ABBOTTABAD

INTERNATIONAL CONFERENCE ON MEDICAL RESEARCH (ICMR'25)

Integrating Clinical Practice, Research, & Education for a Healthier Tomorrow

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ABOUT THE CONFERENCE

The International Conference on Medical Research (ICMR'25) was a flagship academic event organized by **Women Medical College, Abbottabad**, dedicated to bridging the gap between clinical practice, research, and medical education. With the theme **"Integrating Clinical Practice, Research, and Education for a Healthier Tomorrow,"** ICMR'25 brought together aspiring medical professionals, researchers, educators, and clinicians from across the country to foster collaboration, critical thinking, and innovation in healthcare. **ICMR'25** wasn't just a conference, it was a movement towards shaping the future of healthcare through meaningful dialogue and multidisciplinary engagement.

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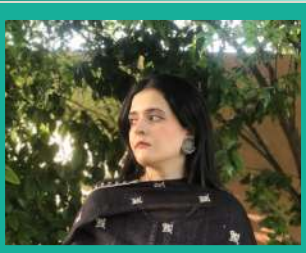
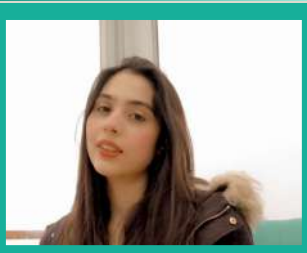


Maryam Ali Khan
Guidance



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Hajra
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PR & Collaboration

Hania Zeb
Publication

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Saza Haleem
Feedback

2025

PRE-CONFERENCE WORKSHOPS

Women Medical College Abbottabad conducted specialized pre-conference workshops for ICMR'25, dedicated to innovation and ethics in medical education. These intensive, **hands-on** sessions were led by distinguished experts in the field.

Prof. Dr. Hina Ahmad, Head of the Department of Community Medicine at UCMD, University of Lahore, led an **interactive session** on the "**Ethical Use of AI in Medical Research (Hands-on)**". Participants engaged in **scenario-based** exercises using real datasets, applying ethical frameworks to address issues of algorithmic bias, data privacy, and transparency in AI driven studies.

Dr. Nowshad Asim, Assistant Professor at the Institute of Health Professions Education & Research, Khyber Medical University, Peshawar, presented on "**Transforming Assessments in Medical Education for a Better Tomorrow**". The session introduced **competency-based** assessment models, digital evaluation tools, and strategies for designing OSCEs that align with contemporary educational outcomes.

PRE-CONFERENCE WORKSHOPS

Dr. Iftikhar Qayyum, former Director of Research at Rehman Medical College, Peshawar, facilitated **two sessions**: an inaugural workshop on "**Innovation in Medical Education and Research**", exploring novel pedagogical and research approaches, followed by a practical "**SPSS Hands-on Workshop**", where participants gained direct experience in data entry, analysis, and interpretation using SPSS software.

Finally, **Prof. Dr. Irfan Khattak**, Professor of Surgery at Abbottabad International Medical College, delivered a keynote address on "**Practising Great Ethics When Resources are Not-So-Great**". The talk examined **real-world** ethical dilemmas in low-resource settings, emphasizing integrity, patient advocacy, and moral resilience when faced with systemic constraints.

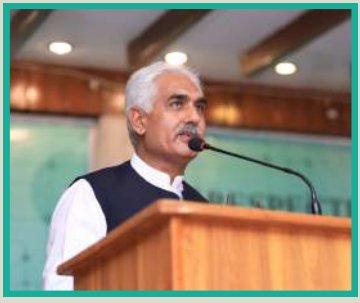
At the conclusion of the workshops, the Principal of Women Medical College, **Prof. Dr. Salma Aslam Kundi**, presented commemorative shields and certificates to all attendees in recognition of their active participation and engagement. These immersive sessions reinforced the college's commitment to shaping future-ready healthcare professionals through contemporary, ethically-grounded education.






OPENING CEREMONY

On **30 August 2025**, **Women Medical College Abbottabad** inaugurated the **International Conference on Medical Research (ICMR'25)**. The opening session's Chief Guest, **Prof. Dr. Johar Ali, Vice Chancellor of the University of Peshawar**, commended the conference for its profound significance to Pakistan's medical and research landscape, highlighting its focus on integrating technology, ethics, and global collaboration as essential for national progress. He extended particular appreciation to **Principal Prof. Dr. Salma Aslam Kundi** for her exemplary leadership and acknowledged the collective effort of the college's faculty and staff. **Prof. Dr. Johar Ali** personally distributed commemorative shields to the keynote speakers, formally recognizing their contributions. He concluded by expressing confidence that the collaborations initiated at **ICMR'25** would yield lasting benefits for **Pakistan's academic and healthcare communities**. To facilitate inclusive participation, an efficient on-the-spot registration desk was also operational throughout, seamlessly accommodating late joiners and ensuring broad engagement from the medical and academic community.



OPENING CEREMONY

On 30 August 2025, Women Medical College Abbottabad inaugurated the International Conference on Medical Research (ICMR'25) with a distinguished opening ceremony. The inaugural session featured **five** eminent keynote speakers who set a high academic tone for the conference.

Prof. Dr. Angelique Coetzee, former Chairperson of the South African Medical Association, speaking on Bridging Gaps Building Futures: Integrating Clinical Practice, Research and Education in the 21st Century.

Prof. Dr. Saira Afzal, Dean of IPH Lahore, who presented Evaluation of AI-Based Radiological Diagnosis of Tuberculosis: Sensitivity, Specificity and Comparative Advantage over Sputum Culture in Lahore, Pakistan.

Dr. M. Mubashar Iftikhar (CSO, CDX | CIO | CEO - WP Kuala Lumpur, Malaysia), on The Role of AI in Clinical Decision Making.

OPENING CEREMONY

Prof. Dr. Ejaz Hassan Khan, Vice Chancellor of Gandhara University, Peshawar, speaking on Strengthening Health Care Through Academic & Clinical Partnership.

Prof. Dr. Maria Hidayat, Professor of Anatomy at University College of Medicine Lahore, addressing AI Ethics and Future of Clinical Research.

The session established a collaborative tone for ICMR'25, emphasizing technology integration, ethical research, and global partnerships in medicine.

KEYNOTE SPEAKERS

The Opening Ceremony was graced by highly intellectual keynote speakers who delivered authoritative addresses across the spectrum of medical science and education. The speakers were **Prof. Dr. Angelique Coetzee, Prof. Dr. Saira Afzal, Dr. M. Mubashar Iftikhar, Prof. Dr. Ejaz Hassan Khan, Prof. Dr. Mariyah Hidayat, Prof. Dr. Mulazim Hussain Bukhari, Prof. Dr. Umar Ali Khan, Prof. Dr. Ashraf Nizami, Prof. Dr. Samina Malik, Prof. Dr. Shabih H. Zaidi, and Prof. Dr. Rashid Mehmood**. Their collective expertise provided a comprehensive and forward-looking foundation for the conference deliberations.

Former Chairperson South Asian Association

Prof. Dr. Angelique Coetzee

Bridging Gaps Building Futures: Integrating Clinical Practice, Research and Education in the 21st Century

Prof. Dr. Angelique Coetzee addressed the persistent challenges in global healthcare, highlighting critical gaps in access, delivery, and innovation that impede equitable patient outcomes.

ABSTRACT:

Healthcare worldwide continues to face critical gaps in access, delivery, and innovation, posing challenges to equitable patient outcomes. This keynote explores strategies to bridge these divides by integrating clinical practice, research, and education, ensuring a holistic and sustainable approach to global health. Technology-driven solutions, including virtual clinical partnerships, are highlighted as powerful tools for collaboration and capacity-building. At the same time, the indispensable role of the human element underscores the importance of empathy, ethics, and human connection in medical progress. By harmonizing innovation with compassion, this session envisions a future where healthcare systems are more inclusive, resilient, and patient-centered.

Dean – Institute of Public Health
Birdwood Lahore

Prof. Dr. Saira Afzal

Evaluation AI Based Radiological Diagnosis of Tuberculosis: Sensitivity, Specificity and Comparative Advantage over Sputum Culture in Lahore, Pakistan

Prof. Dr. Saira Afzal presented a rigorous analysis of the diagnostic revolution underway in tuberculosis management, focusing on the integration of artificial intelligence in interpreting chest radiographs within a high-burden urban setting.

ABSTRACT:

Tuberculosis remains a critical public health challenge in Pakistan, where conventional diagnostics like sputum culture are hindered by delays, logistical issues, and variable sensitivity. This keynote presents a comprehensive evaluation of AI-driven radiological diagnosis as an emerging paradigm. Findings from a large-scale clinical study across tertiary hospitals in Lahore quantify the sensitivity and specificity of a deep-learning algorithm against gold-standard culture. The analysis highlights the technology's comparative advantages: rapid turnaround, scalability in resource-limited settings, and effectiveness in detecting paucibacillary or extrapulmonary cases where traditional microbiology underperforms. Importantly, it positions AI as a complementary tool within the diagnostic pathway to enhance not replace clinical decision-making. By presenting robust performance metrics and real-world data, this session offers a definitive framework for using computational precision to accelerate diagnosis, improve treatment initiation, and strengthen TB control in endemic regions.

CSO, CDX | CIO | CEO -WP
Kuala Lumpur, Malaysia

Dr. M. Mubashar Iftikhar

The Role of AI in Clinical Decision Making

Dr. M. Mubashar Iftikhar explored the transformative impact of artificial intelligence (AI) on clinical decision-making, emphasizing its role as a powerful adjunct not a replacement for human clinicians.

ABSTRACT:

In the complex and demanding world of healthcare, the power of a single decision can mean the difference between sickness and health, between life and death. For decades, these decisions have been the exclusive domain of human expertise. But what happens when we augment that expertise with the speed and precision of artificial intelligence? In this session, we will move beyond the hype to explore the tangible, transformative role of AI in clinical decision making. Drawing on a decade of experience as a CIO, CDO and a medical doctor, I will share real world examples, we will demystify AI, examining how it is not a replacement for clinicians, but a powerful copilot that enhances diagnostic accuracy, personalizes treatment plans, and predicts patient outcomes. Join me as we uncover how AI is helping us make better, faster, and more confident decisions, paving the way for a new era of intelligent healthcare.

Vice Chancellor Gandhara University Peshawar

Prof. Dr. Ejaz Hassan Khan

Strengthening Health Care Through Academic & Clinical Partnership

Prof. Dr. Ejaz Hassan Khan addressed the critical role of academic–clinical partnerships in strengthening healthcare delivery in Pakistan.

ABSTRACT:

Pakistan faces persistent public health challenges, including low life expectancy, high burdens of communicable and non-communicable diseases, and significant years lived with disability. Weak integration of research and practice, fragmented systems, and workforce skill gaps further strain health outcomes. This keynote highlights the power of academic–clinical partnerships in addressing these gaps by combining the research capacity, training, and innovation of academic institutions with the real world patient care and multidisciplinary expertise of clinical settings. Drawing on global and local examples, the talk outlines strategies to build resilient, evidence-driven health systems through collaboration, shared governance, and regulatory support. By institutionalizing these partnerships, healthcare can move towards a seamless ecosystem that advances patient outcomes, research, and professional development.

University College of Medicine

Prof. Dr. Mariyah Hidayat

AI Ethics and Future of Clinical Research

Prof. Dr. Mariyah Hidayat explored the ethical implications of artificial intelligence (AI) in clinical research, emphasizing the transformative impact AI has on healthcare, data analysis, and scientific publishing.

ABSTRACT:

Artificial Intelligence (AI) is rapidly reshaping clinical research, healthcare, and scientific publishing yet this progress raises critical ethical concerns. As AI contributes to data analysis, manuscript writing, and clinical decision-making, challenges around authorship, algorithmic bias, andmisinformation threaten research credibility.

In this talk, Dr. Mariyah Hidayat offers an editor's perspective on these emerging challenges. She will explore how editors must evolve as ethical guardians of research, ensuring transparency, accountability, and equity in AI-driven studies. This session highlights the editor's pivotal role in safeguarding research integrity and trust, particularly in the context of global health disparities and resource-limited settings.

President- Pakistan Association of Pathologists (PAP)

Prof. Dr. Mulazim Hussain Bukhari

The Correlation of Clinical and Pathology findings for Accurate Diagnosis and Effective Treatment of Diseases.

Prof. Dr. Mulazim Hussain Bukhari highlighted the crucial role of clinico-pathological correlation in ensuring accurate disease diagnosis and guiding effective treatment.

ABSTRACT:

Accurate disease diagnosis and effective treatment hinge on the critical integration of clinical and pathological findings. This presentation underscores the vital importance of clinico-pathological correlation in mitigating the global burden of diagnostic errors, which contribute significantly to patient morbidity and mortality. It explores the inherent limitations of relying solely on clinical impression or pathology results, demonstrating through case studies how a synergistic approach minimizes misdiagnosis and guides targeted therapy. Key challenges such as communication gaps, reporting delays, and specimen issues are addressed, alongside practical strategies for managing discrepancies.

The discussion advocates for standardized reporting, multidisciplinary team collaboration, and the adoption of digital pathology and AI-based tools to enhance diagnostic accuracy and ultimately improve patient outcomes.

Pro Vice Chancellor Isra University

Prof. Dr. Umar Ali Khan

Happiness

Prof. Dr. Umar Ali Khan explored the intricate connection between happiness and mental health, emphasizing its critical role in overall well-being, cognitive function, and quality of life.

ABSTRACT:

Happiness and mental health are deeply intertwined, influencing well-being, cognitive functioning, and quality of life. Emerging research shows happiness is a measurable component of mental wellness, with significant implications for prevention, treatment, and care. This presentation explores happiness as both a protective factor and therapeutic target in mental health interventions. It examines positive psychology's focus on cultivating strengths and resilience, alongside evidence-based approaches like mindfulness and cognitive behavioral strategies. Happiness buffers stress, reduces anxiety and depression, and promotes neuroplasticity. Cross-cultural studies reveal its expression is shaped by socio-economic factors and cultural norms. Integrating happiness-promoting techniques in clinical practice can improve patient engagement and recovery. By reframing happiness as an essential component of mental health not a luxury this talk advocates for its inclusion in public health agendas and clinical models.

First Vice President – CMAAO, President PMA Lahore

Prof. Dr. Ashraf Nizami

Challenges in Medical Education, Professional Progress & Health Care

Prof. Dr. Ashraf Nizami discussed the critical challenges facing medical education, professional development, and healthcare systems in Pakistan.

ABSTRACT:

Medical education and professional development are the backbone of any resilient health care system. In Pakistan, these domains face critical challenges, including inconsistent educational standards, lack of uniform assessment systems, limited research integration, and inadequate investment in faculty development. These issues not only hinder the professional growth of medical graduates but also compromise the quality of patient care. This presentation will explore Pakistan's experience in addressing these challenges, highlighting the gaps between policy and practice, the burden of unequal access to quality education, and the impact of regulatory frameworks on professional progress. Drawing comparisons with regional trends and global best practices, the discussion will emphasize the need for harmonization of curricula, competency-based training, transparent accreditation, and collaborative research initiatives. By situating Pakistan's perspective within the broader regional and international context, the talk aims to identify actionable strategies for reform in medical education and health care delivery. The focus will remain on fostering professional excellence, ensuring equity, and building sustainable systems capable of addressing future health challenges.

HOD Physiology UCMD, UOL, Lahore, SAAP President, Advisor Education Mission, FAOPS

Prof. Dr. Samina Malik

Early Diagnosis of Breast Cancer: Bridging Molecular Insights and Public Health for Better Prognosis

Prof. Dr. Samina Malik addressed the critical importance of early diagnosis in breast cancer, the most common cancer and leading cause of cancer-related death among women worldwide.

ABSTRACT:

The most common disease in women and the primary cause of cancer-related death for women worldwide breast cancer. A timely diagnosis is necessary to improve quality of life and survival rates. The combined roles of oxidative stress, hematological, hormonal, inflammatory, and genetic indicators in the onset and early detection of breast cancer are discussed in this presentation. The discussion focuses on how biomarker profiling and epidemiological mapping may help with early-stage diagnosis and risk stratification, using data from a local case-control research on young Pakistani women (≤50 years old) with breast cancer. The primary objective will be to identify biomarkers from blood serum that are affordable, repeatable, and easily accessible. Stress response proteins, hormone levels, oxidative stress markers, complete blood count (CBC) and genetic polymorphisms that might be found by next generation sequencing (NGS) and screened on Sanger sequencing economically are some examples of these biomarkers. The socio-environmental and family risk factors that frequently lead to a delayed diagnosis when resources are few will also be covered in the talk. These include delayed medical consultation, early puberty, nulliparity, and low socioeconomic position. A pathophysiological model of early-onset breast cancer will be presented, that combines adjustable environmental and lifestyle factors with genetic predispositions. With implications for genetic counseling, public health screening programs, and customized monitoring measures in high-risk populations, the presentation seeks to further a paradigm shift away from reactive therapy and toward proactive prevention and early diagnosis.

Rtd Professor ENT UK, Chair, Dean Al Sadiq International Virtual University (SIVU)

Prof. Dr. Shabih H. Zaidi

Development of a Virtuous Health Worker - VIRTUAL

Prof. Dr. Shabih H. Zaidi discussed the role of ethics in clinical decision-making, particularly within resource-limited healthcare settings.

ABSTRACT:

Ethics is a branch of philosophy, just like logic, metaphysics, aesthetics and politics. It teaches us how to differentiate between good and evil. In the West, Deontology Consequentialism and Virtue ethics are often engaged in critical decision making. My presentation will briefly mention them but focus on the principle of justice. With in it, I'd like to talk about distributive justice, which has 2 components Equality and Equity. I prefer Equity [mawasat] to Equality [masawat] as this way one can maximise the services in a clinical or educational services.

HOD Physiology- Rehman Medical College, Peshawar
President, Pakistan Physiological Society & Pakistan academy of Family Physicians

Prof. Dr. Rashid Mehmood

The Role Model Teacher: from Student's Perspective

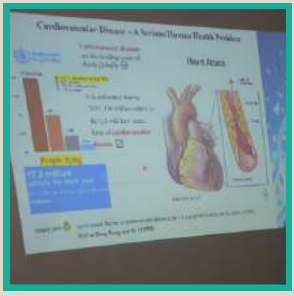
Prof. Dr. Rashid Mehmood explored the concept of the role model teacher through the lens of students' perspectives, highlighting pedagogical principles exemplified by Prophet Muhammad (peace be upon him).

ABSTRACT:

This presentation explores the paradigm of the role model teacher, as defined from a student's perspective and exemplified by the timeless pedagogical principles of Prophet Muhammad (peace be upon him). It delineates a comprehensive framework of 46 evidence-based instructional practices that transcend time and culture, emphasizing flexibility, mutual respect, and the creation of a supportive learning environment. The talk further translates these principles into 11 actionable tips for students, outlining their role in fostering a collaborative and effective educational partnership. By integrating traditional wisdom with modern educational needs, this session provides a holistic guide for educators seeking to emulate this exemplary model and for students aiming to become active, engaged participants in their own learning journey. The ultimate goal is to inspire a return to a balanced, compassionate, and highly effective approach to teaching and learning that benefits all stakeholders in the educational process.

SCIENTIFIC SESSIONS

The conference was profoundly shaped by the insights of **thirty-two distinguished keynote speakers**, whose presentations collectively covered the full scope of modern medical challenges and innovations. Their authoritative addresses spanned crucial themes such as **artificial intelligence in healthcare, advancements in medical education, ethical dilemmas in clinical practice and research, breakthroughs in oncology and cellular therapies, public health strategies, and the future of personalized and community-based medicine**. This rich tapestry of expertise fostered a dynamic, multidisciplinary dialogue, setting a forward-thinking agenda for the event.



TITLE: MENTAL HEALTH AS A GLOBAL HEALTH CHALLENGES AND ITS EMERGING SOLUTIONS

HOD Psychiatry, Ayub Medical College, Abbottabad

Prof. Dr. Aftab Alam Khan

Mental Chains: Drug Addiction and the Invisible Weight of Stigma

Prof. Dr. Aftab Alam Khan addressed the compounding societal and psychological barriers of stigma surrounding substance use disorders, with a specific focus on emerging crises within vulnerable populations in Pakistan.

ABSTRACT:

Drug addiction remains one of the most stigmatized and misunderstood mental health conditions globally, despite its classification as a complex biopsychosocial disorder. In Pakistan, recent reports indicate a sharp rise in substance use, particularly among youth and university students, with Khyber Pakhtunkhwa (KPK) witnessing an alarming increase in drug-related mental health issues. Medical students ironically the future healthcare providers are emerging as a vulnerable subgroup, grappling with academic stress, accessibility to substances, and cultural silence around seeking help. This session examines the dual burden of addiction and stigma, conceptualized as “mental chains” that invisibly constrain individuals from seeking timely and appropriate care.

CEO House of Wellness
Islamabad

Dr. Yasir Masood Afaq

Transdisciplinary Imperatives of Mental Health: A Global Approach

Dr. Yasir Masood Afaq discussed a radical reimagining of mental healthcare, advocating for an integrated framework that bridges clinical science, social sciences, and spiritual traditions.

ABSTRACT:

In a world grappling with rising psychological distress, fragmented systems of care, and deep cultural divides, mental health demands a radical reimagining. This talk advances a bold, transdisciplinary approach, bridging psychiatry, psychology, sociology, anthropology, and spiritual wisdom. To position mental health as a shared human imperative. Anchored in a glocal perspective, it aligns global mental health challenges, climate anxiety, digital overwhelm, displacement with deeply local, culturally embedded responses. Crucially, this talk integrates religious and faith-based healing traditions, long marginalized in clinical paradigms, as vital components of mental wellness. From Sufi practices in South Asia to pastoral counseling in the West, faith communities offer meaning-making, resilience, and social support. By embracing indigenous knowledge systems, decolonial perspectives, and spiritual frameworks, this approach shifts the narrative from pathology to holistic well-being. It calls for co-creation, not prescription; for interconnection, not isolation, redefining mental health as a dynamic ecosystem of care where science, culture, and spirit converge.

Principal, Shaikh Khalifa Bin Zayed Al-Nahyan Medical College

Prof. Dr. Ayesha Hamayun

Workplace Psychological Safety

Prof. Dr. Ayesha Hamayun addressed the critical role of psychological safety in healthcare settings, outlining practical strategies to transform team culture from silence to accountable candor.

ABSTRACT:

In healthcare, the ability to speak up without fear can be the difference between harm and healing. Psychological safety knowing that one's voice will be heard and respected is now seen as a foundation of effective, resilient teams. When team members feel safe to share concerns, ask questions, or admit mistakes, patient care improves, learning deepens, and burnout declines. Yet many workplaces still struggle with silence, hierarchy, and punitive systems that discourage openness.

This presentation explores how psychological safety can be moved from theory to everyday practice. Drawing on evidence from international studies and frontline healthcare experiences, it highlights the personal, team, and organizational factors that shape whether staff feel safe or silenced. Real-world examples illustrate the costs of eroded trust, as well as the gains that emerge when leaders create space for respectful dialogue, role clarity, and fair handling of errors. Practical tools, such as the "speaking-up ladder" and simple debriefing routines, are presented as strategies to help teams practice accountable candor.

The message is clear: psychological safety is not about being "nice" or lowering standards; it is about creating an environment where honesty, questioning, and learning are possible without fear. For healthcare systems, this is not a luxury but a necessity closely tied to patient safety, innovation, and staff well-being. By embracing small but consistent leadership actions, organizations can build cultures where trust is the norm, voices are valued, and better outcomes follow for both patients and providers.

Asst. Prof. Dep. of Science and Environmental Studies, The Education Uni of Hong KONG

Dr. Muhammad Tariq Khan

From Stigma to Solutions: Technology and Policy in Mental Health Reform - VIRTUAL

Dr. Muhammad Tariq Khan discussed the environmental and public health imperatives of effective medical waste management, outlining key risks and essential mitigation strategies.

ABSTRACT:

Healthcare facilities generate significant amounts of medical waste, posing serious environmental and health risks to patients, healthcare workers, and the public. Improper handling, storage, and disposal of medical waste can lead to the spread of infectious diseases, injuries, and environmental contamination. This review highlights the types and sources of medical waste, associated risks, and the importance of implementing universal precautions to mitigate these risks. Effective waste management strategies, including segregation, disinfection, and proper disposal, are crucial to minimizing the adverse impacts of medical waste. Healthcare facilities must prioritize staff training, adherence to guidelines, and continuous monitoring to ensure a safe environment for patients, workers, and the community.

Professor of Clinical Psychology, National University of Medical Sciences (NUMS), Rawalpindi

Prof. Dr. Muhammad Rizwan

Climate Change and Mental Health: A Growing Global Crisis

Prof. Dr. Muhammad Rizwan addressed the profound psychological impacts of climate change, emphasizing the urgent need for integrated mental health support within climate adaptation frameworks.

ABSTRACT:

Climate change has emerged as one of the greatest health challenges of the 21st century, extending far beyond environmental degradation to profoundly impact psychological well-being. Pakistan, among the most climate-vulnerable countries, has witnessed devastating floods, record- breaking heatwaves, and shifting monsoon patterns that have displaced communities, disrupted livelihoods, and increased psychological distress. Globally, similar weather crises from Europe's lethal heatwaves to South America's mega floods highlight the growing burden of climate- related trauma, anxiety, depression, and eco-anxiety. This presentation highlights the interconnectedness of climate disasters and mental health, emphasizing the disproportionate risks faced by women, children, and marginalized groups. It further outlines clinical and community- based responses, ranging from psychological first aid to resilience-building strategies. Urgent integration of mental health support into climate adaptation policies is essential for reducing human suffering and fostering collective resilience. Climate change is not only an environmental crisis; it is a mental health emergency demanding immediate action.

Consultant Clinical Psychologist, Department of Psychiatry, ATH, Abbottabad

Dr. Sadaf Nazir

Empowering Youth Through DBT: A Pathway From Trauma to Emotional Resilience

Dr. Sadaf Nazir discussed the application of Dialectical Behavior Therapy (DBT) as an effective intervention for treating psychological sequelae in child survivors of sexual abuse, based on a controlled clinical study.

ABSTRACT:

Childhood sexual abuse (CSA) is a prevalent form of trauma with serious psychological consequences, including anxiety, depression, and posttraumatic stress disorder (PTSD) (Jin et al., 2022). In Pakistan, there is a lack of specialized treatment for sexually abused children. This experimental study examined the effectiveness of dialectical behavior therapy (DBT) in reducing CSA-related PTSD, anxiety, and depression among 32 children who were victims of contact sexual abuse (rape and sodomy). Participants were randomly assigned to either a DBT intervention group (n = 16) or a wait-list control group (n = 16). Four standardized measures were used: PROMIS Pediatric Anxiety and Depression Scales (v2.0), Child PTSD Symptom Scale for DSM-V (CPSS-V-SR), and Raven's Progressive Matrices (Child Version). Findings revealed statistically significant reductions in PTSD, anxiety, and depression symptoms in the DBT group compared to controls, highlighting DBT's potential as an effective treatment modality for CSA survivors in Pakistan.

TITLE: ROLE OF AI IN CLINICAL DECISION-MAKING

Assistant Professor- Institute of Public Health

Dr. Rabia Islam

Climate Change and Artificial Intelligence; A Review of Methods and Application

Dr. Rabia Islam addressed the transformative potential of artificial intelligence in mitigating climate change impacts, specifically through enhanced weather forecasting and disaster management systems.

ABSTRACT:

Background: Climate change is a serious global issue, characterized by rising temperatures, irregular weather patterns, and an increase in the frequency of catastrophic weather events like floods and droughts. These shifts have major implications for environmental sustainability, public health, food security, and economic stability. Artificial Intelligence (AI) has developed as a potent tool, providing novel solutions for weather forecasting and catastrophe management in response.

Objective: The review aims to assess the role of AI in climate change mitigation particularly in the domain of weather forecasting and flood management. The purpose is to provide insight to policy makers and researchers on how can facilitate in better planning and decision making.

Review: Climate and flood forecasting is being revolutionized by artificial intelligence (AI) technologies including support vector machines (SVM), convolutional neural networks (CNN), artificial neural networks (ANN), and deep learning (DL). By digesting big, complicated datasets and producing long-term, real-time forecasts, these models perform better than traditional methods. AI's superior accuracy in mapping flood-prone areas and facilitating prompt responses is demonstrated by case studies from multiple nations. There nonetheless remain issues, like as high computing energy requirements, biased data, and ethical challenges with autonomy.

Conclusion: AI appears as revolutionary approach in risk management associated with climate change. Preparedness and resilience can be greatly enhanced by incorporating AI into national planning and disaster response frameworks. Its constraints must be tackled while the potential can be fully realized through continuous research and legislative support.

Assistant Professor - City University of Hong Kong

Dr. He Quiyang

From Data to Decisions: How AI is Reshaping Healthcare - VIRTUAL

Dr. He Quiyang discussed the transformative impact of artificial intelligence across the healthcare spectrum, from clinical diagnostics to systemic administration, while outlining critical future challenges.

ABSTRACT:

Transforming Healthcare with Artificial Intelligence

Artificial Intelligence (AI) is revolutionizing healthcare by enhancing diagnostics, accelerating drug discovery, and enabling personalized patient care. This presentation explores AI's transformative role across three critical domains:

1. Core Capabilities:
   - AI analyzes medical data (e.g., X-rays, genomics) with 80% higher accuracy than humans, automating administrative tasks to save 25%+ time for clinicians.
   - Enables precision medicine through genetic/lifestyle-based treatment personalization.
2. Key Applications:
   - Diagnostics: AI detects tumors, fractures, and diseases in medical imaging.
   - Drug Development: Cuts discovery time by 50% via target identification, compound screening, and clinical trial optimization.
   - Patient Care: Remote monitoring (wearables), chronic disease management (diabetes), and AI-guided surgery improve outcomes.
3. Future & Challenges:
   - Opportunities: AI-IoT integration, predictive public health, and virtual health assistants.
   - Critical Hurdles: Data privacy risks, algorithmic bias, regulatory gaps, and talent shortages.
4. Conclusion: Successful AI integration demands collaboration among governments, healthcare providers, and tech innovators to address ethical, technical, and operational challenges, ultimately enabling a future of accessible, personalized, and error-resilient healthcare.

Associate Dean—Graduate Studies & Professor of Medical Education, Aga Khan University, Karachi, Pakistan

Prof. Dr. Shahid Shamim

Progress With Integrity: Ethics of Using AI in Medical Research - VIRTUAL

Prof. Dr. Shahid Shamim addressed the critical ethical imperatives surrounding the integration of artificial intelligence into medical research, emphasizing the need for frameworks that align technological progress with core human values.

ABSTRACT:

Artificial intelligence (AI) is rapidly transforming medical research worldwide, promising efficiency, cost reduction, and new opportunities for discovery. In Pakistan, where resources are often limited, AI offers the potential to overcome traditional barriers by enhancing data analysis, simulating research outcomes, and supporting early-career researchers. Yet, with these opportunities come serious ethical challenges. This talk addresses the central question: How can we ensure that progress in AI-driven medical research is guided by integrity, fairness, and accountability? The discussion focuses on four key domains: Research Design, Research Conduct, Equity and Justice, and Accountability. The keynote highlights the urgent need to strengthen ethical review mechanisms, build capacity among Pakistani researchers, and develop national policies on data governance. It argues that Pakistan must embrace AI in medical research, but with integrity, ensuring that innovation does not outpace ethics, and that technology remains a servant of human values.

Controler Examination,
Women Medical College,
Abbottabad.

Mr. Wadeed Ul Jannan

Using AI in Clinical decision making, diagnostics and Medical imaging for accurate disease detection and analysis.

Mr. Wadeed Ul Jannan discussed the transformative role of artificial intelligence in enhancing diagnostic accuracy and clinical decision-making, while also acknowledging the practical and ethical challenges to its implementation.

ABSTRACT:

The impact of Artificial Intelligence (AI) technologies is growing across sectors of health care including biomedical data management, clinical data analysis, and health care management. AI is capable of analyzing clinical data, thanks to the advancement of machine learning, natural language processing, and deep learning technologies. AI strengthens pattern recognition in diagnostics which enables the more reliable and timely identification of complex diseases such as cancer, cardiovascular, and neurological diseases. Tools powered by AI contribute to the automation of the interpretation of images, the identification of human error, and assist radiologists in the recognition of subtle changes which is beyond the normal vision range. In addition, AI technology helps physicians make informed decisions by synthesizing patient information from a variety of data repositories to formulate evidence-based treatment recommendations, and advanced predictive analytics. The studies have confirmed that AI can diagnose the radiological images with same accuracy as that of a radiologist, where a radiologist might miss or skip a info AI can help in diagnosing those possibility. AI is capable of improving the precision of diagnosis and aiding in the tailoring of treatment plans as well as aiding in the precision of medicine. AI technology, however, faces some objections which stem from a lack of privacy of data, the unexplainable character of the algorithms used, and untested in practice clinical diagnostics problems, the application of AI technologies in the medical field is expected to change the way in which diseases are diagnosed and the analysis of medicine.

Assistant Professor- Institute Of Public Health Lahore

Dr. Saba Saleem

Role Of AI in Detecting Pulmonary Nodules on Chest X-Rays using CT Scan as a Gold Standard

Dr. Saba Saleem addressed the efficacy of artificial intelligence as a diagnostic aid for detecting pulmonary nodules on chest radiographs, with computed tomography serving as the definitive reference standard.

ABSTRACT:

The detection of pulmonary nodules on chest X-rays (CXRs) is a critical step in the early diagnosis of lung cancer, yet it remains challenging due to anatomical overlap, low contrast, and inter-reader variability. This study evaluates the diagnostic performance of a deep learning-based artificial intelligence (AI) algorithm for the automated detection of pulmonary nodules on posterior-anterior (PA) CXRs, using high-resolution computed tomography (CT) scans as the gold standard for confirmation. A retrospective analysis was conducted on a dataset of 1,850 paired CXR and CT studies from a tertiary care institution. The AI model, a convolutional neural network (CNN) optimized for nodule detection, was trained and validated on annotated imaging data. Performance metrics, including sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and area under the receiver operating characteristic curve (AUC), were calculated. The AI system demonstrated a sensitivity of 94.2% and a specificity of 88.7% for nodule detection, with an AUC of 0.96. In subgroup analysis, the model maintained high performance across nodules of varying sizes (≥4 mm) and densities. Compared to standalone radiologist interpretation, the AI-assisted review significantly reduced false-negative rates and improved detection confidence for subtle nodules obscured by cardiomediastinal structures. The findings indicate that AI can serve as a highly sensitive and reliable decision-support tool in the initial screening of pulmonary nodules on CXRs, potentially enabling earlier referral for definitive CT evaluation and streamlining diagnostic pathways in resource-constrained settings.

Principal Narowal Medical College

Prof. Dr. Ch. Muhammad Kamran

AI in Robotic Surgery

Prof. Dr. Ch. Muhammad Kamran addressed the integration of artificial intelligence into robotic surgical systems, examining its role in enhancing precision, autonomy, and intraoperative decision-making.

ABSTRACT:

The convergence of artificial intelligence (AI) and robotic-assisted surgery is defining a new frontier in minimally invasive intervention, aiming to transcend the limitations of human dexterity and cognitive load. This presentation examines the multifaceted applications of AI within the robotic surgical ecosystem, focusing on three core domains: enhanced perceptual awareness, predictive analytics, and semi-autonomous task execution. AI algorithms, particularly computer vision and deep learning models, are being integrated to provide real-time tissue characterization, instrument tracking, and anatomical segmentation, thereby augmenting the surgeon's visual field and reducing perceptual errors. Furthermore, machine learning models analyze multimodal intraoperative data including histopathology, vital signs, and surgical video to predict patient-specific operative risks, recommend optimal surgical corridors, and forecast potential complications. The evolution towards conditional autonomy is explored through AI-driven subsystems capable of performing defined, repetitive tasks such as suturing and dissection under surgeon supervision, enhancing consistency and reducing procedural fatigue. Critical technical challenges, including latency minimization, data integration from heterogeneous sources, and the development of explainable AI for clinical trust, are discussed. The ethical and regulatory imperatives for ensuring safety, accountability, and equitable access to this advanced technology are also highlighted. By synthesizing current research with clinical case studies, this analysis posits that AI is not poised to replace the surgeon but to create a synergistic partnership, leading to a new paradigm of data-driven, precision-enhanced robotic surgery that improves patient outcomes, standardizes surgical excellence, and personalizes the operative journey.

TITLE: INNOVATIONS IN MEDICAL EDUCATION AND RESEARCH

HOD Dental Education,
Women Medical College

Dr. Muhammad Abdullah Qazi

Implementation and Evaluation of a Needs-Based Faculty Development Programme in a Medical College of Pakistan: A Mixed Methods Action-Research

Dr. Muhammad Abdullah Qazi discussed the systematic design, execution, and outcomes of a tailored faculty development program implemented within a women's medical college.

ABSTRACT:

Objective: To implement and evaluate a needs-based faculty development programme in a female-only medical college.

Method: The mixed methods study was conducted in 2022-23 at the Women Medical and Dental College, Abbottabad, Pakistan. The faculty needs assessment was conducted in February 2022 using an online questionnaire, followed by identification of institutional needs through consultation in various organisational forums. Faculty development activities were planned and implemented in 2022-23 based on the needs assessment. At the end of each faculty development activity, the participants were asked to fill a feedback questionnaire. At the conclusion of the programme, 10 individual semi-structured face-to-face interviews were conducted, and the data was thematically analysed to evaluate the programme.

Results: Areas including development of multiple choice questions, use of teaching aids, medical education research, curriculum development, leadership in medical education, time management, and small group interactive teaching were identified during the needs assessment phase. The total average feedback score for all activities combined was 4.2 out of 5 (SD = 0.17), with positive feedback in open-ended questions. Five core themes emerged from the interview data: teaching skills development, applicable content, needs-based programme, networking opportunities, and learner-centred activities.

Conclusion: Faculty development programmes should be needs-based, and should focus on context-specific content, learner-centred activities and networking opportunities. Continuous evaluation of the programme is an important element.

Assistant Professor –
Department of Medical
Education & Research,
Women Medical College.

Dr. Fatima Aman

Which Practice is Best to Manage the Hidden Curriculum for the Best Use of Mobile Devices in Clinical Practice? A Systematic Review.

Dr. Fatima Aman addressed the impact and management of the hidden curriculum surrounding mobile device use in clinical education, based on a systematic evaluation of international literature.

ABSTRACT:

Objective: To evaluate literature on practices to manage the hidden curriculum for optimal mobile device use in clinical practice.

Study Design: Systematic Review.

Setting: Articles from Canada, the United Kingdom, Japan, Ireland, and Saudi Arabia.

Period: July to December 2023.

Methods: Databases searched: PubMed (12,579), Cochrane Library (348), Scopus (84), PsycInfo (21), CINAHL (220), Google Scholar (1,414). Primary variable: evaluation of clinical skill development via mobile devices. Secondary variable: student satisfaction with mobile learning. Study quality was appraised using the Critical Appraisal Skills Programme (CASP) scale.

Results: Incorporating mobile devices into medical education yields varied effects. Participants frequently reported positive instructor perspectives, increased student involvement, and improved learning outcomes. Mobile devices accelerated students' technological competency and readiness for evolving healthcare. Interactive virtual simulations and applications positively impacted clinical skill development. Benefits included themes of individualization, collaborative learning, and enhanced understanding of patient-centered care. Identified challenges included the digital divide, distractions, and security threats, necessitating careful mitigation strategies. Overall, findings confirm the transformative potential of mobile device integration in creating a dynamic, technology-enhanced learning environment.

Conclusion: This study provides insight into the transformative effect of integrating mobile devices into medical education, indicating enhanced learning outcomes, increased student engagement, and shifted faculty perspectives.

Professor & Head, Department of Community Medicine, University College of Medicine, UOL

Prof. Dr. Hina Ahmad

Quality Assurance in Medical Research: Upholding Standards and Integrity

Prof. Dr. Hina Ahmad addressed the fundamental principles and critical importance of systematic quality assurance in maintaining the integrity and validity of medical research.

ABSTRACT:

Rationale and Background: Quality assurance (QA) in medical research is critical to maintaining scientific integrity, protecting human participants, and ensuring that findings are valid, reproducible, and ethically sound. In the era of rapid publications and technological advancements, the adherence to robust QA processes such as protocol standardization, data verification, ethical oversight, and regulatory compliance is more important than ever. This lecture aims to sensitize researchers and educators to essential QA principles, thereby contributing to the culture of excellence in research at Women Medical College and beyond.

MD, Medical Educator-Portsmouth Sain John Parosh, Dominica

Dr. Tatiana Lishmanova

Innovations in Medical Education for a Better Tomorrow - VIRTUAL

Dr. Tatiana Lishmanova addressed the supportive role of technological innovation in medical education, emphasizing that it must augment, not replace, the foundational clinical competence and responsibility of the physician.

ABSTRACT:

Innovation in medical education offers powerful opportunities to enhance learning, particularly through digital tools that make knowledge more accessible and training more efficient. However, my journey has shown that true competence in medicine is achieved through practice, with technology serving only as a supportive tool. Ultimately, the responsibility of the doctor remains central, and innovation must reinforce not replace this core principle to ensure better healthcare for tomorrow.

Associate Professor- School of Information Engineering, Yango University, Fuzhou, Fujian, China

Dr. Wasimullah Khan

Transforming Medical Education with Insights into Noninvasive Cuffless Blood Pressure Estimation Using Deep Learning - VIRTUAL

Dr. Wasimullah Khan addressed the development and validation of a deep learning model for accurate, non-invasive, and continuous blood pressure monitoring, highlighting its transformative potential for wearable healthcare technology.

ABSTRACT:

Advances in miniaturized wearable and sensor technologies drive demand for reliable systems enabling physiological signal-based, non-invasive continuous blood pressure (BP) monitoring. A deep learning approach using a Long-Term Recurrent Convolutional Network (LRCN) is utilized, combining convolutional neural network (CNN) and bidirectional long short-term memory (BiLSTM) networks to predict systolic (SBP) and diastolic (DBP) BP simultaneously, eliminating complex preprocessing of raw PPG signals. The model employs data-driven automatic feature extraction, reducing response time and computational load. The BP estimator was evaluated on the public MIMIC-II dataset and an in-house dataset of diverse subjects with and without cardiovascular complications. The model achieved unprecedented mean errors (ME) of -0.186 and 0.057 mmHg for SBP and DBP on MIMIC-II, and 0.255 and 0.941 mmHg on the in-house dataset. The model is generalized, performing well across demographics like health status and age without requiring customization. The result is an efficient, lightweight BP analysis microsystem for wearable healthcare applications.

Dean- Lahore Medical & Dental College, Lahore.
Chairman, Dep of Surgery, Cancer Care Hospital & Research centre

Prof. Dr. Majeed Chaudhry

Issues and Challenges in Research in Medical Education

Prof. Dr. Majeed Chaudhry addressed the historical evolution and contemporary imperative of upholding the highest ethical standards in medical research, emphasizing its critical role alongside clinical practice.

ABSTRACT:

Medical ethics has been there as for as the history goes. Starting with Hippocrates in Rome, ancient Egyptian to bioethics of post-world war era to the preset days. Research ethics is something relatively new in the medical profession. This presentation is aimed at sensitising the medical professionals to persevere with highest standards of not only practice of medicine but also the ethical demands as well. This session will explore the evolving ethical landscape, highlighting the critical intersection of established clinical morals with modern research imperatives such as informed consent, data integrity, and conflicts of interest. It underscores the necessity of a unified ethical commitment to uphold trust, ensure justice, and navigate the complexities introduced by technological advancement and globalization in healthcare.

TITLE: ADVANCING CANCER CARE THROUGH EARLY DETECTION, NANOTECHNOLOGY, AND ENHANCED SCREENING STARTEGY

Professor/Physician
Biotherapy Centre, the First Affiliated Hospital of Zhengzhou University China.

Prof. Yi Zhang

Clinical Practice of Cellular Immunotherapy for Cancer - VIRTUAL

Prof. Yi Zhang addressed the current landscape, clinical milestones, and ongoing challenges in applying adoptive immune cell therapies to the treatment of solid tumors.

ABSTRACT:

Cell-based immunotherapies are transforming cancer treatment, though their application in solid tumors remains challenging. This presentation explores the evolving landscape of adoptive immune cell therapies, including lymphokine-activated killer (LAK) cells, cytokine-induced killer (CIK) cells, natural killer (NK) cells, tumor-infiltrating lymphocytes (TILs), dendritic cell–cytotoxic T lymphocytes (DC-CTLs), and gene-modified platforms such as TCR-T, CAR-T, and CAR-NK. The approval of TIL therapy for unresectable melanoma marks a milestone in translating immune cell therapy to solid tumors. Key barriers include the immunosuppressive tumor microenvironment, intra- and inter-tumor heterogeneity, and limited in vivo expansion of therapeutic T cells. Early clinical trials with TILs, DC-CTLs, and novel CAR-T constructs (e.g., Claudin18.2, CD276-Glut3) demonstrate encouraging safety, durable responses, and disease control rates up to 100% in certain cohorts. Mechanistic studies, including single-cell RNA sequencing, reveal shifts in T cell subsets post-therapy and highlight the role of metabolic reprogramming (e.g., Glut3 overexpression) in enhancing anti-tumor efficacy. These findings underscore both the promise and complexity of immune cell therapies for solid tumors, emphasizing the need for innovative strategies to overcome tumor-induced resistance and optimize durable clinical benefit.

Specialist Registrar Oncology,
Ayub Teaching Hospital,
Ayub Medical College

Dr. Ibtisam

Cervical Cancer

Dr. Ibtisam addressed the epidemiology, pathogenesis, and global prevention and treatment strategies for cervical cancer, highlighting persistent disparities in healthcare access.

ABSTRACT:

Cervical cancer is a malignant tumor of the cervix, primarily caused by persistent infection with high-risk types of human papillomavirus (HPV). It remains one of the most common cancers affecting women worldwide, particularly in low and middle income countries where screening and vaccination programs are limited. The disease typically develops slowly, beginning with precancerous changes that can be detected through regular Pap smears or HPV testing. Early-stage cervical cancer may be asymptomatic, while advanced stages can present with abnormal vaginal bleeding, pelvic pain, or discharge. Prevention strategies, including HPV vaccination and regular cervical screening, have proven effective in reducing incidence and mortality rates. Treatment options vary based on the stage of cancer and include surgery, radiation therapy, and chemotherapy. Despite advancements in medical technology and awareness, disparities in healthcare access continue to challenge global efforts to eliminate cervical cancer. Ongoing research focuses on improving diagnostic techniques, expanding vaccination coverage, and developing targeted therapies.

Consultant Oncologist INOR Cancer Hospital, Abbottabad

Dr. Hajera Jabeen

Recent Advances in the Field of Radiotherapy

Dr. Hajera Jabeen addressed the rapid evolution of radiotherapy, highlighting innovations that enhance precision, personalization, and integration with systemic therapies.

ABSTRACT:

Radiotherapy continues to advance rapidly, with recent innovations significantly enhancing precision, safety, and overall treatment outcomes. Techniques such as intensity-modulated radiotherapy (IMRT), image-guided radiotherapy (IGRT), stereotactic body radiotherapy (SBRT), and proton therapy have refined dose delivery, allowing for better tumor control while minimizing exposure to surrounding normal tissues. The introduction of adaptive radiotherapy and the integration of artificial intelligence in treatment planning are further strengthening the shift toward individualized care. In parallel, research into radiomics, radiosensitizers, and the combination of radiotherapy with immunotherapy is expanding the therapeutic potential of this modality. Collectively, these advances represent a clear move toward precision oncology, offering patients more effective and better-tolerated treatment options.

Assistant Professor – Hong Kong Center for Cerebro-Cardiovascular Health Engineering, City University of Hong Kong

Dr. Li Wei

Innovations in Early Diagnosis and Nanotech-Driven Therapies - VIRTUAL

Dr. Li Wei addressed the development and application of a novel, non-invasive microfluidic platform for personalized cancer prognosis and treatment monitoring.

ABSTRACT:

A microfluidic-based tumor model platform using label-free liquid biopsy (LIQBP) was developed for patient-centric cancer prognosis. The platform integrates ellipsoidal microwell-based 3D cultures with a computational image analysis algorithm to assess cluster phenotypes, including size, thickness, roughness, and thickness per area. Clusters formed from cancer patients' blood samples significantly differed from healthy controls in morphology and phenotypic parameters. The LIQBP system achieved high sensitivity, specificity, and AUC in distinguishing patient groups. Its non-invasive, label-free operation enables rapid, personalized stratification and real-time monitoring of treatment response. This work highlights LIQBP's potential as a robust, scalable tool for decentralized oncology detection and individualized therapeutic evaluation.

College of Medicine,
Southwest University,
Chongqing P.R. China

Dr. Shahid Ullah Khan

Ruthenium Complexes Triggering Apoptosis: A Novel Anti-Tumor Strategy for Triple-Negative Breast Cancer - VIRTUAL

Dr. Shahid Ullah Khan addressed the synthesis, characterization, and potent anti-tumor efficacy of novel ruthenium-based complexes, demonstrating their mechanism of inducing apoptosis in triple-negative breast cancer models.

ABSTRACT:
A central objective in clinical oncology is developing therapeutic strategies to effectively trigger apoptosis in cancer cells. Ruthenium complexes have emerged as an anticancer strategy to combat multiple cancer forms. In this study, we synthesized 12 monofunctional ONS-donor salicylaldimine ligand-based Ru(II)(p-cymene) complexes (C1–C12). These complexes were characterized by 1H NMR, 13C NMR, UV and FT-IR spectroscopy, and high-resolution electrospray mass spectrophotometry. The structure of C7 was confirmed in the solid state by single-crystal X-ray analysis, revealing the ligand's orientation around the Ru(II) center. The complexes were investigated for anticancer activity against MDA-MB-231, 4T1, U87MG, and HeLa cells. Treatment caused a dose-dependent reduction in cell viability and survival rates. C2, C8, and C11 showed the most potent anti-tumor effects among the complexes. Migration assays, live/dead imaging, mitochondrial membrane potential (MMP) and clonogenic studies indicated that these complexes increased anti-tumor activity by enhancing caspase-3 and reducing Bcl-2 expression. Using the 4T1 breast cancer orthotopic mouse model, the efficacy of complex C8 was evaluated via bioluminescence metastatic windows, tumor weight/volume, H&E staining, IHC staining, and hematological tests. Protein expression showed apoptosis was induced by upregulating Caspase-3, cleaved caspase-3, and TNF-α, and downregulating Bcl-2. C8 treatment resulted in lasting survival and diminished tumor growth. These findings demonstrate the potential of these water-soluble monofunctional Ru(II) complexes for treating triple-negative breast cancer.

TITLE: ETHICAL DECISION-MAKING IN RESOURCE LIMITED CLINICAL SETTINGS & MEDICAL RESEARCH

Ex Pro VC Fatima Jinnah Medical University - Advisor CPSP

Prof. Dr. Shamsa Humayun

Challenges of Clinical Research

Prof. Dr. Shamsa Humayun addressed the systemic barriers impeding clinical research engagement among postgraduate trainees and students, proposing actionable strategies to cultivate a supportive research environment.

ABSTRACT:

Clinical research is essential to medical education and practice, advancing patient care and knowledge. Postgraduate trainees and students, however, face significant challenges engaging in research. This presentation outlines common barriers: limited research training, time constraints, complex regulatory and ethical requirements, insufficient mentorship, and restricted funding and resources. Additional obstacles include data collection difficulties, publication barriers, and psychological factors like fear of failure and burnout. Strategies to overcome these include integrating structured research education into curricula, providing protected research time, simplifying regulatory procedures, enhancing mentorship, and improving access to funding, resources, and publication support. Addressing these barriers is crucial to fostering a supportive environment that encourages trainee participation in clinical research.

Assistant Professor - Community Medicine, Ayub Medical College, Abbottabad

Dr. Zainab Nazneen

When Saving One Means Losing Another: Tragic Ethics in Resource Limited Hospitals

Dr. Zainab Nazneen addressed the profound ethical conflicts inherent in emergency triage within resource-constrained settings, analyzing them through core bioethical principles.

ABSTRACT:

Emergency department (ED) triage is indispensable for patient flow and resource optimization, yet it creates profound ethical dilemmas when life-saving interventions cannot be provided to all. This presentation examines triage through the principles of autonomy, nonmaleficence, beneficence, and justice. In urgent situations, patient autonomy is often compromised, though clear, compassionate communication remains vital for preserving dignity and trust. Nonmaleficence includes preventing psychosocial suffering from overcrowding, delays, and poor communication. Beneficence obliges acting in patients' best interests, prioritizing those most likely to benefit while balancing efficiency and caution in allocation. Justice requires a fair distribution, balancing equality, utility, and priority for the worst-off. Using ethical analyses and global frameworks, this session shows how principled fairness, transparency, and human-centered approaches guide triage officers in morally sound decision-making under pressure. Ethical triage planning is essential for protecting patient outcomes and public trust in health systems.

Professor of Surgery
Abbottabad International
Medical College, Abbottabad

Prof. Dr. Irfan-ud-Din Khattak

Are We Doing Enough for Our Patients in a System with Limits?

Prof. Dr. Irfan-ud-Din Khattak addressed the pervasive and complex ethical challenges faced by physicians working within the systemic constraints of low-resource healthcare environments.

ABSTRACT:

Doctors in low- and middle-income countries work in situations where ethical dilemmas are inseparable from everyday practice. Scarcity of medicines, limited hospital resources, financial hardship of patients, and weak policy frameworks all shape the care that can realistically be offered. When the foundations of a system are weak, like a crooked first brick that leads to a crooked wall, ethical challenges multiply. This presentation examines how the principles of autonomy, beneficence, non-maleficence, and justice are tested in Pakistan's healthcare context. Poverty, family pressures, education gaps, and professional conflicts of interest influence decision-making at the bedside. Fee for service models, rationing of services, and the absence of clear ethical guidelines further complicate the physician's role. Doctors often feel caught between their duty to individual patients and the demands of institutions, families, and society, leading to moral distress and erosion of trust.

Rather than offering solutions, this talk aims to sensitize the participants towards these important issues, and to encourage them to identify and reflect on these contextual ethical challenges in their own settings. The session will encourage recognition of conflicts that the physicians face every day whether choosing between patients for limited resources, negotiating with families, or struggling without adequate guidance.

The discussion will center on a single question: in a system with limits, are we doing enough for our patients, or have we allowed systemic weaknesses to compromise our professional role as healers and life savers (Messiahs)?

Take away message: In resource-limited settings, recognizing ethical challenges is the first step towards fulfilling a physician's role as an ethical professional.

MBBS, FCPS, DCPS-HPE, MCPS-HPE, MRCPsych (UK), D-CBT (Oxford)
Professor of Psychiatry & Behavioral Sciences

Prof. Dr. Mowadat Hussain Rana

Navigating Ethical Dilemmas in AI-Powered Healthcare - VIRTUAL

Prof. Dr. Mowadat Hussain Rana addressed the emerging ethical challenges for physicians in an AI-driven healthcare landscape and proposed curricular and policy reforms to prepare future doctors.

ABSTRACT:

The paper identifies the ethical dilemmas and challenges that the doctors of tomorrow are likely to face in a world of health care dominated by artificial intelligence and robotics. The speaker offers cogent ways forward to deal with these tougher times and proposes changes in curricula and health policies required to equip the doctors of tomorrow to deal with those challenges. Specifically, the presentation will examine issues of algorithmic accountability, the erosion of human agency in clinical decision-making, and the potential for bias in machine-driven diagnostics. It advocates for embedding ethical AI literacy into medical training and fostering policy frameworks that balance innovation with the preservation of core medical values, ensuring future physicians are prepared to lead with both technical competence and moral clarity.

Professor & Head, Department of Community Medicine, University College of Medicine, UOL

Prof. Dr. Hina Ahmad

Quality Assurance in Medical Research: Upholding Standards and Integrity

Prof. Dr. Hina Ahmad addressed the fundamental principles and critical importance of systematic quality assurance in maintaining the integrity and validity of medical research.

ABSTRACT:

Rationale and Background: Quality assurance (QA) in medical research is critical to maintaining scientific integrity, protecting human participants, and ensuring that findings are valid, reproducible, and ethically sound. In the era of rapid publications and technological advancements, the adherence to robust QA processes such as protocol standardization, data verification, ethical oversight, and regulatory compliance is more important than ever. This lecture aims to sensitize researchers and educators to essential QA principles, thereby contributing to the culture of excellence in research at Women Medical College and beyond.

TITLE: STRENGTHENING HEALTHCARE THROUGH ACADEMIC–CLINICAL PARTNERSHIP

Principal & Assistant Professor
Jinnah College of Nursing
Abbottabad

Dr. Tariq Siraj Qazi

Bridging Education and Practice: A Nursing Perspective on Academic – Clinic Partnership

Dr. Tariq Siraj Qazi addressed the critical role of structured academic-clinical partnerships in enhancing nursing education and bridging the gap between theoretical learning and practical application in Pakistan.

ABSTRACT:

This presentation highlights the concept and significance of academic-clinical partnerships in nursing, emphasizing their role in bridging the gap between classroom learning and real-world practice. It identifies key challenges faced in nursing education and practice in Pakistan, including limited clinical supervision, overcrowded hospitals, and inconsistent evaluation systems. The discussion further explores strategies to strengthen partnerships through structured collaborations, preceptor training, and joint research initiatives. Expected outcomes include improved clinical competence, enhanced patient care, and the development of a stronger, future-ready nursing workforce and healthcare system.

Assistant Professor – Hong Kong Center for Cerebro-Cardiovascular Health Engineering, City University of Hong Kong

Dr. Muhammad Shehzad Khan

Personalized Medicine: From Genomics to Clinical Practice - VITRUAL

Dr. Muhammad Shehzad Khan addressed the integration of genomic science into clinical care, outlining its transformative potential, current applications, and the challenges to its equitable implementation.

ABSTRACT:

Personalized medicine represents a transformative approach in healthcare, leveraging genomic data to tailor diagnostic, therapeutic, and preventive strategies to individual patients. Advances in high-throughput sequencing, bioinformatics, and multi-omics integration have enabled the identification of genetic variants, biomarkers, and molecular pathways underlying disease susceptibility and drug response. Key applications include pharmacogenomics, where genomic profiling guides optimal drug selection and dosing, and cancer genomics, where tumor sequencing informs targeted therapies. Despite significant progress, challenges remain in data interpretation, clinical validation, and equitable implementation. Ethical considerations, such as patient privacy and genetic discrimination, must also be addressed. This presentation explores the transition of genomic discoveries into clinical practice, highlighting case studies in oncology, cardiology, and rare diseases. Additionally, we discuss emerging technologies, such as CRISPR-based gene editing and AI-driven predictive modeling, that are further advancing precision medicine. By integrating genomic insights with electronic health records and real-world evidence, personalized medicine promises to enhance therapeutic efficacy, reduce adverse effects, and improve patient outcomes. The goal is a paradigm shift from reactive to proactive, patient-centred care, ensuring broader adoption in routine clinical settings.

Additional Director QEC, University of Child Health Sciences Lahore. Visiting Professor of Pediatrics - University of Lahore. President, Medical Women's Association of Pakistan

Dr. Wajiha Rizwan

Community-Based Medical Education as a Catalyst for Strengthening Healthcare: A Hub and Spoke Partnership Model

Dr. Wajiha Rizwan discussed a transformative model for integrating postgraduate medical education with primary healthcare delivery to address community health needs and foster social accountability.

ABSTRACT:

This talk explores how Community-Based Medical Education (CBME) can be strategically used to strengthen healthcare delivery in Pakistan by integrating postgraduate residency training with primary healthcare services. Despite reforms at the undergraduate level, postgraduate training remains centered in tertiary care hospitals, limiting exposure to real community health challenges.

The presentation proposes a practical hub and spoke model where tertiary care teaching hospitals act as academic hubs and primary healthcare centers serve as training spokes. Through mandatory rotations of postgraduate residents to these peripheral centers, the model aims to align clinical training with public health needs.

By adopting this model, primary healthcare centers will gain an academic role, fostering research, data generation, and clinical collaboration. Ultimately, the approach seeks to improve community health outcomes, reduce unnecessary referrals, and build a more socially accountable medical education system.

Department of Orthopedic Surgery, The Seventh Affiliated Hospital of Sun Yat Sen University, Shenzhen, China

Dr. Ariful Haque

Bridging Theory and Practice in MBBS Education Clinical-Academic Partnerships in Bangladesh and China - VIRTUAL

Dr. Ariful Haque examined the integration of theoretical knowledge and clinical practice in MBBS education, comparing the systems of Bangladesh and China and proposing a collaborative model for improvement.

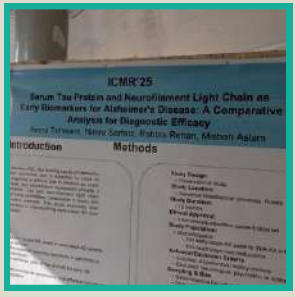
ABSTRACT:

Medical education is at a critical juncture, as effectively bridging theory and practice in MBBS training remains a global concern. Classroom-based instruction provides essential scientific knowledge, but students often struggle to translate this into competent, confident, and safe patient care, resulting in underconfidence, poor clinical judgment, and insufficient procedural skills. Addressing this is vital for ensuring newly qualified doctors meet global standards.

This presentation examines the clinical-academic integration of MBBS education in Bangladesh and China. In Bangladesh, the BMDC curriculum emphasizes early clinical exposure, with ward rotations starting in the third year and a full-year internship offering substantial patient contact. The system benefits from high patient volumes and early bedside learning but faces challenges like limited simulation facilities and overcrowded student groups. In contrast, Chinese MBBS training uses a structured, phased approach: foundational sciences in the first two years, followed by clinical training and a compulsory full-year internship, plus an additional post-MBBS residency (Guīpéi) for extended supervised practice. This model is supported by advanced simulation labs, diverse assessments like OSCEs and Mini-CEX, and rigorous integration of simulated and real patient evaluations.

COMPETITIONS

ICMR'25 featured a vibrant series of academic competitions that energized the conference and showcased the intellectual vigor of its participants. The **Poster Competition** provided a dynamic forum for researchers to visually present their work, fostering in-depth discussions and peer feedback in an interactive setting. The **Short Communication Competition** challenged participants to distill complex studies into concise, powerful presentations, emphasizing clarity and impact. In the **Research Drill Competition**, presenters defended their methodologies and interpretations under expert critique, rigorously testing the robustness of their scientific inquiry. Complementing these research-focused events, the **Quiz Competition** engaged teams in a lively battle of medical knowledge, covering vast domains of clinical and basic sciences. Together, these competitions not only recognized and rewarded excellence but also cultivated a spirit of critical thinking, collaborative learning, and healthy competition among aspiring and established medical professionals.

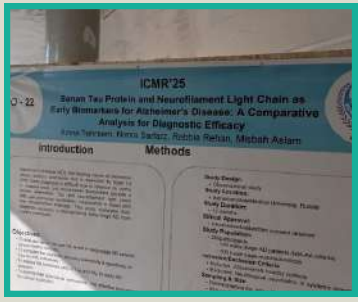


POSTER COMPETITION

ICMR’25 Poster Competition Highlights Undergraduate and Postgraduate Research Excellence

The International Conference on Medical Research (ICMR’25) hosted a poster competition on **30 August 2025** at the Forensic Department Veranda. Undergraduate and postgraduate students presented innovative research, evaluated by judges including **Prof. Dr. Iftikhar Qayyum, Prof. Dr. Umar Hayat, Dr. Angelique Coetzee, and Dr. Mubashar Iftikhar**.

Winners included **Haris ur Rehman (1st UG, Vitamin D in Cardiovascular Diseases)** and **Dr. Sathia Qazi (1st PG, Pediatric Dental Trauma Reporting)**. Certificates and shields were awarded to participants and judges in recognition of their contributions.



SHORT COMMUNICATION COMPETITION

ICMR'25 Short Communication Competition 30 August 2025
The International Conference on Medical Research (ICMR'25) hosted a Short Communication Competition on **30 August 2025** in the Skills Lab. Moderated by **Hania** and **Laiba**, the event featured **6 undergraduate groups** and **10 postgraduate participants**, with judging by **Prof. Dr. Shahid, Dr. Zainab Nazmeen, and Prof. Dr. Amir**.

Undergraduate winners: Nayab Bano, Nimra Azhar, Irej Waheed, Rimsha (1st). Postgraduate winners: Dr. Abdullah Qasim (1st). The competition highlighted academic excellence and effective research communication.






RESEARCH DRILL COMPETITION

ICMR'25 Research Drill Competition 30 August 2025
The International Conference on Medical Research (ICMR'25) hosted a Research Drill Competition on **30 August 2025** in the IT Lab. Moderated by **Sobia Saeed**, **10 teams** developed proposals on **"Multi-Drug Resistant TB: Are We Losing the Fight?"** under timed conditions, with judging by **Dr. Saima Manzoor, Dr. Sameena Malik, and Dr. Maria Hidayat**.

Winners: **Group D-02 (1st: Areeba Rukhsar, Kiran Maqsood, Urooj Farooq, Tooba Irshad)**. Certificates and shields were awarded at the **gala dinner**. The event emphasized critical research methodology and thematic analysis skills.

QUIZ COMPETITION

ICMR’25 Quiz Competition 30 August 2025

The International Conference on Medical Research (ICMR’25) hosted a Quiz Competition on **30 August 2025** in the Main Auditorium. Moderated by **Zaheda Pathan, Fatima Khan, Nayab, and Irej**, the event featured **24 teams** tested on medical knowledge through **rapid-fire rounds, clinical cases, and evidence-based challenges**. Judging was led by **Prof. Dr. Asma Shaukat, Prof. Dr. Ommaiyya Kalsoom, and Dr. Amber Shami**.

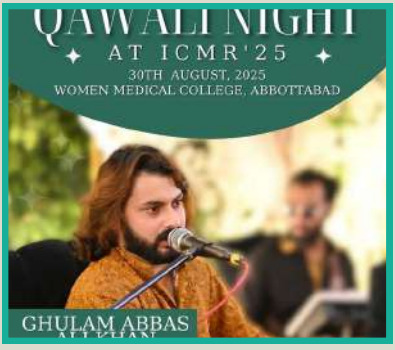
Winners: **Bilal Ahmad, Abdur Rehman, and Maryam Alam Wazir (1st place)**. Certificates and prizes were awarded to all position holders, highlighting excellence in collaborative medical knowledge.

STALLS

ICMR'25 was notably enhanced by the active participation of **prominent pharmaceutical companies**. Their informative stalls provided a critical industry perspective, showcasing the **latest advancements in medicine and therapeutics**, and bridging the vital link between **academic research and real-world healthcare application**. In addition to these scientific exhibits, the conference venue also featured **local stalls representing diverse businesses**, including **handcraft stalls** and many more, which added a vibrant community dimension to the event. A variety of **food stalls** were also arranged, offering diverse culinary options for attendees throughout the conference, ensuring convenience and enhancing the overall experience alongside the academic programming.

GALA DINNER

Following the conference, the celebrations culminated in a distinguished **Gala Dinner**, arranged to honor a parallel landmark occasion: the **Silver Jubilee** of Women Medical College. This elegant evening, commemorating 25 years of educational excellence and service, served as a heartfelt tribute to the institution's legacy. The **Gala Dinner and Musical Night** thus became a dual celebration of a quarter-century of achievement and the collaborative spirit that continues to drive the college forward.



AWARD CEREMONY

The event was further elevated by a ceremonial recognition of the individuals whose dedication made ICMR'25 a success. **Commemorative shields** were presented to the **supporting diligent student directors/organizers**, the tireless **staff members** of the organizing committee, and the **chief organizers**. This gesture of appreciation underscored the collective effort behind the milestone, weaving the success of the conference into the broader tapestry of the college's celebratory year.

CLOSING CEREMONY

On 31 August 2025, the International Conference on Medical Research (ICMR'25) concluded at **Women Medical College Abbottabad**. Chief Guest **Prof. Dr. Tahir Irfan Khan, Vice Chancellor of AUST**, commended the conference's success and its focus on integrating technology with medical research and ethics. He praised the platform it created for experts to address healthcare challenges and contribute to Pakistan's academic landscape. He extended special appreciation to **Principal Prof. Dr. Salma Aslam Kundi** for her visionary leadership and acknowledged the collective effort of the college's faculty and staff. He personally distributed **commemorative shields** to all keynote speakers, recognizing their contributions, and expressed confidence that the connections forged at **ICMR'25** would inspire continued innovation and strengthen the institution's future role in medical education and research.

CLOSING CEREMONY

The ICMR'25 closing ceremony concluded with keynote speakers presenting on their respective research areas, reinforcing the conference's themes of medical innovation and collaboration for future healthcare advancement.

Prof. Dr. Mulazim Hussain Bukhari, President of the Pakistan Association of Pathologists, speaking on The Correlation of Clinical and Pathology Findings for Accurate Diagnosis and Effective Treatment of Diseases.

Prof. Dr. Umar Ali Khan, Pro Vice Chancellor of Isra University, speaking on Happiness.

Prof. Dr. Ashraf Nizami, First Vice President of CMAAO and President of PMA Lahore, speaking on Challenges in Medical Education, Professional Progress & Health Care.

Prof. Dr. Samina Malik, HOD Physiology UCMD, UOL, and President of SAAP, speaking on Early Diagnosis of Breast Cancer: Bridging Molecular Insights and Public Health for Better Prognosis.

Prof. Dr. Shabih H. Zaidi, Chair and Dean of Al Sadiq International Virtual University (SIVU), speaking on Development of a Virtuous Health Worker – **VIRTUAL**.

Prof. Dr. Rashid Mehmood, HOD Physiology at Rehman Medical College, Peshawar, and President of the Pakistan Physiological Society & Pakistan Academy of Family Physicians, speaking on The Role Model Teacher: from Student's Perspective.

CLOSING CEREMONY






The organizing committee of ICMR'25 extends its deepest gratitude to **Principal WMC Prof. Dr. Salma Aslam Kundi** for her visionary leadership and unwavering support, which were foundational to the conference's success.

We are also profoundly thankful to our esteemed pharmaceutical companies **Indus Pharma, Sami Pharma, AGP Pharma, Macter Pharma, Hilton Pharma, Highnoon Pharma and Bosch Pharma** for their Collaboration and commitment to advancing medical research.

Special appreciation is extended to **Managing Director Dr. Azhar Jadoon**, **Miss Suha Khan, Dr. Uswa Noor Jadoon, Dr. Maidha Jadoon, Dr. Fatima Aman, Dr. Saima Manzoor**, and every member of the technical and support teams whose exceptional dedication ensured the seamless execution of the event. ICMR'25 has reinforced our resolve to establish a dedicated Breast Cancer Center and continue vital flood rehabilitation efforts, as we steadfastly advance our mission of empowering women in medicine.

COLLABORATORS