOS. Research indicates that women with PCOS who regularly eat unhealthy food are at a higher risk of experiencing various symptoms, including irregular periods, increased levels of male hormones, and metabolic issues (Ganie MA, 2022). The purpose of this research is to reveal the relationship between junk food consumption and the severity of PCOS symptoms and the awareness about PCOS in young women by conducting a survey analysis. A survey based study was conducted to check the effect of junk food consumption on symptoms of PCOS in young women of Karachi. A total of 200 women participated by completing an online survey form. The purpose was to gather information on participants' eating habits, with a particular emphasis on junk food intake and its relationship to symptoms of PCOS, including irregular menstrual cycles, weight gain, and acne. Descriptive statistical methods were used to process the data. The data reveals a moderate level of awareness regarding PCOS among respondent, primarily within the 18-24 age group. About 35% of participant reported being diagnosed with PCOS. While 59% of respondents were aware of PCOS, 35% have never heard of the condition suggesting a need for broader outreach and education. In terms of understanding the connection between obesity and PCOS 53 % of respondents recognize the link, furthermore 55% respondents are aware that it can impact infertility issues, which highlights a basic understanding of one of the serious health implication of the condition. According to the survey, there is a direct correlation between frequent junk food consumption and worsening PCOS symptoms. Given that majority of respondents are in their early adulthood it is essential to focus on raising awareness about PCOS particularly its link to lifestyle factors like obesity and its potential impact on infertility. This age group being at risk for early onset of symptoms would greatly benefit from targeted educational initiatives to promote early detection and better management.

Keywords: Polycystic Ovary Syndrome (PCOS), Metabolic issues.

Chikungunya Awareness: Assessing Knowledge and Misconceptions

Maryam Nadeem, Madiha Khalique, Malaika Adnan, Laiba Khan, Sanya Shuja
Jinnah University for Women, Karachi, Pakistan

This study aims to evaluate the level of awareness and understanding of Chikungunya among various demographic groups, identify prevalent misconceptions, and inform public health strategies for effective prevention and education.Chikungunya is a viral disease spread by Aedes mosquitoes, resulting in significant morbidity due to its debilitating symptoms. Despite its rising incidence, public knowledge about the disease varies widely, often leading to misconceptions that interfere with effective prevention and control measures. We conducted a survey with 210 adults through online questionnaire that include multiple choice questions and also open- ended question. Among them 85.7% belongs to the age group between 15 to 30. Participants were selected using random sampling method. The survey included questions about symptoms, how the disease spreads, and prevention methods, along with open-ended questions to capture any misconceptions. We analyzed the data by using descriptive statistical analysis to find patterns and connections. Among 210 people 85.7% belongs to the age group between 15 to 30 and 79.5% female and 20.5% male. The results indicated that 87.6% of participants had a moderate understanding of Chikungunya. About 57.6% people have learn about chikungunya from media. 83.7% population have information that chikungunya is spread by infected mosquitoes. 76.6 % population know about symptoms. 85.6% have not been diagnosed with it. And the 45.9% people who have been diagnosed managed their symptoms by medical treatment, 43.9% by self medication. And 70.8% people have sought medical attention when they experienced symptoms. However, significant misconceptions were identified, 50.5% population believed in transmission through casual contact, 75.6% don't even know that there is a vaccine available for chikungunya.It's incorrect to think that chikungunya spreads through casual contact; it's actually transmitted by mosquito bites. The study highlights a critical gap in public knowledge about Chikungunya, particularly regarding its vaccines and its spread. Addressing these misconceptions through targeted public health campaigns is essential to enhance community awareness and prevention efforts. Further research is recommended to evaluate the effectiveness of educational interventions aimed at improving understanding of Chikungunya and reducing misinformation.

Keywords: Chikungunya, Misconceptions, Transmission, Community Awareness

Harnessing Nature's Healing Power: Formulation and Evaluation Of A Gotu Kola-Based Lotion To Enhance Wound Healing In Diabetic Animal Models

Sanya Shuja, Dr. Zubia, Warsha Khan, Syeda Maham Jawaid, Maliha Nadeem
Jinnah University for Women, Karachi, Pakistan

Diabetic patients frequently face complications with slow-healing wounds, which can lead to serious health risks, including infections and amputations. This study explores the development of a novel lotion using Centella asiatica (Gotu Kola), a medicinal plant from the Apiaceae family known for its wound-healing properties.This study aims to formulate and evaluate the pharmacological and therapeutic effects of a Gotu Kola-based lotion to enhanced wound healing in diabetic animal models, providing a natural alternative for wound management in diabetes.An ethanolic extract of Centella asiatica was prepared using standardized extraction methods. The extract was emulsified with carrier oils and combined with stabilizing agents, such as beeswax and essential oils, to create a stable lotion formulation. Optimization processes, including stability testing, were conducted to ensure the product's efficacy. The pharmacological and therapeutic effects were evaluated in diabetic animal models to assess its effectiveness in promoting wound healing.The lotion significantly reduced inflammation and enhanced wound healing time compared to the control group. Diabetic animals treated with the Centella asiatica lotion exhibited faster healing rates and enhanced wound appearance. Comprehensive literature review identified asiaticoside and other triterpenoid compounds as the key active ingredients responsible for these effects.This study contributes to the growing field of natural wound care, particularly in diabetic animal models. The findings suggest that Centella asiatica lotion could serve as an effective and accessible treatment option for managing diabetic wounds, encouraging further research into natural products for addressing diabetic complications.

Keywords: Slow-Healing Wounds, Gotu Kola-Based Lotion, Optimization Processes,Emulsified

Formulation and Evaluation of Melon and Pumpkin Seed Extract Syrup in Neuroprotection and Memory Improvement

Umaima Saeed, Muniba Yousuf , Warda Shakoor, Unaiza Siddiqui,Dr.Aisha Aziz
Jinnah University for Women, Karachi, Pakistan

Melon seed extract (Cucumis melo), and Pumpkin seed extract, (Cucurbita pepo) contains active compounds like cucurbitacins, flavonoids, phenolic acids, sterols, and fatty acids. They exhibit various pharmacologic effects such as antioxidant, anti-inflammatory, antimicrobial, anti-diabetic, anti-stress, anti-depressant and antihypertensive. These extracts may also boost our immune system and provide memory enhancement effect. The objective of this study is to formulate and evaluate the neuro-protective effects of a melon and pumpkin seeds syrup on memory improvement and anxiety-like behavior. The study's materials and methods involved formulating syrup by combining melon seeds extract and pumpkin seeds extract in a 1:1 ratio, dissolved in distilled water. Firstly, 30g sucrose was dissolved in distilled water followed by the addition of preservative, flavoring agent and thickening agent. Twelve healthy mice were randomly divided into three groups control (n=4) a low dose treated group (n=4) receiving 0.25ml of the syrup orally and a high dose treated groups (n=4) receiving 0.5mL of the syrup orally for 30 days. Memory improvement was assessed using the Morris water maze test on day 1, 15, and 30, while neuroprotection was evaluated through the Open Field test. The high dose (0.5ml) treated group exhibited an increased exploratory behavior in Open Field Test, suggesting reduced anxiety-like behavior, and enhanced memory performance in Morris Water Maze test as compared to the other two groups. This study demonstrated that high dose (0.5ml) treated group showed reduced anxiety-like behavior and enhanced memory performance. In the Open Field Test, they demonstrated increased exploratory behavior, indicating anxiolytic effects. In the Morris Water Maze test, they exhibited improved escape latency and increased time spent in the target quadrant, suggesting enhanced spatial learning and memory. These improvements were statistically significant compared to the control and low dose groups, highlighting the potential therapeutic benefits of Melon and Pumpkin seed extract syrup in alleviating anxiety and improving cognitive function. Further research is warranted to elucidate the underlying mechanism and to translate these findings into clinical applications.

Keywords: Melon seed extract, Pumpkin seed extract, Open Field test, Morris Water Maze test.

Effect of early menses in teens and young adults

Saniya Shuja, Laiba Muhammad Iqbal, Neha Nadeem , Syeda Ramsha Abbas
Jinnah University for Women, Karachi, Pakistan

The main goal of this data collection is to look into the incidence of early periods, or menstruation that happens earlier than the normal cycle, in people in their late teens and early twenties, as well as any related side effects. The purpose of this study is to determine the proportion of early menstruation in this population, as well as any potential causes and health effects. A vital component of general health is menstrual health, particularly throughout adolescence when major hormonal changes occur. Teenagers' irregular menstrual cycles have become a significant source of concern in recent years, especially with the early commencement of periods. Various factors have been suggested as possible causes, including stress, eating choices, lifestyle modifications, and hormonal abnormalities. It is critical to comprehend these aspects since they may have long-term health impacts, such as hormonal imbalances, problems with reproduction, and psychological effects. The onset of regular menstrual cycles is one of several physiological and psychological changes that occur with the transition from adolescent to adulthood. Disruptions, like early menstruation, are common among teenagers, however they can be upsetting and have a number of negative impacts. Early periods can be emotionally upsetting, physically uncomfortable (such as cramps or headaches), and may be a sign of underlying health problems including hormone imbalances or problems with one's way of life. We can learn more about teenage health and offer recommendations for preventive actions by looking at the incidence and adverse effects of early menstruation. A mixed-methodologies strategy was used in this study to collect data using both quantitative and qualitative methods. A sample of females between the ages of 12 and 30 was chosen. Focus groups, interviews, and structured questionnaires were used to gather data. Menstrual cycle beginning, frequency, dietary habits, stress levels, and any side effects were among the topics included in the questionnaire. With agreement, medical records were also examined to find any current illnesses that might be causing early menstruation. To find patterns and relationships between early periods and possible contributory elements, statistical analysis was done. The results show that early periods are somewhat prevalent in teenagers and are frequently associated with a variety of side effects that can have an adverse influence on one's physical and mental health. Early menstruation is influenced by a variety of factors, including genetic predispositions, lifestyle choices, and stress. To assist control and avoid early menstrual periods in teenagers, early intervention, education about good lifestyle choices, stress management strategies, and routine medical check-ups are advised. Additional investigation is required to examine long-term

Keywords: Early Menstruation, Hormonal Abnormalities,Menstrual Cycle, Mental health.

Prebiotic Herbal Cream for Dermatitis Relief and Skin Repair

Quratulain Riaz, Madiha Jafar, Habiba Tahir, Hafiza Fatima Rehman, Fiza kainat, Ayesha Mukhtar
Jinnah University for Women, Karachi, Pakistan

The purpose of the present research is to formulate a herbal prebiotic cream for relieving dermatitis and elevate repairing of skin by using natural and biocompatible constituents. Dermatitis is a common skin condition that result in swelling, itching, dryness, rash or blistering and can caused by any factors such as allergens i.e. dust, mites, pollens, or irritants i.e. detergents, soap, perfumes, and solvents etc. Dermatitis is not contagious, but it can be very discomfort and painful and if left untreated can cause severe infections. Natural treatments are usually safe and economic. The formulation that is conceptualized is an herbal formulation composed of herbal extracts along with prebiotic. Herbal formulation is medicines originate from natural constituents and preferable in these times due to their affordability, less side effects and sustainability. The formulation is to relief dermatitis and repairing skin consisting of herbal extracts as a key source along with prebiotic (inulin) was prepared. Considerable amount of chamomile, licorice root and gotu kola extracts is used for the therapeutic purpose. On consideration, evaluation parameters evident the stability of formulation at room temperature and it also has soothing effect, no irritants and side effects are noted. This evident that the formulation is biocompatible. The main constituent of formulation is herbal extract along with prebiotic that retains good anti-inflammatory and healing properties for dermatitis. The formulation is subjected to various parameters to test the stability, appearance, spread ability, rheological properties, pH, and irritancy of formulation. The result show up is positive and no irritant and side effect are noticeable also it appears to be stable means no change in appearance. The formulation is safe and consist of all organic constituents that has anti-inflammatory, soothing and healing properties. The study concluded that the herbal prebiotic cream is formulated by organic constituents which is highly suitable and having prodigious healing properties along with commendable appearance having no side effects. And result reveal that the formulation is safe, economic, and ecofriendly.

Keywords: Herbal Prebiotic Cream, Contagious, Dermatitis, Inulin.

Regenerating β-cells from alpha cells: A future strategy for diabetes management

Quratulain Waseem, Musfira Iqbal, Misbah Khaliq, Syeda Sarah Zahid, Ayesha, Aleena
Jinnah University for Women, Karachi, Pakistan

Diabetes, caused by insulin-secreting pancreatic β-cell dysfunction, is a major global health issue due to metabolic or autoimmune damage. According to WHO, over the past three decades, type 2 diabetes prevalence has significantly increased globally, with 422 million people affected, primarily in low- and middle-income countries. Access to affordable treatment, including insulin, is crucial for survival. A global target is set to halt diabetes and obesity rise by 2025. A novel potential therapy has emerged, focusing on reprogramming pancreatic α-cells into insulin-secreting β-cells. The conversion of α-cells into functional β-cells represents a promising strategy for β-cell regeneration in individuals with diabetes, particularly those with type 1 diabetes, where β-cell loss is profound**.** Recent lineage-tracing studies have shown that pancreatic α-cells, which produce glucagon, can also act as progenitors of β-cells, responsible for insulin production. This cell plasticity occurs during early developmental stages of the pancreas and in adult pancreatic islets in response to injury, such as diabetes loss. Research in mice and humans has demonstrated that some α-cells can naturally reprogram themselves to begin producing insulin, which is vital for lowering blood glucose levels. However, the process of α-cell reprogramming into β-cells is limited in scope, with only about 1-2% of α-cells undergoing this transformation after a significant loss of β-cells. This limited extent restricts the therapeutic potential of spontaneous α-cell reprogramming. The process begins with the activation of nearby α-cells by injured β-cells, encouraging α-cells to trans-differentiate into β-cells. During this trans-differentiation, α-cells become "pro-α-cells," undifferentiated precursor cells capable of developing into different cell types. Proglucagon, a prohormone produced by α-cells, is crucial in understanding this transformation. Undifferentiated pro-α-cells produce GLP-1, a growth and survival factor, which promotes the growth of pro-α-cells. Pancreatic α-cells, which normally produce glucagon to raise blood glucose levels, have shown an extraordinary ability to transform into insulin-producing β-cells under certain conditions. Understanding how α-cells respond to β-cell loss and identifying mechanisms limiting conversion could lead to new treatments. Research on α-cell transcriptomic response and biological barriers to reprogramming is crucial for developing therapeutic applications for diabetes.

Keywords: Insulin-Secreting,Reprogramming, Pro-A-Cells, B-Cells.

Formulation and Evaluation of Anti-Diabetic Herbal Suspension

Sehar Iqtidar,Saroush Kiran, Anousha Arshad, Javeria Iftikhar, Isha Rizwan, Laiba Khalid, Hoorain Abid, Isha Pervaiz.

Jinnah University for Women, Karachi, Pakistan

The current study aimed to produce herbal suspension that uses extractof guava leaf, bay leaf, and peach leaf to fight diabetes. Here, guava leaves lower blood sugar by blocking the bloodstream's entry of glucose, bay leaf has a hypoglycemic effect that aids in insulin and glucose metabolism therapy, and peach leaves also have anti-diabetic properties that inhibit the rise in blood glucose levels. The goal is to develop herbal antidiabetic suspension that is effective and safe for antidiabetic patients.The extraction of guava, bay, and peach leaves was done by decoction. Then these extracts of peach, bay, and guava leaves were combined with other formulation ingredients to get the suspension. The final preparation of suspension is tested by using different quality control parameters including pH, viscosity, sedimentation rate, etc. Theanti-diabeticherbal suspensionisformulated by extracts of guava leaf, bay leaf, and peach leaf and all the parameters found within the range. Herbal medicines are still widely utilized for primary healthcare because of their acceptance in the community, human compatibility, and lack of unfavorable side effects. In this article, we use the extractof guava leaf, bay leaf, and peach leaf to formulate an anti-diabetic herbal suspension.

Keywords: Herbal Suspension, Guava Leaves, Anti-Diabetic, Bay Leaf.

Self-Reliance in Polio Vaccine Production: a Strategic Priority for Pakistan's Polio Eradication Efforts

Zarmeen Choudry, Umama Faisal, Areesha Wahid, Qurat-ul-ain Waseem
Jinnah University for Women, Karachi, Pakistan

The approach of polio vaccine formulation and its modern demand in Pakistan is somehow associated with the resolving of public perception related to the polio vaccine as a propaganda piece of a foreign source and delaying poliovirus eradication. Aside from developing the domestic vaccine against virus and liberating Pakistan from its grip in order to maintain domestic health, bring polio virus to the point of negligence and minimize the number of cases that still 21 reported in 14 districts across Pakistan in 2024, including Islamabad. The article's aim is to conquer the challenges in developing the domestic polio vaccine that are concerning the financial issues, lack of interest of policy makers, restricted growth of research on public health issues and chances of vaccine failure. Meticulous literature review was conducted by using NIH, Science direct, Google Scholar, British pharmacopeia, ICAP, Pakistan polio eradication program (PPEP) and WHO plate form. And articles were selected from the year between 2020-2024, To study the current scenario of polio in Pakistan. In addition, Pakistan polio eradication program (PPEP) data is included to relate the result with the Expanded Program on the polio-free world(EPI) project. Furthermore, local pharmaceutical industries approach analyzed for the polio vaccine production. The results evaluation indicate the challenges which contribute to the production of domestic polio vaccine and internal or external factors that interfere with the global debut of Pakistan in the international dynamic market of vaccines. However, This article analyze the impact of leading gaps between government, health care providers, citizen and local pharmaceutical industries with respect of collaboration theme on the eradication of WPV1 strain in Pakistan. Assessment of Pakistan assets to design the strategies for the production of domestic polio vaccine with the contribution of local pharmaceutical companies or GAVI, the vaccine alliance. In addition, Reviewed the government consideration toward the warning of wild polio virus type 1 (WPV1) strain. Along with, examined all the possible factors to overwhelm the polio endemic for the enlisting of country's name in the polio-free world list.

Keywords: Polio Vaccine, Health Care Providers, Polio-Free World, The Polio-Free World.

Organic sunscreen: an innovative approach to the mindful consumption of the phytoconstituents for UV protection

Nabeeha Syed, Misbah Ashraf, Minzah Hashmi, Sara Arshad
University of Karachi, Karachi, Pakistan

A prototype product, a concept formulation with natural ingredients. This product elaborates the use of natural ingredients, making its formulation stand out with the available marketed product. The driving force behind the concept was to design a product that has the least chemical toxicity and the desired effectiveness without the harshness and toughness of conventional sunscreens. Essential oils that have natural SPF properties were used along with beeswax, aloe vera gel, glycerin and zinc oxide. Zinc oxide is added to boost the sun protection factor as natural ingredients like sweet almond oil, coconut oil, and jojoba oil have comparatively lower SPF levels. They all together can have a moisturizing effect with protection of the exposed skin to the ultraviolet radiations. Satisfactory results were obtained, no white cast, greasiness or grittiness in the texture. Lavender oil, added as a fragrant, had an aesthetic appeal with respect to the fragrance of the formulation. SPF was comparatively lower which could be enhanced with further working for more effective and cheaper active ingredients. No phase inversion was noticed and overall the formulation seems to be stable. Using an organic sunscreen can be of a greater value in the coming future. This sunscreen poses a greater benefit for the people who choose purely natural ingredients for themselves, due to their sensitive skin types.

Keywords: Prototype**,** Jojoba Oil , Conventional Sunscreens**,** Phase Inversion .

Monkeypox

Sundus Shahab
University of Karachi, Karachi, Pakistan

The first human monkeypox cases were reported in 1970 in Zaire's Basankusu district. Although clinically similar, there are significant epidemiological differences. This paper details the clinical and epidemiological features of 47 cases between 1970 and 1979. This article critically examines monkeypox treatment options, vaccine availability, and public health measures, highlighting knowledge gaps and suggesting future research for improved disease management, preventive measures, and containment issues. This retrospective observational study examines clinical characteristics, long-term virological results, and response to off-label antivirals in seven monkeypox patients diagnosed in the UK between 2018 and 2021. Between 1980 and 1985, 282 monkeypox cases were reported, primarily in children. The majority had smallpox vaccination scars. The serological analysis confirmed the diagnosis for 209 patients. The illness's clinical course was pre-eruptive and eruptive, with fever lasting one to three days. Pronecurities, headache, backache, and generalized malaise were common symptoms. The US monkeypox outbreak highlighted the potential for zoonotic reservoirs to facilitate the virus's spread, raising concerns about its spread into areas free of monkeypox due to civil conflicts, displacements, and contact with wildlife. Further research is needed to understand the virus's transmission and spread.
Keywords: Phase Inversion, Phase Inversion, Pre-Eruptive, Civil Conflicts.

Herbal Syrup Preparation from the Indian Herb Withania Somnifera (Ashwagandha) For Treatment of Anxiety and To Reducestress.

Summaiya Pervaiz, Urooj Javed , Yusra Rashid, Tasbiha Nizam, Saba Hayat, Syeda Noor ul ain Zaidi
Jinnah University for Women, Karachi, Pakistan

Anxiety disorders are most prevalent and highly comorbid psychiatric condition in past decade that is vastly affecting the lifestyle of every domain. Due to various side effects of western medications, herbal formulations are developing to treat psychotic disorders. Over the past decades, the exploration in herbal psychopharmacology has received much attention. Literatures showed a variety of herbal mechanisms of action used for the therapy of depression, anxiety and insomnia, involving reuptake of monoamines, affecting neuroreceptor binding and channel transporter activity, modulating neuronal communication or hypothalamic-pituitary adrenal axis (HPA) etc. Apart from anxiolytic effect of Withania somnifera it can also reduce sleeplessness and fatigue and reduced the serum cortisol a stress hormone level. The herbal syrup is a natural and safe alternative to prescription medication. The study aims to address healthcare disparities in developing countries by introducing anxiolytic syrup as an affordable, accessible solution for anxiety management. It aims to provide individuals with a natural remedy that alleviates anxiety symptoms, promotes emotional well-being, and enhances overall quality of life, while also evaluating its physiochemical properties. A simple syrup (66.7% w/v) was used to create anxiolytic syrup from roots of Withania somnifera, which was assessed for quality using turbidity, pH, and appearance. No microbial growth was detected during stability investigations. The syrup was tested on mice to measure anxiety-like behaviours. The syrup was found to be clear, sweet taste and is expected to advance anxiety and stress management. Further animal studies are planned.

Keywords: Anxiety Disorders, Prevalent, Hypothalamic-Pituitary Adrenal Axis (HPA)

Unveiling the Secrets of Cough Lozenges: Harnessing The Power Of Natural Ingredients

Laiba Muskan, Bisma Waqar, Areeba Masood, Hafsa Laraib, Sanya Shuja
Jinnah University for Women, Karachi, Pakistan

Through mounting demand for natural treatments, herbal lozenges deliver an alternative to synthetic remedies for throat and respiratory relief. These lozenges, comprising medicinal herbs, suggestion relief from common cold symptoms and sustenance respiratory health. The goal was to formulate effective herbal lozenges and estimate their quality through moisture analysis, stability testing, weight variation, dissolution time, and hardness. The lozenges were designed to appeal children by ensuring both taste effectiveness and treatment of infections. The formulation focuses on natural herbs to effectively soothe and treat throat infections. The lozenges were prepared by drying and decocting herbs that include ginger, green tea leaf, blending them with sugar, honey, and essential oils, then molding and hardening. Key tests were achieved to guarantee product stability and effectiveness. A blend of these natural ingredients will provide soothing relief for sour throats, cough and congestion. Green tea leaves extract and honey will add anti-inflammatory, antioxidant benefits while ginger provide antimicrobial effect. Eucalyptus oil and menthol works as natural decongestant easing breathing and reducing throat discomfort. Overall this rich blend of natural herbs will support respiratory health and immune boosting effect. The lozenges showed acceptable moisture content, minimal weight variation, and dissolved in 8 minutes for quick relief. Taste and efficiency was checked by giving the samples to about 50 individuals who reported the effectiveness of herbal lozenges and relief of symptoms of sour throat and cough. The herbal lozenges formulated in this study proved effective relief for sore throats and coughs, with a constant formulation reinforced by quality control tests. The flavor of honey, as a sweetening agent, is more attractive than conventional medicines for giving sore throats, making it a preferred choice for children. Additionally, the use of natural ingredients guarantees that there are no apparent adverse effects, promoting a safer treatment option.

Keywords: Herbal lozenges, anti-inflammatory, antioxidant, weight variation

A Novel Turmeric-Based Hair Dye Using 100% Natural Ingredients: Advancing Sustainable Hair Care Solutions

Quratulain Waseem, Nabeeha Aftab, Mahzeb Mustajab, Mahrukh Fatima, Fariya Imran, Quaneeta Mughal
Jinnah University for Women, Karachi, Pakistan

The need for plant-based substitutes for synthetic hair dyes is greater than ever as customer preferences shift toward sustainable and eco-friendly beauty products. Many standard colors contain chemicals that are bad for the environment and for hair, leading to problems like allergic responses, hair damage, and long-term health problems. Synthetic dyes are frequently linked to hazards of carcinogenesis, fading, breakage, and dryness. Additionally, because of the non-biodegradable materials, they contribute to environmental degradation. Known for its many health benefits, turmeric (Curcuma longa) has unrealized potential as a natural hair coloring pigment. Curcumin, the component that gives it its remarkable yellow color, has antibacterial, anti-inflammatory, and antioxidant properties. This study is the first to use turmeric to create a completely plant-based hair dye that satisfies consumer demand for eco-friendly, non-toxic cosmetics. The goal of this study is to create an innovative, all-natural hair color that is based entirely on turmeric and provides intense, long-lasting color while also nourishing the hair. This formulation, which uses only natural components, offers a safer and more ecologically responsible alternative to synthetic colors by removing the negative effects of synthetic dyes, such as chemical build-up, allergic responses, and hair damage. By combining ethanol and aqueous solvents in a green extraction technique, turmeric's curcumin was extracted while maintaining pigment stability and yield. To produce a range of hues, additional plant-based chemicals like henna and indigo were added, and natural mordants like alum and acacia improved the dye fixing process. In order to assess the dye's performance, different hair types were tested. Color intensity, wash resistance, and scalp sensitivity were among the criteria measured. Additionally, a study was carried out to compare the effects of typical synthetic dyes on the environment (biodegradability and carbon footprint) and the results on hair health. The dye made from turmeric created a vivid golden-yellow color that could be adjusted by combining it with indigo and henna to create a broader color scheme. Notably, the composition also improved manageability and smoothness by nourishing hair. The dye was shown to be hypoallergenic by dermal testing, indicating that delicate skin might use it. This formulation, in contrast to synthetic colors, is devoid of harsh chemicals like ammonia, PPD, and parabens, guaranteeing that it won't irritate the scalp, damage hair, or harm the environment. Compared to conventional synthetic colors, the use of natural materials had a smaller environmental impact, and the formulation was completely biodegradable. Compared to chemical-based colors, this novel turmeric-based hair color provides an environmentally friendly and scientifically proven substitute. In addition to offering a safe and effective solution, its composition takes advantage of the natural coloring qualities of turmeric and other botanicals to address common problems with synthetic dyes, like allergic responses, hair damage, and environmental harm. This study establishes plant-based formulations as the beauty industry's future by showing that natural dyes can live up to customer expectations for sustainability and performance.

Keywords: Turmeric-Based Hair Dye,Synthetic dyes, allergic responses, plant-based formulations

Antiperspirant and skin brightening toner featuring potash alum and licorice extract

Ayesha Kiran, Nimra Waheed, Zaibun Nisa, Wadia Ali, Ramsha Amjad, Noor-ul-ain, Rabiya Farooq.
Jinnah University for Women, Karachi, Pakistan

Potash alum, aloe vera, and licorice extract are traditional ingredients with diverse therapeutic and cosmetic applications. Potash alum is widely used for its deodorant and astringent properties, aloe vera for its moisturizing and soothing effects, and licorice extract for its anti-inflammatory, anti-microbial, and anti-pigmentation benefits. The use of these natural ingredients is being explored to enhance safety and efficacy in personal care formulations. To develop an antiperspirant and anti-pigmentation toner using potash alum, aloe vera, and licorice extract, and to assess its efficacy, stability, and potential for market introduction. An antiperspirant and anti-pigmentation toner was formulated with potash alum complemented by aloe vera and licorice extract. The formulation included excipients such as a vehicle, buffering agents, antioxidants and preservatives. A subtle fragrance was added for user appeal. The formulation was evaluated for certain parameters including pH, viscosity, uniformity, and stability. An antiperspirant and anti-pigmentation toner was formulated with potash alum and licorice extract. The formulation demonstrated stability in terms of pH, viscosity, and uniformity. The antiperspirant and anti-pigmentation toner formulated with potash alum, aloe vera, and licorice extract exhibited stability. Potash alum provided antiperspirant effect while Licorice extract provided anti-pigmentation benefits, potentially helping to reduce dark spots and uneven skin tone, making the product suitable for commercial use.

Keywords: Potash alum, aloe vera, and licorice

Assesing the Impact of Statins and Their Side Effects In Patients With Type 2 Diabetic Patient

Arwa Ali Asghar, Eman Tahir , Dua Shaikh , Javeria Ahmed, Sidra Sohail
Jinnah University for Women, Karachi, Pakistan

The objective of this research is to investigate the incidence, severity and underlining the mechanism of statins in diabetic 2 patients. Hydroxyl methyl glutaryl coenzyme A reductase (HMG COAR) is the target of statin therapy and the activity of the key enzyme in cholesterol synthesis is reduced by the statins in partial and reversible way, leading to reduction in overall low density lipoprotein level (LDL) ,which offers benefits to type 2 diabetic patient who often have higher LDL levels and are at a great risk for cardiovascular disease. The use of statin in diabetic has long term benefits in term of decreasing morbidity and mortality. However the adverse effects linked with statin in diabetic 2 patients are summarized as myopathy , fatigue being the most common and other possible adverse effect may include nausea, constipation, abdominal pain and insomnia. This study utilized a quantitative research design , employing a survey to collect data on the role of statins in the management of type 2 diabetes. This survey addressed key parameters, including demographic detail ,medical history, awareness of statins , and their potential side effects. A pilot report was conducted with a large sample group (n=264) to ensure the clarity , relevance and validity of the survey questions. Our survey revealed that 83.6% of diabetic respondents had used statins to manage LDL(Low density lipoprotein) levels. The results indicated that myalgia was the most frequently reported severe side effect impacting 18% of the population and constipation was reported as another side effect in 16.4% of the population, with symptoms ranging from mild discomfort to more severe manifestations. Myalgia is a common concern among patients and is significant enough to frequently prompt discussions between patients and healthcare providers . This survey aimed to investigate the perception and experiences of Type 2 diabetic patient regarding the use of statins , focusing on their effectiveness, side effects and adherence rate. In most cases of statin induced myalgia, the primary approach is adjusting the statin therapy such as lowering the statin dose. However, Non steroidal anti inflammatory drugs (NSAIDS) like ibuprofen or naproxen can be prescribed. Since NSAIDS can worsen the condition of ulcer patient so Coenzyme Q10 (CoQ10) supplements are preferred to potentially reduce the muscle pain.

Keywords: Hydroxyl methyl glutaryl coenzyme A reductase, quantitative research, Low density lipoprotein

Understanding Antibiotic Usage Dynamics: A Triangulated Study Across Medical Students, Community Pharmacies, And Hospital Environments

Javeria Sheikh, Dr. Huma Dilshad, Ms. Sidra Sohail, Arisha Shamim, and Insiya Fatima.
Jinnah University for Women, Karachi, Pakistan

The worldwide public health community is seriously threatened by antibiotic resistance, which calls for the implementation of multimodal strategies to treat both its causes and effects. It is imperative to comprehend the patterns of antibiotic use, to devise focused treatments that effectively battle resistance. This study aimed to comprehensively assess antibiotic usage across different settings, including medical student knowledge, community pharmacy practices, and hospital inpatient usage. The study was divided into three phases; Phase I: Knowledge, Attitudes, and Practices Survey (KAPS) conducted among medical students, utilizing a questionnaire to assess their understanding of antibiotic resistance, beliefs about appropriate antibiotic use, and self-reported practices. Phase II: Data collection from community pharmacies, involving observation of antibiotic dispensing practices and interviews with pharmacists to gather insights into factors influencing antibiotic dispensing without prescriptions. Phase III: Evaluation of hospital antibiotic usage among inpatients, including an analysis of prescription records, antibiotic consumption patterns, and adherence to prescribing guidelines. The KAPS phase's first results showed that medical students' awareness and knowledge of antibiotic resistance varied widely as 99% participants consider that antibiotics resistance is a global issue, but still in 78% cases regular use of antibiotics is observed. Data from community pharmacies revealed issues with the dispensing of antibiotics, such as non-prescription dispensing and patient demand impacting antibiotic choice prominently cephalosporin (40%) and Penicillin (13%) are most commonly used antibiotics Patterns of antibiotic use among inpatients, including prescription trends and adherence to guidelines, were identified through examination of hospital data. This multi-phase study offers insightful information about the use of antibiotics by numerous participants in different situations. The results point to the necessity of focused education initiatives among medical students to raise awareness and encourage the prudent use of antibiotics. Effectively tackling antibiotic resistance requires addressing issues with community pharmacy practices and ensuring hospital settings comply with prescribing recommendations.

Keywords: Antibiotic resistance, : Knowledge, Attitudes, and Practices Survey

Bisphenol-A As A Human Health Risk Factor: A Qualitative Analysis Of Bisphenol-A In Water, Toys And Disposable Food Packaging

Javeria Shaikh, Sidra Sohail Asim, Arisha Shamim and Insiya Fatima
Jinnah University for Women, Karachi, Pakistan

The research focuses on examining levels of BPA in water sources across various districts of Karachi, disposable food packaging, bottled water and toys. Additionally, the research seeks to raise the awareness among local population regarding presence and potential risks associated with bisphenol-A. One emerging risk factor that has garnered the attention in the recent years is bisphenol-A (BPA). Scientific literature has documented a well-established connection between chronic diseases and bisphenol-A which is a synthetic chemical that is extensively used in the production of polycarbonate plastics, epoxy resin and polymer material, making it a common component in various consumer products including food containers, water bottles, baby bottles, medical devices, thermal paper receipts, toys etc. BPA is a potential endocrine disrupter, it produces toxic mutagenic and carcinogenic effect in living organisms. BPA is supposed to elevate risk of obesity, diabetes and heart disease in humans. and has the potential to alter several body mechanisms. Due to its hormone-like properties, BPA may bind to estrogen receptors, thereby affecting both body weight and tumorigenesis. BPA may also affect metabolism and cancer progression, by interacting with GPR30, and may impair male reproductive function, by binding to androgen receptors.Majorly, a qualitative material analysis will be performed on samples of water collected from plastic water bottles, food containers and toys specifically of 3 different age categories, mainly brand new to 5 months, 6 months to 1 year and older than 1-year plastic water bottles, food containers and toys to recognize the amount of leaching out of bisphenol-A. The samples will be initially run on spectrophotometer and if positive outcome is achieved than further HPLC analysis will be performed. We will perform a qualitative analysis using spectrophotometer for the initial detection of presence of bisphenol-A in samples of material mentioned above, since it is a standard and inexpensive technique to measure light absorption or the amount of chemical in a solution. Spectrophotometer uses light over the ultraviolet range (185 – 400 nm) and visible range (400 – 700 nm) of the electromagnetic radiation spectrum, the light beam will pass through the sample, and each compound in the solution will absorb and transmit light over a certain wavelength. If the outcome indicates presence of bisphenol-A on the basis of its wavelength (i.e. ±214 nm nm) then further qualitative analysis will be conducted on the HPLC with the already collected samples for assurance of presence of Bisphenol-A. HPLC uses a high-pressure pump that takes the mobile phase from a reservoir through an injector. It then travels through a reverse-phase C18-packed column for component separation. Finally, the mobile phase moves into a detector cell, where the absorbance is measured at 220 nm, and ends in a waste bottle. In this study we will use HPLC-

SHIMADZU with UV-detector. HPLC column (LiChroCART 250x 4 mm, LiChrospher®100RP-18, 5 µm) will be used for analysis. Twenty microliters (20ml) of sample will be injected into HPLC system or analysis in isocratic elution at room temperature, with a mobile phase for 13 to 15 minutes to analyze bottled water. We will prepare a standard solution and a sample solution, and after analysis recovery will be conducted using a BPA-free sample. HPLC result will be plotted into a calibration curve and recovery will be calculated by comparing the theoretical spiking concentration and practical BPA value obtained from HPLC. Research also includes a minor study of KAPS (assessments and perspectives) which includes participation of about 50-100 individuals regarding knowledge and awareness of presence and health risk factors of bisphenol-A. To demonstrate widespread and daily exposure to bisphenol A (BPA) a qualitative analysis of regular life material specifically plastic food containers, toys and water bottle is selected. This analysis will be done with the help of spectrophotometer, HPLC and water bath or hot air oven. Data regarding bisphenol-A is extracted from all authentic publications. For research with different eligible publications, we'll select the publication with an essential primary objective of announcing bisphenol-A health hazards or the foremost latest publications, and they will be evaluated on strategy of population selection, which included the testing outline (i.e. source utilized to recognize subjects) and the sample design (i.e. strategy of sample selection). The research shows positive results on UV spectrophotometer and HPLC, that focuses on examining levels of BPA in water sources across various districts of Karachi, disposable food packaging, bottled water and toys. BPA elevates risk of obesity, diabetes and heart disease in human and has the potential to alter several body mechanisms. Additionally, the research seeks to raise the awareness among local population regarding presence and potential risks associated with bisphenol-A. BPA is a potential endocrine disrupter that produces toxic mutagenic and carcinogenic effect in living organisms. A qualitative analysis of plastic food containers, toys and water bottle has been performed using spectrophotometer, HPLC and water bath, and the results indicates high amount of BPA in older food packaging containers, water bottles and toys in comparison with new and fresh ones. Spectrophotometer uses light over the ultraviolet range (185 – 400 nm) and visible range (400 – 700 nm) of the electromagnetic radiation spectrum, the light beam pass through the sample, and each compound in the solution absorbs and transmit light over a certain wavelength. The outcome indicated presence of bisphenol-A on the basis of its wavelength (i.e. ±214 nm nm) then further qualitative analysis have been conducted on the HPLC with the already collected samples for assurance of presence of Bisphenol-A.

Keywords: Tumorigenesis, food packaging, bisphenol A, carcinogenic

Jinnah University for Women
1st International Conference on Innovative Cross-Disciplinary Solutions for Sustainable Development Goals (IC-SDGs)
(November 28th – 30th2024)

Redefining Waste: Fast Dispersible Tablet Formulation from Egg Shells

Amber Nawab, Subia Jamil,Unsa Farooqui, Mehrun Nisa, Kiran Rizwan, Asma Batool
Jinnah University for Women, Karachi, Pakistan

Different researches show that Pakistan exhibit a lower level of calcium intake compared to global average. This study aim to utilize the egg shell which get wasted without knowing about its significance. Study highlighted calcium from egg shell to achieve desired objective Egg shells contain valuable resources including calcium carbonate that can be upcycled for various applications. By utilizing this natural resource, there would be significant chances to prevent under-nutrition in children as well as calcium Deficiency in adults. By estimating overall ratio of calcium Deficiency in Pakistan showed more than 50%. It has been observed that people are unaware about egg shell which is rich in calcium and that can prevent calcium deficiency majorly. Redefining waste by creating fast dispersible tablet formulations from eggshells is an innovative and sustainable approach to resource utilization. Harnessing this potential resource is a step towards a circular economy and sustainable product development. These tablets are designed to dissolve rapidly when in contact with liquid, offering numerous benefits in terms of convenience and effectiveness. Additionally, other excipients and active ingredients can be incorporated into the tablet formulation to cater to specific applications. This innovative approach has the potential to provide an alternative to conventional calcium supplements while reducing waste and promoting sustainability. The fast dispersible tablets 450mg developed by natural source from eggshells. The direct compression method used to manufacture tablets. Also encompasses a series of quality control assessments, including disintegration, dissolution, hardness, friability, assay, absorbance, angle of repose, weight variation test, wetting time. These tests aimed at ensuring the tablet's efficacy and structural integrity. Collaborating with experts in formulation and compliance is advised to facilitate successful formulation development and adherence to safety regulations.
Fast dispersible tablet 450mg is formulated with natural sources containing 70% calcium by direct compression method and evaluated by different various quality control parameters which mostly comply the GMP guidelines. Formulated fast dispersing tablet 450mg rich with calcium. To treat alleviating diseases which will benefit to prevent under nutrition which can safe from multiple diseases like calcium deficiency, arthritis and also safe children from bone deformities. The current study aims to formulate new formulation to serve community and society from multiple diseases. Redefining waste through the development of fast dispersible tablet formulations from eggshells represents a remarkable innovation with numerous potential benefits. This approach not only reduces waste and environmental impact but also creates valuable products for various applications. Study highlights the transformative potential of this innovative process addressing the critical aspects of waste reduction.

Keywords: Calcium, dispersible tablet, formulation, environmental

Impact of drug shortage on patient care

Quratulain Waseem, Bushra Anis, Feera Tul Aman, Hafsa Rais
JinnahUniversityforWomen, Karachi, Pakistan

Drug shortages have become an increasingly frequent global healthcare issue, leading to significant challenges in patient care. These shortages disrupt treatment protocols, delay care, and increase the risk of medication errors, adversely affecting patient outcomes. To assess the impact of drug shortages on patient care, including its effects on treatment efficacy, patient safety, and healthcare costs. A systematic review of existing literature was conducted using databases such as PubMed and Google Scholar. Studies that analysed the direct and indirect consequences of drug shortages on patient care in hospital and outpatient settings were included. Data were synthesized to evaluate the magnitude and scope of the impact on healthcare delivery. Drug shortages were found to compromise patient care through increased treatment delays, the use of suboptimal alternatives, and elevated risks of adverse drug events. The shortages also contributed to higher healthcare costs due to increased labour for sourcing alternatives and longer hospital stays. Hospitals frequently implemented rationing strategies, which further impacted treatment outcomes and patient satisfaction. Drug shortages have a significant, multifaceted impact on patient care, leading to delayed treatments, compromised safety, and increased healthcare costs. Addressing these shortages requires coordinated efforts between healthcare providers and pharmaceutical manufacturers to ensure the availability of essential medications.

Keywords: Drug, PubMed and Google Scholar

Holistic Approach to Gut Microbiome and Mental Health: A Survey-Based Observational Study: Uncovering Associations between Lifestyle, Gut Health, and Mental Health

Rajia Habib Ur Rehman, Suha Irfan, Wafia Khan
Jinnah University for Women, Karachi, Pakistan

The growing body of research on the critical relationship between gut microbiota and mental health has sparked interest in how lifestyle factors may influence this connection. This paper delves into the potential link between gut microorganisms and mental well-being through a public survey that focuses on lifestyle variables such as diet, sleep habits, and the consumption of prebiotics and probiotics. The main motive of the study was to evaluate the impact of these elements on mental health and examine the connection between gut health and psychological disorders like depression and anxiety. A cross-sectional survey was distributed to a general population sample, collecting detailed information on participants' dietary practices, sleep patterns, mental health status, and usage of gut-health supplements, such as probiotics and prebiotics. The survey responses were analyzed to delineate the interrelationships between these variables, with particular attention to the effects of diet, sleep, and supplementation on mental health outcomes. Our observational study revealed a strong association between a balanced, high-fiber diet and improved psychological health. Participants who consumed diets rich in fiber and fermented foods exhibited fewer symptoms of anxiety and depression. In addition, regular sleep patterns were significantly linked to better mental health outcomes. Those who had consistent sleep schedules and good sleep quality reported lower levels of anxiety and depressive symptoms. Furthermore, the intake of probiotics and prebiotics was associated with reduced mental health issues, suggesting that gut-health supplements could play a role in alleviating symptoms of anxiety and depression. These findings contribute to the growing body of research indicating a strong connection between lifestyle factors—especially those that support gut health—and mental wellbeing. A diet high in fiber, regular sleep habits, and the intake of probiotics and prebiotics are all associated with positive mental health outcomes. Probiotics and prebiotics, in particular, emerge as promising nutrients with potential applications in managing mental health conditions such as anxiety and depression, highlighting the importance of gut health in overall psychological wellbeing.

Keywords: Gut, microorganisms, depression and anxiety

Prevalence of allopathic and natural herbs drug use among individuals with menstrual symptoms

Hina Ali, Adeena Junaid, Areeba Nasir, Ayesha Shakeel
Jinnah University for Women, Karachi, Pakistan

To investigate the prevalence of allopathic and natural herbs drug use among individuals with menstrual symptoms.Menstrual symptoms, affecting a staggering 74-90% of women worldwide, significantly impede daily life and productivity. These symptoms have far-reaching consequences, including: Menstrual symptoms result in an average of 5.8 days of absenteeism per year, substantially impacting work and daily activities. Furthermore, they reduce productivity by 84% and energy levels by 89.3%, while also affecting mood (86. Menstrual symptoms affect 80-90% of menstruating women worldwide, impacting quality of life, productivity, and well-being. According to WHO, menstrual disorders are a leading cause of health-related problems in women, resulting in significant economic burden and lost productivity. ACOG reports that dysmenorrhea and menorrhagia are the most common symptoms, affecting 70-80% of women.A cross-sectional online survey recruited 120 participants (95% female, aged 10-45) through social media and online forums. Google Forms collected self-reported data on demographics, menstrual symptoms, and treatment usage. Descriptive statistics analyzed frequency and percentage distributions.The study's demographic characteristics revealed that the 120 participants were predominantly female (95%), with age distributions as follows: 25% (n=30) were 10-20 years old, 30% (n=36) were 21-30 years old, 27.5% (n=33) were 31-40 years old, and 17.5% (n=21) were 41-45 years old. The most commonly reported menstrual symptoms were abdominal pain (85%), cramps (80%), headache (75%), bloating (70%), and mood swings (65%). In terms of treatment, 65% of participants used allopathic drugs, primarily pain relief medications (58.3%) such as ibuprofen and acetaminophen, followed by hormonal contraceptives (25.8%) and anti-inflammatory medications (18.3%). Additionally, 36.8% of participants used homeopathic remedies, with 40% utilizing homeopathic remedies, specifically vitamin supplements (28.3%), herbal teas (25.8%), and acupuncture (15.8%).This study explores allopathic and homeopathic drug use among individuals with menstrual symptoms, highlighting, menstrual symptom management's complexity, emphasizing personalized strategies and need for education, research, and holistic approaches to improve menstrual health and quality of life.

Keywords: Allopathic, Menstrual, dysmenorrhea and menorrhagia

Liquid Tree: Microalgae Based Bioreactor for Oxygen Generation and Environmental Safety

MahzebMustajab, NabeehaAftab, Mahrukh Fatima, Saba Rizwan and Somia Gul
Jinnah University for Women Karachi, Karachi, Pakistan

Microalgae are efficient photosynthetic organisms that convert CO_2 into oxygen (O_2) through photosynthesis. They have been identified as a potential tool to address environmental issues such as air pollution and rising CO_2 levels. Bioreactors that harness microalgae's oxygen-producing ability can be an effective solution for reducing the carbon footprint of industrial processes, urban environments, and confined spaces like buildings or submarines. The primary objective of this study is to design and evaluate a bioreactor that utilizes microalgae to produce oxygen and reduce carbon dioxide (CO_2) levels, improving air quality. The bioreactor is intended to serve as an environmentally friendly system to mitigate pollution and support sustainable ecosystems. A laboratory scale bioreactor was designed using multiple microalgae species. The bioreactor was equipped with aeration system, light sources and nutrient delivery mechanism to ensure optimal growth conditions. Key parameters such as light intensity, CO_2 concentration, temperature and pH were monitored and adjusted throughout the experiment. Algal biomass growth, oxygen production and CO_2 reduction were measured over several weeks. Data on oxygen release and carbon capture were collected using dissolved oxygen sensors. The bioreactor demonstrated effective CO_2 capture and oxygen production, with a sufficient reduction in CO_2 levels within 24 hours. Oxygen output peaked during the light phases of the cycle, showing that the system effectively mimicked natural photosynthesis. The microalgae maintained growth over extended periods with minimal nutrient supplementation, indicating the potential for long-term use. The microalgae-based bioreactor presents a promising solution for reducing CO_2 levels and improving air quality. Their ability to function with minimal inputs and produce substantial environmental benefits makes them ideal for deployment in various settings. By mitigating pollution and supporting ecological health, these bioreactors can play a vital role in fostering a cleaner, greener future.

Keywords: Microalgae, photosynthetic organisms, bioreactor, carbon dioxide

Immunity Sparkles: A Sweet and Nutritious Boost for Immune Health

Ayesha Arif, Imaan Raza, Aiman Meer, Marya Rahat
Jinnah University for women, Karachi, Pakistan

Having a strong immune system is essential in the fast-paced world of today. Nutritious components known to strengthen immunity, such as nuts, seeds, and legumes, have long been acknowledged. It is nevertheless difficult to include these components in regular diets in a way that is both convenient and appetizing. The objective of this product creation was to create an appetizing and visually appealing sweet treat that merge the advantages of immunity-boosting ingredients with the delight of sugar crystals, promising healthy eating more approachable and pleasurable for all age groups. First, molds in different forms, such hearts and circles, were used to create sugar crystals. After being heated to 110°C, a sugar syrup (100g sugar, 50ml water) was added to molds and left to crystallize. Following the formation of the shapes, the core of the crystals was covered with a 10g blend of immune-boosting powder created from almonds, carom seeds, cashews, chickpeas, lotus seeds, walnuts, sesame seeds, pumpkin seeds, pistachios, sunflower seeds, melon seeds, flax seeds, and chia seeds. After that, the powder was encased in two sugar crystals that were bonded together.The product skillfully blended the sweetness and texture of sugar crystals with the nutritional advantages of immunity-boosting ingredients. Consumer acceptability was shown to be high in taste testing, and nutritional analysis verified the presence of vital vitamins, minerals and antioxidants from the added ingredients. When stored properly, the product had a shelf life of several months and retained its desirable texture.Immunity sparkles offer a delicious and efficient method to include immune-supporting nutrients into daily diet without sacrificing flavor or appeal. This novel product offers a tasty and enjoyable solution for people who want to uplift their immunity naturally.

Keywords: Immune system, nuts, seeds, and legumes

Formulation and Evaluation of An Herbal Toothpaste With Fennel, Tulsi, And Licorice As Active Ingredients Along With Other Ingredients

Hiba Nasir, Ayesha Arshad, Mahnoor Faheem, Aimen Ramzan, Mahnoor Tanveer, Marya Rahat
Jinnah University for women, Karachi, Pakistan

Maintaining the oral health hygiene is an essential component for the maintenance of overall health. As there is a growing shift towards the natural, herbal alternatives with respect to the conventional chemical-based toothpastes. This is because the herbal ingredients are known for their safety and therapeutic properties. This study focuses on the formulation of an herbal toothpaste with fennel, Tulsi, and licorice, along with other ingredients due to their renowned oral health benefits. The objective of this study was to develop an herbal toothpaste using fennel, Tulsi and licorice as the main ingredients due to its potential benefits in neutralizing oral acids and promoting overall health and oral hygiene. The toothpaste (100g) was formulated using 13 natural ingredients. Fennel (1g) was selected for its antimicrobial and antioxidant properties, Tulsi (10g) for its antibacterial and anti-inflammatory effects, and licorice (5g) for its soothing and anti-inflammatory actions. Additional ingredients such as baking soda (40g), peppermint oil (2-3 drops), menthol (32g), glycine (5g), and aloe vera (1g) were used for enhanced cleansing, flavor, and soothing effects. The pH of the toothpaste was measured and found to be 9.2, indicating a highly alkaline formulation. The herbal toothpaste exhibited an alkaline pH of 9.2, suggesting its potential effectiveness in neutralizing oral acids and maintaining a balanced oral environment. The key active ingredients, fennel, Tulsi, and licorice, along with other ingredients as mentioned, contributing antibacterial, anti-inflammatory, and soothing effects, making the formulation a well-rounded solution for promoting oral health. The formulation of this herbal toothpaste, with fennel, tulsi, and licorice as the main active ingredients, shows promise as a natural alternative for maintaining oral health. The high pH and combination of active ingredients offer multiple benefits, including the prevention of bacterial growth and the promotion of gum health. Further research is needed to evaluate its long-term effectiveness.

Keywords: Toothpastes, antibacterial, anti-inflammatory

Revitalizing beauty: formulation and development of innovative facial sheet mask.

Javeria Sheikh, Mahrukh Khursheed, Umama Faisal, Javeria Safdar, Ayesha Javed , and Maryam Kamran
Jinnah University for Women, Karachi, Pakistan

Skincare concerns are widespread in Pakistan due to environmental pollution, inadequate hydration, and diverse skin types. The country's beauty market is rapidly expanding, with growing interest from men—45% of whom now use grooming products. According to various studies, 64% of Pakistani women and 70% of individuals aged 18-34 regularly use skincare products. While sheet masks have been globally popular since 2015, the concept of colour-changing sheet masks is still new in Pakistan, but gaining attention. This study aims to develop an innovative sheet mask formulation using beetroot and rice oil, targeting various skin issues. Beetroot's antioxidant and pH-balancing properties will promote radiant skin, while rice oil's hydrating and moisturizing effects will enhance skin elasticity. Combining these ingredients will create a versatile, effective solution suitable for all skin types. A conducted research is divided in three phases: Phase –I of study involved general population to investigate skin conditions, common skin issues and their perception towards it the research was conducted on population aged between18-50 year. Phase-II included the focused interviews with skin experts, investigating the common herbal ingredients that can be easily utilized to make a herbal skin care product. Phase-III includes the formulation of sheet mask using the different natural ingredients. Two phase survey is conducted to evaluate the different perception from general population and skin specialist respectively. Phase-I showed most people in ages between 25-45 years are more interested in skin care and desire to have healthy. Phase-II showed the inclination of skin experts towards use of rice extracts and honey for healthy and glowing skin. Phase-III includes formulation and testing of herbal sheet mask, the QC tests results falls under the safety range and animal test shows no signs of irritation which considered that the product is safe & beneficial for skin. Most respondents favoured gentle, all-natural skincare products, with rice sheet masks becoming popular for their calming properties. While these masks suit all skin types, advanced quality control and animal testing are needed to ensure product quality.

Keywords: Hydration, Beetroot's antioxidant, Phase-II, herbal sheet mask

Priceless health-not pricey brands

Javeria M.Rafiq Sheikh, Sidra Sohail Asim,Syeda Hafsa Zaidi, Rameen Fatima, Maryam Tariq, Syeda Batool Zehra, Neha Jameel, Qurat ul Ain Risalat
Jinnah University for Women, Karachi, Pakistan

The rising cost of healthcare and medication has prompted the ongoing debate between generic and brand-name drugs. Generic medicines are often seen as a cost-effective alternative to branded ones, but public perception and physician prescribing habits vary. Understanding the differences in preferences for generic versus brand medications from both the general population and healthcare professionals is vital for improving healthcare access and affordability. This research aims to compare the perception of generic vs brand name medications among general population and health care professionals. The main focus was on cost, affordability, preferences and prescribed medications. A cross-sectional survey is designed using the KAPS guideline to understand the knowledge, attitude and perception of general population regarding brand and generic recommendation of drugs. The survey was conducted in two phases: phase-I study represent 384 responses of general population, the sample size calculated through 95% confidence interval. The phase-II represents the 40 focused interviews responses from healthcare professionals. The general population showed that 67.5% of the respondents preferred generic medications, while 27.5% goes with the branded ones. 79.5% were aware of the difference between generic and brand-name drugs. Affordability was a concern for 64.5%, and 37.7% were neutral to afford medications respectively. 67.5% health care professionals recommended generic medications to patients. However, 50% of the professionals goes with of generic drugs, other issues like difficulty in drug absorption (41%) and inconsistent potency and dosage (30.8%). Financial factors and packaging defects were also noted. There is a gap between prescribing and affordability of medications. Health care professionals prescribe drugs which produce better therapeutic effect and with lowest numbers of side effects that's why they go with the branded medications. While on the other hand general population wants cheaper drugs which must be available everywhere due to financial crisis. To finish this gap a bridge of standardization must be made for the betterment of generic medications.

Keywords: Healthcare, KAPS guideline, therapeutic effect, medications

Enhancing Pharmacy Education and Medication Safety through Virtual Reality Simulations

Dr. Urooj Javed, Simran Walter, Ume Hani Khursheed,Sabah Mehtab, Wareesha Batool
Jinnah University for Women, Karachi, Pakistan

Traditional pharmacy education struggles to connect theory with practical application, often leading to errors in medication dispensing and chemical handling. Virtual reality (VR) provides a safe, immersive approach to training that enhances skills while minimizing environmental impact, as it eliminates the need for physical materials and reduces waste, as well as hazardous risks of interaction with dangerous chemicals. This study aims to develop VR simulations for pharmacy and laboratory training, focusing on medication dispensing, patient interactions, and safe chemical handling. The system will also promote environmentally friendly training practices.Real-life data from pharmacy practices will be collected to establish performance baselines. This data will be fed into an AI model, which will analyze patterns and simulate realistic pharmacy scenarios. Trainees will interact with the VR environment while the AI tracks their accuracy rates, providing real-time feedback. The system will record each user's performance, adapting the complexity of tasks based on their previous interactions. Over time, the AI refines its simulations to offer more targeted training.Pilot studies show VR-trained users display higher proficiency and confidence, with fewer errors in medication and chemical handling compared to traditional methods. The virtual environment also reduces the need for physical chemicals, making it safer for the environment.VR offers a revolutionary approach to pharmacy and laboratory training, providing a safe, effective, and environmentally friendly solution for skill development and medication safety.

Keywords: Virtual reality, Real-life data, physical chemicals, AI model

Chikungunya, Dengue and Malaria: A Clinical and Diagnostic Perspective On Overlapping Symptoms

Zubiya Siddiqui, Nimra Khan, Sundus Shahab Khan
Jinnah University for Women, Karachi, Pakistan

Chikungunya, Dengue, and Malaria are three significant Mosquito-Borne diseases that have overlapping clinical symptoms, making diagnosis more complicated especially in endemic areas. Although both Chikungunya and Dengue are transmitted by "**Aedes**" mosquitoes, Malaria is caused by different species of "**Plasmodium**". Distinguishing between these illnesses is crucial because of their varying complications and treatment approaches. This review is intended to compare the clinical presentation, diagnostic procedures, and indicative markers of Chikungunya, Dengue, and Malaria, emphasizing important characteristics that aid in distinguishing them for effective management. A review of existing literature was carried out, focusing on clinical symptoms, diagnostic methods such as PCR, serological assays, and microscopy, and also the complications specific to the disease. Chikungunya is characterized by Severe, persistent joint pain, while Dengue is accompanied by retro orbital pain and potential bleeding complications in severe instances. Malaria, especially cerebral malaria, leads to neurological symptoms due to the sequestration of parasitized erythrocytes. Molecular methods are utilized to differentiate between chikungunya and dengue, while malaria is diagnosed through microscopy or rapid diagnostic tests. Despite overlapping symptoms, chikungunya, dengue, and malaria exhibit distinct clinical and diagnostic markers, making early detection critical. A timely and accurate diagnosis is crucial due to the lack of specific antiviral therapies for chikungunya and dengue.

Keywords: Chikungunya, Dengue, and Malaria

ABSTRACT OF POSTER PRESENTERS

FACULTY OF SCIENCE

Multifunctional Sauce Tangy Tenderizer

Rahema Aleem*, Urooj Abid, Neha Imran, Rooh-ul-Iman
Department of Food Science and Technology, Jinnah University for Women, Karachi, Pakistan.

This study explores the development of a multifunctional sauce incorporating thyme (Thymus vulgaris) essential oil and lemon (Citrus limon). Essential oil was used for providing both marinade and condiment applications.The formulation leverages the antimicrobial properties of thyme essential oil, which contains thymol to enhance food safety and provides a distinctive flavor. Concurrently, the limonene constituents of lemon essential oil contribute to the sauce's aromatic and flavor profile.It is also exhibiting preservative qualities in sauce.Sensory evaluation and stability assessments were conducted to optimize the organoleptic attributes and ensure homogeneity of the essential oils within the emulsion.Stability tests indicated that the sauce maintained its physicochemical properties and antimicrobial activity over a storage period of one week.The final product demonstrated superior taste as well as aromacompared to conventional sauces. This innovative sauce offers a dual-function culinary application, meeting consumer demand for natural ingredients and functional foods.The incorporation of thyme and lemon essential oil provide distinctive flavor and aroma while enhancing the food safety through antimicrobial properties. The sauce stability and sensory attributes make it viable alternative of conventional sauce offering the solution for the food industry. Overall this study demonstrates the potential of essential oil in developing innovative and functional food products.

Keywords: Thyme, essential oil, limonene, dual-function culinary

Physicochemical properties and sensory evaluation of macaron substitutes with aquafaba, rice, and chickpea flour.

Faryal Siddiqui, Duaa Siddiqui, Hajirah, Jaweria Jeelani,Maryam Shaikh
Jinnah university for Women, Karachi, Pakistan

The increasing emphasis on environmental sustainability, coupled with the prevalence of egg allergies in a substantial portion of the population, has stimulated research into plant-based alternatives. This study investigates the physicochemical properties and sensory characteristics of macaron substitutes formulated with these ingredients, aiming to offer an effective replacement for traditional macaron recipes which typically rely on eggs and almond flour. The formulated macaron substitutes demonstrate potential as viable alternatives in gluten-free and vegan applications. The rice and chickpea flour blend provided a desirable texture and structural integrity, though slight deviations from traditional almond-based macarons were observed. Sensory evaluation indicated that while the substitutes were well-received in terms of appearance and flavor, slight differences in texture and mouthfeel were noted compared to conventional macarons.
Keywords: Environmental sustainability, physicochemical properties, almond-based macarons

Sustainable Energy Solution: Exploring Pomegranatepowder as an Electrode Material

Qirat Younus*, Natalya Amir,Qandeel Ansar,Nimra Arshad,KhadijaSiddiqui
Jinnah University for Women, Karachi, Pakistan.

This exploration is about producing high-performance activated carbon frompomegranate peels and shells, usually viewed as a byproduct in agribusiness.Pomegranate peel is high in cellulose (20-30%), hemicellulose (10-15%), lignin (15-20%), and phenolic compounds while, pomegranate shell has a higher percentage oflignin (20-30%) and significant portions of cellulose (15-25%), potassium, andcalcium. These elements are very much needed for the activation process andcontribute to porous structure formation of activated carbon. Activation was achievedby potassium hydroxide (KOH) which enhanced the porosity and surface area of theactivated carbon. Both pomegranate peels and shells were also treated by KOH andburned at 800°C after having been already purified in a nitrogen atmosphere. The inquiry of the three mass ratios of KOH to the untreated material was conducted. Theactivated carbon made fewer aired faces as the 1:2 part displayed a specific area of2189 m^2/g, a porous character vividly exposed. The study of the activated carbonelectrochemical performance was based on galvanostatic charge-discharge (GCD),and electrochemical impedance spectroscopy (EIS). Testing was carried out in thepresence of electrolytes: aqueous (sulfuric acid, H_2SO_4). Commercial activated carbonwas unable to compete with activated carbon having a specific capacitance of 312 F/gin the aqueous electrolytes. The study had to decide how supercapacitor energydensity as well as power density were influenced by the use of this activated carbon.The performance metrics showed clear improvements associated with traditionalactivated carbon, thus pointing to the prospect of this pomegranate-based material forenergy storage applications. An environment-friendly life cycle assessment (LCA)was done to weigh the costs and benefits of the manufacturing process. Theresults provide evidence in favor of the fact that using pomegranate peels and shellsnot only prevents waste but also results in a lower carbon footprint than theproduction process of traditional activated carbon.

Keywords: Pomegranate peels, galvanostatic charge-discharge, electrochemical impedance spectroscopy

Medicinal Properties of Rhazya Stricta against Infectious Pathogens

Rabia Khalid* and Saba Rizwan
Jinnah University for Women, Karachi, Pakistan

There is a pressing requirement to use standardized modern analytical approaches to find and isolate novel bioactive chemicals from medicinal plants due to the rising occurrence of drug-resistant diseases. The genus *Rhazya* of plants is a member of the Apocynaceae family, subfamily Rauwolfioideae, and order Gentianales. *R. stricta* is a tiny, erect, poisonous shrub with globous leaves that is sometimes referred to as harmal in Saudi Arabia. It is utilized in regional herbal medicines in Afghanistan, India, Iran, Iraq, Pakistan, Qatar, the United Arab Emirates (UAE), and Saudi Arabia to treat a range of illnesses.Aim of our work is to explore the properties of *R. stricta*on different pathogenic and infection causing bacteria for the purpose to cure diseases.The *R. stricta* is collected from buffer zone area. *Staphylococcus aureus*, *Escherichia coli* and *Salmonella typhi* bacteria were collected from C lab diagnostics. Antioxidant activity measured by DPPH method. Disc diffusion method used for antimicrobial activity Phytochemical screening performed by method of Pant et al., 2017.The *R.stricta* exhibits antimicrobial activity against *Staphylococcus aureus*, *Escherichia coli* and *Salmonella typhi*. The aqueous extract shown the zone of inhibition against *Staphylococcus aureus* (6-8mm), *Escherichia coli* (6-8mm) and *Salmonella typhi* (24mm).*R. stricta* is a traditional medicine plant that has the ability to have a zone of inhibition against a variety of diseases. The antibacterial qualities of *R. stricta* may find use in the fields of medicine, food preservation, cosmetics, pharmaceutics, agriculture and natural infection treatment.

Keywords: Apocynaceae, *Rhazya, Staphylococcus aureus*, *Escherichia coli* and *Salmonella typhi*

Impact of Organic, Inorganic And Biofertilizer On Growth Of Zinnia Elegans

Tahreem Zamir*, Maleeha Hussain, Rabia Badar
Jinnah University for Women, Karachi, Pakistan

Organic matter serves as considerable basis of plant nutrients. Intensively misused soils want an external source of stabilize organic matter and biofertilizers to counteract progressive soil organic matter deterioration. As a result of constant use of just inorganic fertilizers and plant fortification from chemicals in agriculture, the soils have been poorly ruined. It has destroyed established usual ecosystem of the soil. Present effort includes exploring the opportunity of replacement of inorganic fertilizer with organic ones which are eco-friendly and low price,also the study determines the consequence of organic waste and biofertilizers on growth of*Zinnia elegans.*This research work was conducted to investigate the effects of organic wastes and biofertilizers on growth and flowering of Zinnia plants.The utilization of organic fertilizer with biofertilizer may boost the soil fertility.Seven different treatments including NPK (0.15% w/w),Poultry manure(2% w/w),Neem cake(2% w/w),*Trichoderma viride*(10^8cfu/ml)and their combinationswith control were used for rising zinnia. Experiment was conducted in the Department of Botany. The experiment was laid out in Complete Randomized Design giving equal percentage to treatments. Seven parameters including plant heights, dry weights of plants, leaf area, numbers of flower, diameter of flowers, % protein and phenol (µmol/g fresh wt.)contents were measured. The statistics was evaluated by using *one-way* ANOVA followed by LSD (least significance difference) test through SPSS 16 (version4).Results showed that growing media affected the measured traits. All treatments promote the physicalparameters and biochemical content of experimental plants against control after 45 days while Neem cake(2% w/w) alone and in combination with *Trichoderma viride*(10^8cfu/ml)significantly promote all measured parameters of zinnia plants.Furthermore,poultry manure(2% w/w) in combination with *Trichoderma viride*(10^8cfu/ml) also significantly promote Physical parameters and phenol contents of experimental plants.It is concluded that utilization of organic wastes and biofertilizerverifies more effective for the sustainable development and flowering of *Zinnia elegans* as compared with control and inorganic fertilizer.

Keywords: Biofertilizers, Neem cake,*Trichoderma viride, Zinnia elegans.*

Development of Plant Based Protein Chips as Jerky Meat Alternative

Hiba Farooqui*, Hira Riaz, Hafsa Salman, Hareem Bilal, Miss Afrah Ahmed
Jinnah University for Women, Karachi, Pakistan.

To create a plant-based jerky with comparable taste, texture, and nutritional value to meat, providing a sustainable and healthy alternative.The increasing shift towards plant-based proteins is driven by growing consumer awareness of health, sustainability, and ethical concerns surrounding animal agriculture. This has catalyzed innovation in the snack food industry, particularly in the development of healthier alternatives to meat-based snacks like jerky. This research explores a new category of meatless jerky chips made from chickpeas and black lentils. To prepare the crispy chips firstly, process the chickpeas and lentils in a food processor until they reach a crumbly consistency.In a mixing bowl, combine the processed chickpeas and lentils with the seasoning mix, soy sauce, maple syrup, and apple cider vinegar. Form the mixture into thin, chip-like shapes and arrange them on the baking sheet, then bake in the preheated oven for 20-30 minutes, or until the chips are dry and crisp after baking allow the chips to cool before storing them in an airtight container to maintain freshness.Proximate composition analysis of the baked chips revealed they contained 10% fat, 10% protein, and just 1% moisture, which is key to ensuring shelf stability. The ash content was measured at 3%, while the total phenolic content, which indicates antioxidant properties, was found to be 98.8 µg/ml. Texture analysis, performed using a universal texture analyzer, confirmed the product's desirable jerky-like texture, and color analysis showed an appearance that would attract consumers. Sensory analysis, using a 9-point hedonic scale, involved a panel of consumers who rated the jerky chips on flavor, texture, aroma, and overall acceptability. The chips received high marks, particularly for flavor and texture, indicating strong consumer appeal. The use of chickpeas and black lentils offers a nutritionally balanced alternative to soy-based products, with a complete amino acid profile, making these jerky chips a protein-rich, allergen-friendly option for health-conscious vegetarians and vegans.

Keywords: Sustainable,Healthy alternative, Meatless jerky chips, Consumer appeal.

Production of Composted Poultry Based Organic Fertilizer for Improving Cash Crops Growth And To Reduce Environmental Contaminations

Rabia Badar*, MuskanAleem
Jinnah University for Women, Karachi, Pakistan.

Best class organic compost from animal leftover offers a chance used for the farming sector to diminish their dependence on chemical fertilizer which recovers the soil fertility and sustainability. It can defend soil from elements and synthetic fertilizers and recover soil fertility. Suitable consumption of animal's waste into manure production can be very beneficial to rise crop profit and sustainability. Large-scale accumulation of poultry wastes may cause sewerage and trash difficulties. The main objectives of the study are i) To effectual reutilizing of organic materials including crop remains and livestock wastes. ii) To reduce the consumption of pesticides and fungicides and enhance crop yield. iii) To reduce environmental contaminations and mitigate greenhouse gas emissions.The entire procedure of aerobic composting is finished in tumbling composter. Initially gather the fresh poultry manure from poultry farms than sun dry for two hours. Later sun dries the samples were categorized by determining the nutrient elements present in it and blend well with saw dust, garden soil and microbial inoculant. Wetness should be kept at 50 to 60%. Than remain rotating, sprinkling and monitoring the temperature till the whole tumbler has stayed done the heating process up to three months. After 90 days exclude the compost from tumbler and drying than grind. A lab trail to determine the effects of treatments on physical parameters of vigna mungo was performed.In present study, composted organic fertilizer significantly improve growth parameters of experimental plants as compared to control. Composted poultry waste significantly enlarge the root lengths of experimental plants. Composted poultry waste with microbes also significantly promote dry weight of plants. As the requirement for mineral fertilizers cannot be over-looked, but for their ever-increasing charges and environmental concerns, they have to be replaced with some appropriate organic materials. Therefore, composting could be a suitable and economical technology for recycling the waste by-products.

Keywords: Fertilizer, Poultry wastes, Tumbler, By-products.

Probiotic: isolation, characterization of lactic acid bacteria and their role in antimicrobial activity against food borne pathogens

Hera Waheed*, Angelique Adrina Rose and Mahmmoda Kazmi
Jinnah University for Women, Karachi, Pakistan

Food borne illness and food spoilage is the major issue in world, a consequence from utilizing the food which is contaminated and spoil, due to food pathogenic bacteria.To minimize above loses, use of lactic acid bacteria (LAB) is essential and can use in food industry as natural preservative. The study was based on the isolation, characterization of LAB and to evaluate their antimicrobial activity against food pathogens.Raw goat milk samples were collected in sterile bottle from different areas of Karachi, Pakistan. To isolate LAB from raw goat milk,10 Fold serial dilution was performed, diluted sample was spread on MRS agar with respective dilution, incubate at 37°C for 24 hours. Next day colonies were observed. Gram staining, catalase, oxidase test, cfu\ml, and biochemical identification was done by using QTS-24.Probiotic attributes was characterized like NaCl, phenol and bile salt tolerance tests, milk coagulation, hemolytic activity, anaerobic growth,antibiotic susceptibility and antimicrobial screening was performedagainst food pathogen.Total 12 LAB were isolated and identified in vivo.The isolates show creamy colonies on MRS agar. All isolates are gram positive, morphology appear as tetrads, rods, cocci in pairs and chains, catalase and oxidase negative.On the basis of biochemical tests 9 were belong to *Enterococcus* species, 2 belong to Micrococcus species,1 was from *Lactobacillus* specie. All isolates exhibit different probiotics characteristics like tolerance to NaCl, bile salt, phenol. Others probiotic properties like milk coagulation, anaerobic growth test was positive and hemolytic activity was negative (γhemolysis). In case of antibiotic susceptibility, most of LAB strains exhibited sensitivity against tested antibiotics which make them safe for use.Primary and secondary antimicrobial screening of LAB show activity against indicator bacteria such as *Staphylococcus aureus.*Based on obtained results, l2 LAB was isolated and identified from raw goat milk, dominant were *Enterococcus* species, Micrococcus species, and *Lactobacillus* specie. The LAB isolates showed antimicrobial effects against *S. aureus* with high sensitivity.The presence of LAB and antimicrobial molecules in raw goat milk ensures that milk is safe for utilizing, representing as antimicrobial agent for food bio-preservation in the food industry.

Keywords: Food borne illness, Pathogenic bacteria, Raw goat milk, *Enterococcus* species.

Antibacterial and Phytochemical Analysis of Banana Fruit Peel

QuratulAin, Aliya Hayat & Aisha Sana
Jinnah University for Women, Karachi, Pakistan

Banana (Musa spp.)is one of the fruits most widely consumed. High volumes of peels result as byproducts. Banana peels recently have gained scientific interest in recent years due to potential health-promoting value, especially in relation to their antibacterial activity and phytochemistry. Recent studies have shown that banana peel extracts possess significant antibacterial activity against a range of pathogenic bacteria, including ***Escherichia coli, Staphylococcus aureus, Bacillus subtilis,*** and***Pseudomonas aeruginosa.***Banana peels' ethanol and methanol extracts have potent antimicrobial properties, used in traditional medicine for wound healing and infection prevention, supporting their application in modern antibacterial therapies.Several steps comprise the methodology in antibacterial and phytochemical analysis of banana peel. Obtained, cleaned, dried, and powdered banana peels are used. Solvent extraction was carried out on a powdered peel with solvents such as ethanol or methanol in order to separate the phytochemicals. Then qualitative tests were carried out to determine the presence of phytochemicals such as alkaloids, flavonoids, tannins, and saponins. Antibacterial activity was determined using bacterial strains such as ***E. coli*** and ***S. aureus.*** TPC and TFC will be perform in this research for the quantitative activity. MIC and MBC will also perform accordingly. Phytochemical assay on the banana peels revealed the presence of flavonoids, tannins, alkaloids, and phenolic compounds in respectable amounts. While the steroids and resins are absent in the methanolic extract. This study points out the potential application of banana peel not only as a renewable but as alternative sources for combating antibiotic-resistant bacteria. Further investigations into the isolation, characterization of the active components and mechanisms of action would produce further implications for therapeutic applications and effects.

Keywords: Banana peels, *Escherichia coli, Staphylococcus aureus, Bacillus subtilis, Pseudomonas aeruginosa*

.

A Study Related To Remediation of Textile Dyes by Using Green Synthesized Metal-Oxide Nanoparticles

Aqsa Asif, Uzma Hameed
Jinnah University for Women, Karachi, Pakistan.

Now a day's several types of nanoparticles are prepared from metals, metal oxide and polymeric materials. They have many exceptional properties which are different from the bulk properties. They used in targeted drug delivery system and imaging techniques. Nanoparticles are used in electronic device to improve performance. miniaturization and to resolve environmental pollution, remediation and monitoring. Regulatory bodies are working to establish guidelines to ensure safe development and use for the particles. Research continues to advance, focusing on synthesis and Methods. Developing greener and more efficient production techniques. Tailoring nanoparticles for specific applications through surface modification. Combining insights from materials science, biology, and engineering to pioneer new applications. Many metal oxide nanoparticles are synthesizedand it is easy to make with different methods or precursor. Green synthesis is trending in nano chemistry. Due to its ecofriendly synthesis, it is used to overcome the water pollution and employ for wastewater treatment by adsorption process. It is very convenient method to adopt for study the capacity factor of the particles.Firstly, prepared the cobalt nanoparticles. Then employs the adsorption methods for the removal dyes and pollutants through cobalt nanoparticles. Adsorbate concentration, adsorbent dosage, stay time at room temperature were studied. FTIR spectra and UV spectroscopy used for the characterization of nanoparticles.The removal of dye from surfaces of nanoparticles shows 80 %. It seems that it is shown good adsorption result. In current research, synthesized nanoparticles indicate good adsorption properties for the removal of dyes. Nanoparticles show capability of simultaneous adsorption and degradation of pollutants from wastewater. These nanoparticles could incorporate catalytic functionalities to facilitate pollutant degradation alongside adsorption, leading to more efficient and comprehensive wastewater treatment processes. Further research may focus on scaling up nanoparticles-based adsorption processes from laboratory-scale to pilot-scale or industrial-scale applications.

Keywords: Nanoparticles, Metal oxide, Polymeric materials, FTIR spectra, UV spectroscopy.

Eco-Reclaim

Afia Ehtesham, AyeshaShamim,Bisma Khan, FaiqaFareed, AasmaHashmi, SaiyadaShadiah Masood
Jinnah University for Women, Karachi, Pakistan

An important eco-technological issue that is made worse every year by the exponential rise in global usage of diapers is the disposal of spent diapers. By 2025, the amount of throwaway used diapers produced worldwide is predicted to surpass $71 billion per year due to its exponential growth. It was discovered that over 3.5 million tons of diaper waste—which takes about 500 years to completely decompose—were dumped into landfills annually, comprising roughly 20 billion pieces of soiled diapers. The manufacture and disposal of waste from used diapers is a resource-intensive process that has resulted in numerous environmental issues and presents a risk to public health. This paper offers a thorough analysis of the difficulties, approaches, and most recent developments in resolving issues resulting from the manufacturing and disposal of soiled diapers.Since disposable diapers were first introduced in the early 1960s, the infant diaper industry has been steadily growing as a result of their integration into society. Disposable diapers are typically thrown away after one usage in a home. The utilization of various technologies was emphasized for the treatment and recycling of used diapers, namely the application of potentially safer and cleaner technologies such thermal pyrolysis and biodegradation, while optimizing the recycling of used diapers at lowest possible cost.It has been shown that the biodegradation and pyrolysis of used diapers can yield valuable end products with a broad range of applications. This finding offers a future research avenue to improve the effectiveness of these processes in the recycling of used diapers.In order to recycle and reuse sanitary pads and napkins, a gadget known as a Eco-Reclaim has been developed. It is an efficient and reasonably priced device. Thus, it is possible to recycle or reuse up to 98% of a used disposable diaper or incontinence product from the garbage.Utilizing recycled materials, a number of practical goods have been created, including tissue paper, toilet paper, and filter paper. The efficient recycling and reuse of garbage is the goal of this project.

Keywords: Eco-technological issue,Pyrolysis, Biodegradation,Recycled materials.

Wastewise Nutrichew And Fertilizer

Laiba Ahmed Siddiqui*, RabisaMahmood, AasmaHashmi
Jinnah University for Women, Karachi, Pakistan

Many diseases are brought on by calcium deficiency in living things.Approximately 91% of the overall weight of the egg is found in its shell, which accounts for 11% of the egg's weight. A hen's eggshell is said to contain 94 kg of calcium carbonate, 1 kilogram of magnesium carbonate, and 1 kg of calcium phosphate every 100 kg of shell, according to Stadelman. Calcium lactate, calcium citrate, and calcium chloride are examples of calcium salts. Calcium chloride, in example, has been used extensively for medical purposes, as a firming agent in several fruit and vegetable products, and as a thickening in dairy products. Eggshells may be used to produce calcium chloride, which would increase the value of a naturally occurring resource that is typically discarded. The goal of this project was to create a lab process for calcium chloride synthesis from eggshells. In this investigation, calcium carbonate was extracted using an egg shell. It was employed in the production of calcium toffee. In addition, that was used as fertilizer. Eggshells can supply the soil with all the calcium carbonate it requires, lowering its pH and turning it more alkaline than acidic. Since many plants like low acid soil, this is quite advantageous for plant development. In addition to assisting plants in absorbing more nutrients, a lower pH of the soil serves as a barrier against substances that may be harmful to them. Having said that, be sure to investigate if the soil your plants favor is acidic or alkaline, and don't use shell fertilizer on plants that thrive in acidic conditions. Eggshells also deter something known as blossom rot. There are certain fruit-bearing plants that sometimes develop black spots on the fruit when the tissue breaks down, and these black spots are caused by calcium deficiency. Flower rot significantly affects plants and reduces their overall yield.

Keywords: Calcium deficiency, Eggshells,Calcium lactate, Calcium citrate, Calcium chloride.

Sustainable Agriculture Solution to Malnutrition

Hiba Arshad, Kehkashan Kazmi
Jinnah University for Women, Karachi, Pakistan

Malnutrition, a complex global health issue, affects one in three people worldwide. Itencompasses undernutrition, micronutrient deficiencies, and overnutrition. The primary objective is to investigate Moringa's nutritional content and its ease of cultivation in various environmental conditions. Specifically, this project seeks to assess the effectiveness of Moringa supplementation in improving nutritional outcomes among malnourished individuals. This study investigated the nutritional value of Moringa-based jelly candy through experimental research. Moringa jelly candy was produced and subjected to proximate analysis and micronutrient testing to determine its nutritional content, including vitamins, minerals, and antioxidants. The bioavailability of these nutrients was also evaluated, High protein content (30.5% ± 1.2%), Significant fiber content (20.2% ± 0.8%), Vitamin A (35.4% of the Daily Value (DV) per serving), Vitamin C (42.1% of the DV per serving), Vitamin E (25.6% of the DV per serving), Calcium (21.9% of the DV per serving), Iron (30.5% of the DV per serving), High nutrient absorption rate (85.3% ± 2.5%), Rapid absorption of nutrients within 30 minutes. This study demonstrates the potential of Moringa-based jelly candy as a sustainable agriculture solution to malnutrition. With its high nutritional value, excellent bioavailability, and sensory acceptance, this innovative food supplement addresses nutritional deficiencies and promotes health. Sustainable agriculture practices increase Moringa yield, reduce water consumption, and enhance soil fertility. These findings support the scalability and effectiveness of Moringa jelly candy in combating malnutrition, particularly in resource-poor settings.

Keywords: Malnutrition,Undernutrition, Micronutrient, Overnutrition.

Sustainable Silica Production from Rice Husk Waste

Niyaesh Ashrafi, Saiyada Shadiah Masood and Hania Jahangir
Jinnah University for Women, Karachi, Pakistan

The escalating concern for environmental sustainability has led to the development of innovative waste management solution. Silica powder from rice husk waste is an eco-efficient silica powder produced from rice husk ash. By implementing this, we can execute dual benefits including effective waste management and production of 80-90% pure silica for divergent applications including as adsorbent, TLC plates, anticaking agent etc. Sustainable development goals (SDG): 12 'Responsible Consumption And Production' ensures sustainable consumption and production patterns and SDG: 13 'Climate Action' to combat climate change, is also applicable on this waste management project. The primary objectives are to promote sustainable waste management process and to establish a productive and resource efficient method for converting rice husk waste into silica powder. The experimental process involves rice husk ash converted into silica powder through acid washing, filtration, and reaction with sodium hydroxide. The resulting sodium silicate is titrated with HCl, aged for 24 hours, centrifuged, and dried to produce high quality silica powder. The result shows conversion efficiency of rice husk ash to silica powder was successfully achieved, corroborating the developed approach. The conclusion is successful conversion of rice husk ash to silica powder substantiate the potential for waste-to-resource technologies, contributing to a more circular and sustainable economy.

Keywords: Environmental sustainability, SDG- 13, Husk ash, Waste-to-resource.

An in-silico evaluation of antimicrobial resistance genes in Klebsiella pneumoniae: A computational approach using next-generation sequencing data

Javeria Abid and Ayisha Aman Ullah
Jinnah University for Women, Karachi, Pakistan.

According to World Health Organization (WHO), antimicrobial resistance (AMR) is one of the most important and serious health concerns worldwide. *Klebsiella pneumonia* is enlisted by WHO as one of the most concerned AMR pathogens due to its tendency to develop antimicrobial resistance against various classes of antibiotics like cephalosporins, penicillins and quinolones which are generally prescribed for the treatment of *Klebsiella pneumonia* associated infections. AMR represents a formidable challenge to global health, MDR *Klebsiella pneumoniae* is considered an opportunistic pathogen associated with nosocomial infections responsible for 22%-72% of mortality among immune-compromised patients. The aim of this study is to investigate antimicrobial resistance genomic regions within the genomes of various sub types of *Klebsiella pneumonia* locally reported in Pakistan through computational strategies using NGS data. This work also addresses UN sustainable development goals (SDGs). To determine antimicrobial resistance, NGS data of total 100 strains MDR *Klebsiella pneumoniae* is obtained from Sequence Read Archive (SRA) of NCBI. The obtained sequences were run on BV-BRC tool. Comprehensive genome analysis of strains shows genome assembly, gene annotations, antimicrobial resistance and genes associated with it. The analysis of protein product associated with AMR genes within the genome of *Klebsiella pneumonia* was done using UniProtKb. For structural study of AMR associated proteins, Protein Databank was used to visualize three-dimensional configuration and to reveal structure-function relationship. The selected strains of *Klebsiella pneumonia* showed resistance to 13 different drugs. Among them highly resistant drugs are CEFEPIME (n=65), AZTREONAM (n=57), TRIMETHOPRIM (n=48), CIPROFLOXACIN (n=36), TOBRAMYCIN (n=34). These results suggest that bioinformatics tools such as BV-BRC, CARD, ResFinder can be utilized for detection of AMR in *Klebsiella pneumonia and* other MDR pathogens. Addressing AMR in *Klebsiella pneumonia* is critical for public health and aligns with the SDGs. These findings emphasize the importance of integrating *insilico*methodologies in AMR research, facilitating the development of sustainable health strategies. Effective control of AMR pathogens will ultimately preserve the capacity to treat infections with available antimicrobials while new prevention and treatment solutions are developed. Collaborative efforts focused on surveillance, responsible antibiotic use, and sanitation improvements are essential to combat resistance, ensuring equitable access to effective treatments and safeguarding public health for future generations.

Keywords:*Klebsiella pneumonia,* UN sustainable development goals (SDGs), antimicrobial resistance

Sustainable nutraceutical cookies for menstrual health: gluten-free relief for celiac disease patients

Hafiza Mustabeen Adnan, Kahkashan Kazmi
Jinnah University for Women, Karachi, Pakistan.

Dysmenorrhea and menstrual pain have a significant impact on the lives of women around the world. Nutraceuticals are new, recently developed natural products that associate the benefits of diet and medicine. This research presents a nutraceutical cookie designed at relieving menstrual pain, in line with the purposes of sustainable development. As all ingredients consist of gluten-free buckwheat flour and corn flour, the whole mixture signifies a very healthy alternative for celiac disease patients, certifying individual health and collective environmental well-being through sustainable green living. The main objectives for the cookies are: A gluten-free nutritional enhancement cookie to reduce period pain, we incorporate sustainability into our product design by using only natural constituents that are gluten-free and safe for people with celiac disease. A gluten-free biscuit made primarily from buckwheat and corn flour, covering selected herbs and bioactive compounds that have been well-studied to relieve menstrual pain. Natural sweeteners and organic ingredients must be used mainly for stability purposes. Laboratory tests were conducted to begin the content of cookie nutrients, such as organoleptic testing and nutritional content tests; this is very needed for menstrual health. We sustained the determined accuracy and confirmed that the product has definitely met the standard set with no gluten requirements. The result: nutraceutical cookies are a rich source of essential nutrients, such as magnesium and iron, which are expected to reduce menstrual cramps. The antioxidants in high quantities also make cookies diminish inflammation, thus generally aiding relief from menstruation. The cookies help people with celiac disease feel comfortable and manage cramps, thereby helping the trend towards a green and healthy lifestyle. This research concludes that the gluten-free nutraceutical biscuits are a sustainable and advanced treatment for menstrual cramps, offering a natural solution for people with celiac disease that not only offers relief from period pain but also supports an eco-friendly lifestyle. Such values make the area of women's health, nutraceutical development, and sustainable product novelty a significant contribution. Therefore, the product is made in a way that enhances wellness at the least damage to the environment, furthering a holistic method toward both health and sustainability through the use of natural ingredients confirmed to have therapeutic benefits.
Keywords: Dysmenorrhea, Menstrual pain, Nutraceutical Cookies, Gluten-free.

Perceptions and health implications of short pregnancy intervals in relation to birth control pills

Manahil Ahsan, Aliya Habib, Maria Nadeem. Alveena Zehra
Jinnah University for Women, Karachi, Pakistan

Birth spacing is an important aspect of improving reproductive health. According to the guidelines provided by WHO (World health organization) a minimum of 33 months interval should be present between two consecutive births, in order to ensure the maternal as well as child health. Pakistan being a third world country, the concept of family planning and usage of birth control pills is associated with a lot of myths that are associated with health (infertility, obesity, cancer etc.), religious and cultural barriers. In this study, we explore the public perceptions and awareness of health risks associated with short pregnancy intervals and the role of birth control pills in managing these intervals in local population.The study involved a questionnaire specifically designed for women from diverse age groups and backgrounds. It included both demographic questions and targeted queries to assess their knowledge and understanding of pregnancy intervals and birth control pills. The survey was administered online to reach a broader audience. The study revealed lack of awareness about health issues related to short pregnancy intervals which included nutritional depletion, maternal stress and adverse child development outcomes. More than 50% respondents experienced complications due to short pregnancy intervals, yet they were not able to receive proper and timely heath care. This study also highlighted the significance spread of misconception about birth control pills which includes infertility, obesity and cancer, etc. Less than 50% of the respondents also acknowledge the benefits of birth control pills in spacing pregnancies and improving maternal health. This survey highlights the need of education and awareness about family planning, the safe use of birth control pills, and the importance of accessing healthcare services. The findings provide valuable insights for public health officials, policymakers, and healthcare professionals aiming to address the risks of short pregnancy intervals and improve maternal and child health outcomes in Pakistan.

Keywords: Cultural barriers, World health organization, Demographic, Maternal.

Formulation of skin toner from extracted marine collagen forrejuvenating effect with incorporation of lavender essential oil forhealing wounds & scars reduction

Maheen Siddiqui, Saniya Saleem, Zoya khan, Urooj Shamim, Aiman Yaseen Butt
Jinnah University for Women, Karachi, Pakistan

Collagen, the primary structural protein in connective tissues, plays a key role in skin healing andrepair. Fish skin collagen in this toner promotes tissue regeneration and reduces scarring, whilelavender essential oil provides anti-inflammatory and calming effects. Combined with hydratingdistilled water, soothing rose water, aloe vera, Vitamin E, and witch hazel, this toner offers anatural, gentle alternative to synthetic options, ideal for sensitive skin.Start with clear fish skin, soak it in a 0.5-5% acid solution, and heat at 30-40°C. Filter the mixture,precipitate collagen with NaOH over 8-10 hours, then wash and dry it for storage. For the toner,weigh all ingredients and prepare the aqueous phase by mixing distilled water, aloe extract, witchhazel, and glycerin. Heat to 40-50°C, add fish skin collagen until dissolved, then cool and mix inlavender essential oil and vitamin E. Homogenize, adjust pH, and package.This study introduces an organic skin toner with fish collagen and lavender oil, promoting woundhealing, scar reduction, and hydration. Key compounds include saponins, tannins, flavonoids,terpenoids, and phenolics, offering anti-inflammatory, antimicrobial, and antioxidant benefits.With a pH of 5.2 and a low Brix value (2.5), the toner is stable and effective, providing a natural,gentle option for sensitive skin.

Keywords: Collagen, Structural Protein, Flavonoids,Terpenoids.

Production of activated carbon from coconut shell

Mahak Zahid, Haiqa Khan, Saiyada Shadiah Masood
Jinnah University for Women, Karachi, Pakistan

The Activated charcoal is derived from the organic compounds like coconut shell which is a highly porous material and have an ability of adsorption property. The “solid waste management through a coconut shell Activated Carbon protection” convert the coconut shells into a valuable activated charcoal which align with Sustainable Development Goals(SDGs) 6,9 12 and 13.The coconut shell is converted into Activated Carbon by passing the coconut shell through various processes like washing, heating which is followed by crushing, acidic and basic treatment and neutralizing and drying. This eco-friendly product has a variety of application including water filtration purification, medicine use, air pollution, control, industrial processes personal care,food and beverages, industries,pharmaceutical and environmental recommendation.It reduces the 50% of greenhouse effect and 100% of waste reduction.

Keywords: Activated charcoal, Carbon protection, Personal care, Eco-friendly product.

Association of anti-tb drug resistance and drug-induced toxicity with genetic polymorphisms in pulmonary tuberculosis patients

Dur-e-Najaf Sohail*, Tehseen Fatima, Rafat Amin
Dow University of Health Sciences, Karachi, Pakistan

Tuberculosis (TB) persists as a serious public health concern worldwide, resulting in millions of deaths each year. Present TB drug therapies often fail to combat newly emerging drug-resistant forms of TB consisting of multidrug-resistant TB (MDR-TB) and extensively drug-resistant TB (XDR-TB), with host gene polymorphisms playing a pivotal role in the drug metabolism. Anti-TB drugs undergo hepatic metabolism by the NAT2 and SLCO1B1 genes, polymorphisms of which are reported to affect their protein expression levels, leading to metabolic dysregulation. This study helps link these polymorphisms and biomarker levels with drug resistance, drug-induced toxicity patterns, and the clinical outcomes found in pulmonary TB patients. The main objectives of the study are: i) Identifying polymorphisms in NAT2 and SLCO1B1 genes affecting the drug resistance and dysregulation pathways. ii) Analysing the drug toxicity-linked biomarker levels of NAT2 and GSTM1 through detection by ELISA. iii) Relating the biochemical profiles indicative of toxicity of the patients with drug resistance patterns and host gene polymorphisms.Present study is a case-control study in which whole blood samples were collected from 50 research participants, consisting of 20 healthy controls (n=20) and 30 cases (n=30), with 10 cases each of drug-susceptible TB (n=10), MDR-TB (n=10), and XDR-TB (n=10). DNA was then extracted using the salting-out method and quantified using micro-volume spectrophotometer. Allele-specific PCRs were, and the results were visualized through agarose gel electrophoresis. ELISA kit-based serum analysis was performed for the drug toxicity biomarkers' detection.The analysed data indicates that in the SLCO1B1 gene polymorphisms, those with the homozygous mutant variant allele lead to potentially decreased activity and hence, increased drug resistance, therefore commonly occurring in the MDR and XDR-TB cohort, as well as few of the healthy controls, making the general population vulnerable too. The NAT2 slow acetylator polymorphisms responsible for decreased resistance and increased toxicity were more rarely occurring, with 2% appearing in the healthy and drug-susceptible patients as compared to none being found in MDR and XDR-TB.By genetic resistance profiling and biomarker analysis, we can help discern the connection between anti-TB drug resistance, potential toxicities, and different clinical responses, aiding targeted drug modifications and doseadjustments crucial for optimizing improved TB treatment strategies.

Keywords: Polymorphism, Biomarker levels, Allele-specific, ELISA kit.

Exploring the Calcium-Dependent Cholesterol Dysregulation In Pulmonary Tuberculosis Pathogenesis

Alina Haider, Tehseen Fatima, Sadaf Khan
Dow University of Health Sciences, Karachi, Pakistan

Mycobacterium tuberculosis has developed mechanisms to evade the immune response and survive within host cells. Calcium signaling and cholesterol metabolism are crucial cellular processes linked to various physiological functions. Disruptionin these pathways are associated with diseases, including TB. The bacterium forms granulomas in the alveolar wall, affecting calcium ion (Ca^{2+}) signaling in macrophages. Research indicates a connection between calcium and cholesterol levels, suggesting that Ca^{2+} signaling impacts cholesterol metabolism.This study aims to explore how disruptions in these pathways contribute to TB pathogenesis by 1) Analyzing mRNA transcript levels of CABIN1, APOE, SCARB1, and CCL2.2) Examining serum calcium and cholesterol levels in TB patients and controls for trends.The present study, in which blood samples were obtained from both healthy controls and pulmonary TB patients, is a case-control study. RNA extraction was carried out using Trizol L.S. reagent and micro-volume spectrophotometer was used to measure the extracted RNA. For mRNA reverse transcription, OligodT primers and the specific Reverse Transcriptase kit were used. For the cDNA amplification needed for the study of CABIN1, APOE, SCARB1, and CCL2, Sybr Green PCR master mix was utilized. Glyceraldehyde-3-phosphate dehydrogenase (GAPDH), a housekeeping gene, was employed as a reference. Gene expression was assessed using the 2-ΔΔCT technique. Kit-based serum analysis for performed to check the calcium and cholesterol levels of the subjects.The study reveals significant differences in biomarker levels related to tuberculosis between patients and control groups. Notably, CABIN1 and CCL2 were up-regulated in TB patients, while APOE and SCARB1 were down-regulated. The observed upstream regulation of calcium genes and downstream regulation of cholesterol genes may indicate a reciprocal relationship between these processes. Furthermore, the increased CCL2 levels in TB patients point to heightened inflammatory responses that could affect the survival and replication of Mycobacterium tuberculosis.In summary, this research underscores the critical role of calcium signaling and cholesterol metabolism in TB pathogenesis and suggests that targeting these pathways could offer promising therapeutic strategies for future interventions.

Keywords:*Mycobacterium tuberculosis,* mRNA transcript levels, TB pathogenesis

IVF in Society: Perspectives on Test Tube Babies And Assisted Parenthood

Ayesha Sohail*, Dua Zafar, Fariya Imran, Jaweria Zareen, Laraib Ellahi
Jinnah University for Women, Karachi, Pakistan

Designer babies essentially mean that they fiddle with the genes of embryos before they implant them to change some specific traits in kids. In vitro fertilization is a huge deal for making designer babies come true. So, we want this study to spread the word about IVF tech and see what scholars, doctors, and researchers think about this technology. We referenced a number of research papers about IVF to really help us compile our survey as well.The questionnaire was administered to the target population, which comprises infertile married couples facing problems, academics, med students, and researchers. Consequently, according to this, the results we attained, 68% of the respondents knew aboutIVF tech.Hence, 12.5% believe IVF is evil, but 37.5% disagree with this opinion.43.8% considered IVF the best solution for infertility, whereas 12.5% disagreed.While IVF is probably a pretty sophisticated technology for the infertile couple, many people still don't know of its existence. There are others, particularly those concerned about surrogacy and designer babies, who find the technology problematic.

Keywords: Designer Babies, Respondents, Fertilization, Infertile Couple.

Immobilization of Bacterial Cells for Sustainable Textile Dye Detoxification: Advancing Environmental Sustainability in The Textile Industry

Aisha Mehak*, Ayisha Aman Ullah, Rashida Rahmat Zohra
Jinnah University for Women, Karachi, Pakistan

Textile industry is an important sector that increases foreign exchange which ultimately builds country's economy but unfortunately these industries do not treat their waste properly and discharge large amount of wastewater and effluent, which often contains harmful chemicals such as carcinogens, heavy metals, and toxic dyes that causes environmental pollution. However, an eco-friendly green approach is to utilize bacterial cells that can degrade these harmful textile dyes. The focus of this research was to isolate dye degrading bacteria and check their potential in the biodegradation of harmful textile dyes through immobilization of whole bacterial cells. In this study, dye degrading bacterial strain was isolated from textile effluent. The isolated bacterial colony was tested for its dye degradation efficiency. In order to increase the decolorization efficiency, bacterial cells were immobilized within Ca-alginate matrix. Different concentrations of sodium alginate and calcium chloride ranging from 1-5% & 0.1M - 0.5M respectively were tested. To optimize the biodegradation process, different physico-chemical parameters including temperature, pH, initial dye concentration and volume of inoculums were examined. Upon screening, 2% sodium alginate & 0.2 M calcium chloride concentration demonstrated high efficiency in decolorizing the reactive pink dye. The optimum temperature was found at 30oC with pH 7. Increasing volume of inoculum led to maximum decolorization, 10% volume of inoculums shown the efficient degradation of dye. Additionally operational stability of entrapped bacterial cells was screened upto 5 cycles and it was noticed that even after 3rd wash bacterial cells retained more than 60% of their residual activity. The current research aligns with SDG 6 by reducing water pollution from textile wastewater and promoting sustainable water management. It also supports SDG 12 by offering an eco-friendly alternative to chemical treatments, reducing industrial waste, and minimizing the environmental impact of textile production. Based on above findings, this study suggests that bacterial immobilization could be a highly efficient and cost-effective approach for treating textile effluent. Utilizing this method can mitigate the environmental impact of textile industry effluent and can promote sustainable and eco-friendly environment. Additionally, this approach contributes to cleaner water resources and more responsible industrial practices.

Keywords:SDG 12, Ca-alginate matrix, Biodegradation, Eco-Friendly Environment

Citrus Waste for Health: Creating Sustainable Antibacterial Nanoparticles through Green Technology

Laraib Elahi, Ayisha Aman Ullah
Jinnah University for Women, Karachi, Pakistan

Nanotechnological products (nanoparticles) are the key advancement in nanobiotechnology and considered as the most effective and innovative mode to accomplish sustainability goals. Green synthesis of AGNPs (silver nanoparticles) are used to tackle sustainable challenges in the healthcare sectors. AGNPs act as antibacterial, antifungal and antiviral agents. They also possess antioxidant activities. The creation of antibacterial nanoparticles from citrus waste supports SDG 3 by combating bacterial infections and improving health, while also aligning with SDG 12 through efficient resource use, waste reduction, and sustainable production. The peels of *Citrus* paradisi (Grapefruit), *Citrus sinensis* (Orange) *and Citrus limon* (Lemon) were selected for the synthesis of silver nanoparticles. Silver nitrate solution was treated with extract of peels leading to the formation of brown color solution that indicated the synthesis of AGNPs. After the formulation of AGNPs, agar-well diffusion method was employed for an *invitro* evaluation of antibacterial activity against various human clinical pathogens. All ofthe AGNPs of citrus fruits peels showed significant inhibitory activities against selected pathogens. This research is promising to combat multi drug resistant human pathogens by reducing the uncontrolled use of conventional antibiotics.
Keywords: Nanoparticles, *Citrus* paradisi (Grapefruit), *Citrus sinensis* (Orange) *and Citrus limon* (Lemon)

Bioinformatics-Driven In Silico Analysis of Antibiotic Resistance Genes Inmethicillin-Resistant Staphylococcus aureus (MRSA) Using Next-Generation Sequencing Data: A Steptowards Global Health Sustainability

Khadijah Binte Nasir, Ayisha Aman Ullah
Jinnah University for Women, Karachi, Pakistan

Antimicrobial resistance (AMR) is a great challenge of this era that causes millions of deaths and increased health care costs posing threat to human health, food safety, economic growth andpoverty alleviation therefore hinders progress of SDGs relating these aspects. This study aimed toperform an in silico analysis for the identification of AMR regions, their products and mechanismsin Methicillin Resistant Staphylococcus aureus (MRSA). This research will provide knowledge toassess AMR surveillance and provide insights for drug development, thereby meeting SDGs ofpoverty reduction, human health and well-being, and decent economic growth. *Staphylococcusaureus* is one the most common pathogens in Pakistan causing multitude of hospital andcommunity related human infections and also infects domestic and farm animals. Next generationsequencing (NGS) data of 100 *Staphylococcus aureus* strains isolated from various regions ofPakistan was obtained using Sequence Read Archive (SRA) of NCBI and was subjected to BVBRC(Bacterial and Viral Bioinformatics Resource Centre) for analysis. Structural analysis ofproteins responsible for AMR was performed using Protein Databank (PDB). UniprotKB was usedfor the identification of subcellular locations and retrieval of protein sequences associated withAMR. Phylogenetic relationships were also studied. Methicillin resistance was detected in 52strains while 48 strains were susceptible to methicillin. Resistance was observed to otherantibiotics as well including Penicillin, Gentamicin, Ciprofloxacin, Clindamycin and Tetracycline.Most notable of the genes responsible for AMR in MRSA includes mecA and mecC genes thatencodes Penicillin Binding Protein 2a (PBP2a) and PBP2c, respectively. As a conclusion,detection of AMR genes, their products and underlying disease causing mechanism of those AMRbased proteins plays crucial role for the development of effective therapeutic interventions thatultimately leads to enhance public health by reducing morbidity and mortality associated withresistant pathogens' infections. This focused approach aids in achieving SDGs by designing bettertreatments, making it easier for healthcare systems and also contributes to sustainable economicgrowth by minimizing the impact of illness on humans, ensuring that population remain healthyand contribute well to the economy.

Keywords: Antimicrobial resistance (AMR), Surveillance, Protein Databank (PDB), Methicillin

Screening of Ethyl Acetate Extract of Moringa Oleifera for Active Compounds And Antioxidant Potential

Quratul Ain, Rubeena Saleem, Aisha Sana , Syeda Umme Zainab Bukhari , IqraSaleem , Fehmida Banaras, Sahar Fatima
Jinnah University for Women, Karachi, Pakistan

Moringa oleifera, commonly known as the drumstick tree or miracle tree, is a highly valued plant native to South Asia, celebrated for its nutritional and medicinal properties. Among its bioactive components, phenolic compounds and flavonoids are particularly important due to their ability to neutralize free radicals, which are linked to oxidative stress and various degenerative diseases. This research investigates the TPC, TFC, and antioxidant activity of the ethyl acetate extract from Moringa oleifera green seeds, aiming to highlight their potential health benefits and applications in pharmaceuticals and nutraceuticals.This study involved collecting green seeds of Moringa oleifera from Jinnah University for Women inFebruary, June, and November 2023. The seeds were first extracted with hexane, followed by a secondaryextraction of the residual marc using ethyl acetate. The solutions were filtered and concentrated using arotary evaporator. The extract was subjected to VLC to afford rhamnoloxy benzyl isothiocyanate. Theextracts were also evaluated for pharmacognostic properties, and quantitative determination of totalphenolic content measured by the Folin-Ciocalteu method and total flavonoid content assessed through an aluminum chloride colorimetric assay. Radical scavenging activity determined by the DPPH assaymethod, highlighting their antioxidant potential.Quantitative analysis indicated a significant presence of bioactive compounds, with total phenolic contentexpressed as Gallic Acid Equivalents (GAE) per 100g, and total flavonoid content expressed as Rutin Equivalents (RE) per 100g. Ethyl acetate extract of Green seeds of M. oleifera showed promising anti-oxidant activity with 66% inhibition at 4mg/ml suggesting its potential role in the antioxidant properties of the extract.These findings support the therapeutic potential of Moringa oleifera seeds and underscoretheir value in nutritional and medicinal applications.

Keywords: Moringa Oleifera, Phenolic Compounds, Gallic Acid, Pharmacognostic Properties