

INTERNATIONAL CONFERENCE ON MEDICAL RESEARCH (ICMR'25)

ABSTRACT BOOKLET



KEYNOTE SESSIONS

TOPIC: BRIDGING GAPS BUILDING FUTURES: INTEGRATING CLINICAL PRACTICE, RESEARCH AND EDUCATION IN THE 21ST CENTURY

Dr. Angelique Coetzee

Former Chairperson South Asian Association

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.

TOPIC: THE ROLE OF AI IN CLINICAL DECISION MAKING

Dr. M. Mubashar Iftikhar

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

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.

TOPIC: STRENGTHENING HEALTH CARE THROUGH ACADEMIC & CLINICAL PARTNERSHIP

Prof. Dr. Ejaz Hassan Khan

Vice Chancellor Gandhara University, Peshawar

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.

TOPIC: AI ETHICS AND FUTURE OF CLINICAL RESEARCH

Prof. Dr. Mariyah Hidayat

University College of Medicine, Pakistan

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, and misinformation 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.

TOPIC: THE CORRELATION OF CLINICAL AND PATHOLOGY FINDINGS FOR ACCURATE DIAGNOSIS AND EFFECTIVE TREATMENT OF DISEASES.

Prof. Dr. Mulazim Hussain Bukhari

President Pakistan Association of Pathologists

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.

TOPIC: HAPPINESS

Prof. Dr. Umar Ali Khan

Pro Vice Chancellor Isra University

ABSTRACT:

Happiness and mental health are deeply intertwined, forming a dynamic relationship that influences overall well-being, cognitive functioning, and quality of life. Emerging research in psychology and neuroscience demonstrates that happiness is not merely a fleeting emotion, but a measurable component of mental wellness—with significant implications for disease prevention, treatment outcomes, and patient care.

This presentation explores happiness as both a protective factor and therapeutic target in mental health interventions. It delves into positive psychology's emphasis on cultivating strengths, resilience, and meaning, alongside evidence-based approaches such as mindfulness, gratitude practices, and cognitive behavioral strategies that enhance emotional regulation. Happiness is increasingly recognized for its role in buffering stress, reducing anxiety and depression, and promoting neuroplasticity.

Cross-cultural studies reveal nuanced understandings of happiness, with socio-economic factors, personal relationships, and cultural norms shaping its expression. In clinical practice, integrating happiness-promoting techniques can significantly improve patient engagement and recovery, making it a vital focus for mental health professionals and healthcare systems worldwide.

By reframing happiness as an essential component—not a luxury—in mental health, this talk advocates for its inclusion in public health agendas and clinical models. Understanding the science and applications of happiness may unlock new pathways to holistic, humane, and sustainable mental healthcare.

TOPIC: CHALLENGES IN MEDICAL EDUCATION, PROFESSIONAL PROGRESS AND HEALTHCARE

Prof. Dr. Ashraf Nizami

First Vice President – CMAAO, President PMA Lahore

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.

TOPIC: EARLY DIAGNOSIS OF BREAST CANCER: BRIDGING MOLECULAR INSIGHTS AND PUBLIC HEALTH FOR BETTER PROGNOSIS

Prof. Dr. Samina Malik

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

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.

TOPIC: ETHICAL DECISION-MAKING IN RESOURCE LIMITED CLINICAL SETTINGS.

Prof. Dr. Shabih H. Zaidi

Chair, Dean Al Sadiq International Virtual University (SIVU)

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.

TOPIC: THE ROLE MODEL TEACHER: FRON STUDENT'S PERSPECTIVE

Prof. Dr. Rashid Mehmood

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

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

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

TOPIC: MENTAL CHAINS: DRUG ADDICTION AND THE INVISIBLE WEIGHT OF STIGMA

Author: Prof. Dr. Aftab Alam Khan

HOD Psychiatry, Ayub Medical College, Abbottabad

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.

TOPIC: TRANSDISCIPLINARY IMPERITIVES OF MENTAL HEALTH: A GLOBAL APPROACH

Author: Dr. Yasir Masood Afaq

CEO House of Wellness Islamabad

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.

TOPIC: WORKPLACE PSYCHOLOGICAL SAFETY

Author: Prof. Dr. Ayesha Hamayun

Principal, Shaikh Khalifa Bin Zayed Al-Nahyan Medical College

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.

TOPIC: FROM STIGMA TO SOLUTIONS: TECHNOLOGY AND POLICY IN MENTAL HEALTH REFORM

Authors: Dr. Muhammad Tariq Khan

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

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.

Keywords: Medical waste, healthcare facilities, infection control, universal precautions, waste management.

TOPIC: CLIMATE CHANGE AND MENTAL HEALTH: A GROWING GLOBAL CRISIS

Author: Prof. Dr. Muhammad Rizwan

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

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.

TOPIC: EMPOWERING YOUTH THROUGH DBT: A PATHWAY FROM TRAUMA TO EMOTIONAL RESILIENCE

Author: Dr. Sadaf Nazir

Consultant Clinical Psychologist, Department of Psychiatry, ATH, Abbottabad

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

TOPIC: CLIMATE CHANGE AND ARTIFICIAL INTELLIGENCE; A REVIEW OF METHODS AND APPLICATION

Author: Dr. Rabia Islam

Assistant Professor- Institute of Public Health

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.

Keywords: Climate change, Artificial Intelligence, Deep Learning, Flood Prediction, Weather Forecasting, Machine Learning, Environmental Sustainability, Disaster Management.

TOPIC: FROM DATA TO DECISIONS: HOW AI IS RESHAPING HEALTHCARE

Author: Dr. He Quiyang

Assistant Professor - City University of Hong Kong

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.

5. Keywords: AI integration, revolutionizing healthcare, Drugs, Chronic diseases, clinicians

TOPIC: PROGRESS WITH INTEGRITY: ETHICS OF USING AI IN MEDICAL RESEARCH

Author: Prof. Dr. Shahid Shamim

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

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.

TITLE: INNOVATIONS IN MEDICAL EDUCATION AND RESEARCH

TOPIC: IMPLEMENTATION AND EVALUATION OF A NEEDS-BASED FACULTY DEVELOPMENT PROGRAMME IN A MEDICAL COLLEGE OF PAKISTAN: A MIXED METHODS ACTION-RESEARCH

Author: Dr. Muhammad Abdullah Qazi

HOD Dental Education, Women 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.

TOPIC: WHICH PRACTICE IS BEST TO MANAGE THE HIDDEN CURRICULUM FOR THE BEST USE OF MOBILE DEVICES IN CLINICAL PRACTICE? A SYSTEMATIC REVIEW.

Author: Dr. Fatima Aman

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

ABSTRACT:

Objective: To evaluate the literature regarding the practices to manage the hidden curriculum for the best use of mobile devices in clinical practice. **Study Design:** Systematic Review. **Setting:** Articles selected for review from Canada, United Kingdom, Japan, Ireland and Saudi Arabia. **Period:** July to Dec 2023. **Methods:** Following databases were searched: PubMed (12,579), the Cochrane Library (348), scopus (84), PsycInfo (21), CINAHL (220), Google Scholar (1,414). Primary variable (Evaluation of the development of clinical skills made possible by mobile devices) and secondary variable (to determine how satisfied students are with their mobile learning experience). The quality of study was critically appraised according the Critical Appraisal Skills Programme (CASP) scale. **Results:** The research findings indicate that using mobile devices into medical education has a variety of effects. Positive instructor perspectives, more student involvement, and higher learning outcomes were frequently reported by participants. Medical students’ growth of technological competency and readiness for the changing healthcare landscape have been found to be accelerated by mobile devices. The integration of virtual simulations and applications that are interactive has had a positive impact on the development of clinical abilities. Positive effects included themes of individualization, collaborative learning communities, and a better understanding of patient-centered care. On the other hand, issues including the digital divide, diversions, and security threats were recognized as obstacles that called for a careful strategy to reduce any negative effects. When everything is considered, the findings confirm the revolutionary potential of mobile device incorporation in medical education and highlight how it helps to create a dynamic, technologically advanced learning environment for prospective medical professionals. **Conclusion:** This study provides insight on how adding mobile devices into medical education has a revolutionary effect. The research indicates enhanced learning outcomes, increased student involvement, and altering faculty perspectives through insightful stories and compelling arguments.

TOPIC: QUALITY ASSURANCE IN MEDICAL RESEARCH: UPHOLDING STANDARDS AND INTEGRITY PROPOSED DURATION

Author: Prof. Dr. Hina Ahmad

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

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.

TOPIC: INNOVATIONS IN MEDICAL EDUCATION FOR A BETTER TOMORROW

Author: Dr. Tatiana Lishmanova

MD, Medical Educator- Portsmouth Sain John Parosh, Dominica

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.

TOPIC: TRANSFORMING MEDICAL EDUCATION WITH INSIGHTS INTO NON-INVASIVE CUFFLESS BLOOD PRESSURE ESTIMATION USING DEEP LEARNING

Author: Dr. Wasimullah Khan

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

ABSTRACT:

With the tremendous progress in miniaturized wearable and sensor technologies, there is an increasing demand for reliable systems that facilitate physiological signal based non-invasive continuous blood pressure (BP) monitoring on wearable devices. The deep learning approach of long-term recurrent convolutional network (LRCN) is utilized to realize, combining the advantages of convolutional neural network (CNN) and bidirectional long short-term memory (BiLSTM) networks to simultaneously predict systolic BP (SBP) and diastolic BP (DBP), eliminating complicated preprocessing on the raw PPG input. The model employs data-driven automatic feature extraction with reduced response time and computational resources. The viability of the BP estimator is evaluated on MIMIC-II publicly available and an in-house dataset that comprises diverse human subjects with and without cardiovascular disease complications. The model achieves mean errors (ME) of -0.186 and 0.057 mmHg for the MIMIC-II dataset, and 0.255 and 0.941 mmHg for our in-house dataset, for SBP and DBP predictions, respectively, which is unprecedented. The model is also generalized, performing well for a wide variety of demographics such as health and age, but without any need for customize customization. The resulting efficient and lightweight BP analysis microsystem for wearable healthcare applications.

Keywords: blood pressure prediction framework, photoplethysmography (PPG), convolutional neural network (CNN), bidirectional long short-term memory (BiLSTM), long-term recurrent convolutional network (LRCN)

TOPIC: ISSUES AND CHALLENGES IN RESEARCH IN MEDICAL EDUCATION

Author: Prof. Dr. Majeed Chaudhry

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

ABSTRACT:

Medical ethics has been there as far as the history goes. Starting with Hippocrates in Rome, ancient Egyptian to bioethics of post-world war era to the present 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.

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

TOPIC: CLINICAL PRACTICE OF CELLULAR IMMUNOTHERAPY FOR CANCER.

Author: Prof. Yi Zhang

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

ABSTRACT:

Cell-based immunotherapies are transforming cancer treatment, but 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 highlights 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 profiles, 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 underscore the role of metabolic reprogramming (e.g., Glut3 overexpression) in enhancing anti-tumor efficacy. Collectively, these findings underscore both the promise and the complexity of immune cell therapies for solid tumors, emphasizing the need for innovative strategies to overcome tumor-induced resistance and optimize durable clinical benefit.

TOPIC: BREAST CANCER KNOWLEDGE AMONG HEALTH PROFESSIONALS: A PRE-POST-KNOWLEDGE-BASED INTERVENTION STUDY

Author: Dr. Hina Jawaid

Associate Professor & Head Family Medicine Department Health Services Academy, Islamabad, Pakistan

ABSTRACT:

Introduction: Breast-cancer-related morbidity and mortality can be reduced by following worldwide-accepted screening guidelines and by appropriate education and training of health professionals on risk identification and screening. The study aimed to determine the significance of educational sessions in

improving health professionals' knowledge about breast cancer, particularly screening modalities that can benefit the patients.

Method and Materials: An interventional study was conducted among 260 health professionals, including medical students, nurses, and allied health professionals. The intervention was an educational session on breast cancer risks and screening guidelines. Health professionals' knowledge about breast cancer risk, presentation, and screening were tested by a structured questionnaire before and after the educational session. Data were analyzed using Statistical Package for the Social Sciences 26. Chi-square was used to identify differences in pre and post-test. P value was considered significant at <0.05 .

Results: There is a significant difference between pre-session and post-session responses in all areas of knowledge about breast cancer, with much improved outcomes after the educational session.

Conclusion: Health professionals lack knowledge about breast cancer risk factors, screening tools, presentation, and management. Regular education sessions improve these knowledge gaps and help early detection and treatment of women at risk of breast cancer.

TOPIC: CERVICAL CANCER

Author: Dr. Ibtisam

Specialist Registrar Oncology, Ayub Teaching Hospital, Ayub Medical College

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.

TOPIC: RECENT ADVANCES IN THE FIELD OF RADIOTHERAPY

Author: Dr. Hajera Jabeen

Consultant Oncologist INOR Cancer Hospital, Abbottabad

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.

TOPIC: INNOVATIONS IN EARLY DIAGNOSIS AND NANOTECH-DRIVEN THERAPIES

Author: Dr. Li Wei

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

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.

Keywords: microfluidics, Tumor, LIQBO, Cancer, nanotech

TOPIC: RUTHENIUM COMPLEXES TRIGGERING APOPTOSIS: A NOVEL ANTI-TUMOR STRATEGY FOR TRIPLE-NEGATIVE BREAST CANCER

Author: Dr. Shahid Ullah Khan

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

ABSTRACT

Central objective in clinical oncology has been the development of therapeutic strategies aimed at effectively triggering apoptosis of different cancer cells. Ruthenium complexes are the leverage and emerged anticancer strategy to combat multiple forms of cancer cells. 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 spectrophotometric analysis. The structure of **C7** was confirmed in solid state by single crystal X-ray analysis, that revealed the exact orientation of the ligand around Ru(II) center. These complexes were further investigated for their anticancer activity against MDA-MB-231, 4T1, U87MG and HeLa cancer cells. A dose-dependent manner reduction in cell viability and survival rates of cancer cells was observed following treatment with these complexes. We identified that **C2**, **C8**, and **C11** exhibited the most potent anti-tumor effects among these tested complexes. The results from migration ability and live/dead imaging assays, as well as mitochondrial membrane potential (MMP) and clonogenic potential studies, revealed that these complexes demonstrated higher anti-tumor activities by enhancing caspase-3 and reducing Bcl-2 expression. Using the 4T1 breast cancer orthotopic mouse model, we evaluated the efficacy of the most prominent complex (**C8**) in 4T1 breast cancer by bioluminescence metastatic windows, tumor weight and volume, hematoxylin and eosin (H&E) staining, immunohistochemistry (IHC) staining and hematological tests. Protein expression revealed apoptosis by up-regulating Caspase-3, cleaved caspase-3, TNF- α and down-regulating Bcl-2. Lasting survival and diminished tumor growth were observed in mice receiving the **C8** treatment. These findings demonstrated the potential of those water-soluble monofunctional Ru (II) complexes for triple negative breast cancer treatment.

Keywords: Ruthenium complexes, Breast Cancer, Nanotechnology, Apoptosis

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

TOPIC: CHALLENGES OF CLINICAL RESEARCH

Author: Prof. Dr. Shamsa Humayun.

Ex Pro VC Fatima Jinnah Medical University - Advisor CPSP

ABSTRACT:

Clinical research is an essential component of medical education and practice, contributing significantly to advancements in patient care and medical knowledge. However, postgraduate trainees and medical students face numerous challenges in engaging with research activities. This presentation outlines the common barriers encountered during the research process, including limited research training, time constraints, complex regulatory and ethical requirements, insufficient mentorship, and restricted access to funding and resources. Additional obstacles such as data collection difficulties, publication barriers, and psychological factors like fear of failure and burnout further hinder research productivity. Strategies to overcome these challenges include integrating structured research education into curricula, providing protected research time, simplifying regulatory procedures, enhancing mentorship programs, and improving access to funding, resources, and publication support. Addressing these barriers is crucial to fostering a supportive environment that encourages trainees to actively participate in clinical research.

TOPIC: *WHEN SAVING ONE MEANS LOSING ANOTHER: TRAGIC ETHICS IN RESOURCE LIMITED HOSPITALS*

Author: Dr. Zainab Nazneen

Assistant Professor - Community Medicine, Ayub Medical College, Abbottabad

ABSTRACT:

Emergency department (ED) triage is indispensable for ensuring patient flow and optimizing scarce resources. However, it raises profound ethical dilemmas when life-saving interventions cannot be provided to all in need. This presentation explores the ethical dimensions of triage through the principles of autonomy, nonmaleficence, beneficence, and justice. In urgent and life-threatening situations, patient autonomy is often compromised, yet clear and compassionate communication remains vital for preserving dignity and trust. Nonmaleficence extends beyond preventing physical harm to addressing psychosocial suffering caused by overcrowding, delays, and inadequate communication. Beneficence obliges healthcare providers to act in the best interest of patients, prioritizing those most likely to benefit while balancing efficiency and caution in resource allocation. Justice demands fairness in distribution, requiring a context-sensitive balance between equality, utility, and prioritizing the worst-off. Drawing on ethical analyses and global frameworks, this session highlights how principled fairness, transparency, and human-centered approaches can guide triage officers in making morally sound

decisions under pressure. Ultimately, ethical triage planning is crucial for safeguarding both patient outcomes and public trust in health systems.

TOPIC: ARE WE DOING ENOUGH FOR OUR PATIENTS IN A SYSTEM WITH LIMITS?

Author: Prof. Dr. Irfan-ud-Din Khattak

Professor of Surgery Abbottabad International Medical College, Abbottabad

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.

Key Words: health care systems, doctors, poor patients, limitations, obstacles, Medical ethics; Principles, resource scarcity; healthcare rationing; moral distress

TOPIC: NAVIGATING ETHICAL DILEMMAS IN AI-POWERED HEALTHCARE

Author: Prof. Dr. Mowadat Hussain Rana

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

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

TITLE: STRENGTHENING HEALTHCARE THROUGH ACADEMIC– CLINICAL PARTNERSHIP

TOPIC: BRIDGING EDUCATION AND PRACTICE: A NURSING PERSPECTIVE ON ACADEMIC – CLINIC PARTNERSHIP

Author: Dr. Tariq Siraj Qazi

Professor of Surgery, Abbottabad International Medical College, Abbottabad

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.

TOPIC: PERSONALIZED MEDICINE: FROM GENOMICS TO CLINICAL PRACTICE

Author: Dr. Muhammad Shehzad Khan

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

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.

Keywords: Personalized medicine, genomics, precision medicine, pharmacogenomics, cancer genomics, biomarkers, multi-omics, CRISPR, artificial intelligence (AI), clinical implementation.

TOPIC: COMMUNITY-BASED MEDICAL EDUCATION AS A CATALYST FOR STRENGTHENING HEALTHCARE: A HUB AND SPOKE PARTNERSHIP MODEL
PRESENTER:

Author: Dr. Wajiha Rizwan

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

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.

TOPIC: BRIDGING THEORY AND PRACTICE IN MBBS EDUCATION CLINICAL-ACADEMIC PARTNERSHIPS IN BANGLADESH AND CHINA

Author: Dr. Ariful Haque

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

ABSTRACT:

Medical education stands at a critical juncture, where the challenge of effectively bridging theory and practice in MBBS training remains a pressing concern worldwide. While classroom-based instruction

provides essential scientific knowledge, students often struggle to translate this understanding into competent, confident, and safe patient care. This gap frequently results in underconfidence, poor clinical judgment, and insufficient procedural skills. Addressing these issues is vital for ensuring that newly qualified doctors meet global standards of competence and professionalism.

This presentation examines the clinical-academic integration of MBBS education in Bangladesh and China, highlighting strengths, limitations, and opportunities for collaboration between the two countries. In Bangladesh, the BMDC curriculum emphasizes early clinical exposure, with ward rotations beginning in the third year and a full year of internship that offers substantial patient contact. The system benefits from high patient volumes and early bedside learning but faces challenges such as limited simulation facilities and overcrowded student groups. In contrast, Chinese MBBS training adopts a structured, phased approach: foundational sciences in the first two years, followed by clinical training and a compulsory full-year internship, with an additional post-MBBS residency (Guīpéi) ensuring extended supervised practice. This model is supported by advanced simulation laboratories, diverse assessment tools such as OSCEs and Mini-CEX, and rigorous integration of both simulated and real patient evaluations.

A comparative analysis of the two systems reveals complementary strengths: Bangladesh provides early, patient-rich exposure, while China ensures structured, skill-oriented, and technology-supported training. Clinical examination systems further illustrate this difference, with Bangladesh emphasizing real patient exams and viva-based evaluations, while China employs a blend of simulation-based and patient-based assessments. Both systems demonstrate areas for improvement but also offer opportunities for mutual learning and integration.

Joint practices and bilateral initiatives have already begun to emerge, including China–Bangladesh exchange programs, joint training workshops, online teaching platforms, and the integration of AI-assisted diagnostics into medical education. A notable example is the virtual training program for medical professionals developed between Kunming Medical University and Bangladesh Medical University, solidified through a formal memorandum of understanding (MOU). These initiatives highlight the potential of cross-national collaboration in strengthening clinical training and addressing systemic gaps.

To effectively bridge the theory-practice divide, several strategies are recommended: implementation of competency-based medical education (CBME), structured clinical rotations, expanded use of simulation-based learning, clinical case mapping, earlier patient contact, and continuous feedback mechanisms. Institutional and policy support remain crucial—Bangladesh needs greater investment in skills laboratories and structured mentorship, while China must balance technological training with personalized guidance from clinician-educators. Both countries should prioritize strengthening university-hospital partnerships and expanding bilateral collaborations.

In conclusion, integration of theory and practice is the cornerstone of producing competent medical graduates. Bangladesh's strength lies in its high patient exposure from early stages, while China excels in structured training and simulation-based learning. An ideal model would combine the two: structured, supervised, and patient-rich education. By fostering cross-border partnerships, investing in modern training tools, and adopting competency-based frameworks, both nations can enhance the quality of medical education and prepare future doctors to deliver safe, effective, and compassionate care.

SHORT COMMUNICATION

SC-1: THE ROLE OF BDNF ON COGNITIVE FUNCTION AND MENTAL HEALTH: A REVIEW ARTICLE

Authors: Mariam Sana Afridi, Eesha Noor, Khushbakht Mubarak, Areebah Fatimah Shah

Women Medical College, Abbottabad, Pakistan

Background/Objectives: Brain-Derived Neurotrophic Factor (BDNF) is a pivotal protein in the brain that supports the survival, growth, and differentiation of neurons. It plays a central role in neuroplasticity, memory formation, and cognitive function, and its levels are modulated by a variety of factors, including genetics, environment, and lifestyle. Dysregulation of BDNF expression has been implicated in several neurological and psychiatric disorders, including depression, anxiety, schizophrenia, and neurodegenerative diseases. Understanding BDNF's functions in the brain is crucial for developing therapeutic strategies to treat these disorders. This review aims to summarize the current understanding of BDNF's role in cognitive functions such as learning and memory, as well as its involvement in mental health. Additionally, it seeks to explore the impact of BDNF on neuroplasticity and its potential therapeutic implications for a range of psychiatric and neurological conditions. The review also investigates how lifestyle factors like exercise, diet, and sleep influence BDNF levels, potentially offering non-pharmacological treatments for improving brain health.

Methodology: A comprehensive review of recent studies was conducted by analysing peer-reviewed literature, clinical trials, and experimental research related to BDNF's role in brain function. This includes studies on the molecular mechanisms of BDNF signalling, its impact on neuronal plasticity, and its association with mental health disorders. Data from neuroimaging studies and clinical outcomes following BDNF-targeted treatments were also reviewed. Additionally, the effect of environmental factors on BDNF expression was assessed through studies on physical activity, diet, and stress management.

Results: BDNF is critically involved in synaptic plasticity, particularly in the hippocampus, and is essential for learning and memory. Research indicates that reduced BDNF levels are associated with cognitive decline and mental health disorders, such as depression, anxiety, and neurodegenerative diseases. Therapeutic interventions that increase BDNF, including certain antidepressants, exercise, and dietary modifications, have shown promise in improving cognitive function and mental health outcomes. Furthermore, BDNF-targeted therapies are being explored as potential treatments for these disorders.

Conclusion: BDNF is a key player in maintaining cognitive function and mental health. Dysregulated BDNF expression contributes to the pathophysiology of various psychiatric and neurodegenerative disorders. Future research should focus on developing targeted therapies to modulate BDNF levels, with the goal of enhancing neuroplasticity and improving mental health outcomes. Lifestyle interventions that naturally boost BDNF could serve as effective adjuncts to pharmacological treatments, offering a holistic approach to brain health.

Keywords: BDNF (Brain Derived Neurotrophic Factor), Cognitive Function, Mental Health, Neuroplasticity.

SC-2: PREVALENCE OF IMPOSTOR SYNDROME BETWEEN DAY SCHOLARS AND BOARDERS IN PUBLIC AND PRIVATE MEDICAL COLLEGES IN ABBOTTABAD, PAKISTAN

Authors: Rimsha Faisal, Nimra Azhar, Nayab Bano, Irej Waheed

Women Medical College, Abbottabad, Pakistan

Background: Impostor Phenomenon (IP), commonly known as Impostor Syndrome, is a psychological pattern in which individuals doubt their accomplishments and fear being exposed as frauds despite evidence of their competence. It is particularly prevalent in competitive academic settings such as medical colleges yet remains underexplored in Pakistan.

Objective: This study aimed to assess the prevalence of impostor syndrome (IP) among day scholars and boarders studying in public and private medical colleges in Abbottabad, Pakistan, and to determine whether significant differences exist between these groups.

Methods: A cross-sectional analytical study was conducted involving 316 medical students from three medical colleges: Ayub Medical College (public), Women Medical College, and Abbottabad International Medical Institute (private). The Clance Impostor Phenomenon Scale (CIPS) was used to assess impostor syndrome. Data were collected via a structured questionnaire, entered in SPSS v27, and analysed using descriptive statistics, Chi-square tests, and one-way ANOVA where appropriate. Participants were categorized as having significant IP if their CIPS score was ≥ 62 .

Results: Overall, 59.5% of students exhibited significant impostor syndrome. Among day scholars ($n = 172$), 65.7% scored ≥ 62 , while 52.1% of boarders ($n = 144$) showed significant IP. The association between residency status and IP prevalence was statistically significant ($\chi^2 = 6.03$, $p = .014$). By institution, students from Ayub Medical College (public) had the highest prevalence (69.2%), followed by Abbottabad International (59.8%) and Women Medical College (50.4%). This difference was statistically significant ($\chi^2 = 8.01$, $p = .018$). No significant difference was found between male and female students in terms of impostor syndrome prevalence ($p = .836$). One-way ANOVA showed a borderline significant variation in mean CIPS scores across academic years ($F = 2.40$, $p = .050$), with 4th and 5th year students showing higher scores.

Conclusion: Impostor syndrome is highly prevalent among medical students in Abbottabad, with significantly higher rates among day scholars and students from public medical colleges. These findings highlight the need for targeted mental health interventions addressing academic stressors and psychological well-being in this population.

Keywords: Impostor syndrome, medical students, day scholars, boarders, CIPS, public vs private college, Pakistan

SC-3: THE EFFECTS OF PARENTING STYLES ON MENTAL HEALTH OF MEDICAL STUDENTS

Authors: Seemal Noor, Nazia, Maimoona, Laiba Ijaz

Women Medical College, Abbottabad, Pakistan

Background: Medical education is a demanding pursuit often linked with stress, anxiety, and emotional exhaustion. While academic pressures are well recognized, the influence of early-life experiences—particularly parenting styles—on the mental health of medical students remains underexplored. Parenting style, defined as the emotional climate in which children are raised, plays a key role in shaping personality traits, coping skills, and resilience. Existing literature highlights four main parenting

styles—authoritative, authoritarian, permissive, and uninvolved—each associated with distinct impacts on emotional well-being, self-esteem, and mental health outcomes. However, limited research in Pakistan has examined this relationship in the context of medical students. The objective of this study was to assess the effects of different parenting styles on the mental health of MBBS and BDS students.

Methods: A cross-sectional analytical study was conducted among MBBS and BDS students from all academic years at Women Medical and Dental College, Abbottabad. A total of 242 participants were recruited using non-probability purposive sampling. Data were collected using a validated self-administered questionnaire comprising the Short Egna Minnen Beträffande Uppfostran (s-EMBU) Parenting Style Scale and the Depression, Anxiety, and Stress Scale-21 (DASS-21). Descriptive and inferential statistics were applied using SPSS version 27 to examine associations between parenting styles and mental health outcomes. Ethical approval was obtained, and informed consent was secured from all participants.

Results: A cross-sectional survey of 242 medical students assessed perceived parenting style (short EMBU) and mental health (DASS-21). Mean DASS-21 scores were: Depression 12.89 (SD 10.69), Anxiety 13.63 (SD 10.49), and Stress 14.67 (SD 9.67). Principal component analysis of the EMBU items yielded three components (total explained variance \approx 38.3%). The component reflecting parental criticism/punishment (EMBU_F1) was positively associated with depression, anxiety, and stress ($r = 0.41, 0.34, \text{ and } 0.41$ respectively; $p < .001$ for all). The component reflecting parental warmth/encouragement (EMBU_F2) was inversely associated with mental health symptoms ($r = -0.28$ to $-0.32, p < .001$). These findings indicate that perceived negative parenting behaviours are associated with higher levels of depression, anxiety and stress among medical students, whereas parental warmth is associated with lower symptom levels.

Conclusion: This study aims to contribute to understanding how different parenting approaches influence the mental health of medical students, providing insights for targeted mental health support and preventive strategies in medical education.

Keywords: Parenting styles, mental health, depression, anxiety, stress, medical students.

SC-4: COMPARING ROBOT-ASSISTED AND LAPAROSCOPIC INGUINAL HERNIA REPAIR: A SYSTEMATIC REVIEW AND META-ANALYSIS

Authors: Fatima Javid¹, Ahmed Javed², Muhammad Talha Ilyas Khan³

1. Women Medical College, Abbottabad, Pakistan
2. Ayub Medical College, Abbottabad, Pakistan
3. Abbottabad International Medical College, Abbottabad, Pakistan

Background and Objectives: Inguinal hernia repair is among the most frequently performed general surgical procedures worldwide. While laparoscopic techniques such as TAPP and TEP are widely adopted for their minimally invasive nature, robot-assisted approaches offer enhanced three-dimensional visualization and instrument precision. However, evidence comparing the clinical and economic outcomes of both approaches is inconsistent. This meta-analysis aims to evaluate the comparative effectiveness and safety of robotic versus laparoscopic inguinal hernia repair.

Methods: A comprehensive literature search of PubMed/MEDLINE, Embase, Cochrane CENTRAL, and ClinicalTrials.gov was conducted through June 2025, for randomized controlled trials and

observational studies, involving adult patients undergoing robotic or laparoscopic inguinal hernia repair. Data were extracted on operative time, hospital stay, direct costs, recurrence, complications, readmissions, and postoperative pain. Study quality was assessed using RoB 2.0 and the Newcastle–Ottawa Scale. Pooled outcomes were analysed using random-effects models and reported as standardized mean differences (SMDs) or risk ratios (RRs) with 95% confidence intervals (CIs). Heterogeneity was quantified using the Higgins I² index.

Results: Thirty studies (3 RCTs, 26 cohorts, 1 case-control) involving 69,415 patients (10,748 robotic; 58,667 laparoscopic) were included. Laparoscopic repair was associated with significantly shorter operative time (SMD: 0.67; 95% CI: 0.31–1.02; $p = 0.0003$), reduced hospital stays (SMD: 0.28; 95% CI: 0.03–0.53; $p = 0.03$), and lower direct costs (SMD: 1.59; 95% CI: 0.98–2.21; $p < 0.00001$). Conversely, robotic repair resulted in significantly lower hernia recurrence (RR: 0.48; 95% CI: 0.28–0.82; $p = 0.008$) and reduced postoperative pain (SMD: –0.79; 95% CI: –1.03 to –0.56; $p < 0.00001$). No significant differences were observed in overall complications, seroma formation, surgical-site infections or readmissions.

Conclusion: While laparoscopic repair remains a faster, more cost-effective procedure, robotic inguinal hernia repair offers greater reductions in recurrence and postoperative pain, with comparable safety profiles. The choice of surgical approach should be tailored to patient preferences, available resources, and surgical expertise to achieve optimal outcomes.

Keywords: Robotic surgery; laparoscopic repair; inguinal hernia; Minimally invasive surgery; meta-analysis; systematic review.

SC-5: HEMODYNAMIC EFFECTS AND SAFETY OF NITROXYL DONORS IN TREATING HEART FAILURE IN ADULTS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS.

Authors: FNU Kashish¹, Yusra Tehreem², Muqaddas Amir³, Amna Kamil¹, Umair Ahmed Khan², Ramsha Gul⁴, Noor ul Huda¹, Erum Siddiqui¹, Muhammad Mohsin Khan¹, Kalpana Singh¹

1. Jinnah Sindh Medical University, Karachi, Pakistan
2. Quaid-e-Azam Medical College, Bahawalpur, Pakistan
3. Karachi Metropolitan University, Karachi, Pakistan
4. Liaquat University of Medical and Health Sciences, Hyderabad, Pakistan

Introduction: Hospitalisation for acute heart failure is a major public health problem, and existing therapies often come with severe side effects. Cimlanod (BMS-986231), a nitroxyl (HNO) donor, provides lusitropic, inotropic, and vasodilatory effects without tachyphylaxis, pro-arrhythmia, or raising myocardial oxygen demand in heart failure patients.

Methodology: A comprehensive search was performed on PubMed, Google Scholar, Scopus, Cochrane Library, Web of Science and ClinicalTrials.gov from inception to July 2025. We searched for RCTs evaluating the effects of Cimlanod in adults with heart failure against placebo. The analysis was registered with PROSPERO (CRD420251060919) and followed PRISMA guidelines. Two independent reviewers screened and extracted data from eligible studies. Discrepancies were resolved by a third reviewer. Outcomes were pooled using Review Manager (random-effects model) and reported as mean

differences (MD) with 95% Confidence interval. Heterogeneity was assessed via I^2 statistics. Risk of bias was evaluated using Cochrane RoB 2.0.

Results: The analysis included data from four RCTs ($n=390$) assessing the effects of Cimlanod ($12\text{ }\mu\text{g/kg/min}$) in adults with heart failure. Cimlanod significantly reduced systolic, diastolic, and mean arterial blood pressure, with mean differences of -7.89 mmHg (95% CI: -11.12 to -4.66 , $p < 0.00001$, $I^2 = 97\%$), -9.77 mmHg (95% CI: -12.56 to -6.98 , $p < 0.00001$, $I^2 = 63\%$), and -8.88 mmHg (95% CI: -16.96 to -0.79 , $p = 0.03$, $I^2 = 76\%$), respectively, while increasing the cardiac index (MD = 0.40 L/min/m^2 , 95% CI = 0.15 to 0.65 , $P = 0.001$, $I^2 = 0\%$). No significant effects were observed on heart rate, LVEF, stroke volume index, cardiac power index, and BNP/NT-proBNP levels. Importantly, Cimlanod did not induce tachycardia, arrhythmia, or symptomatic hypotension. However, headache was reported as a potential drug-related adverse event.

Conclusion: Cimlanod ($12\text{ }\mu\text{g/kg/min}$) was found to improve hemodynamic measures in HF patients and was well tolerated. Limitations include few trials, short follow-up, and potential publication bias. Larger trials with longer follow-up are required to prove long-term efficacy and safety.

Keywords: Cimlanod, Nitroxyl donor, Heart failure, Efficacy, meta-analysis

SC-6: ORAL HEALTH AS A GATEWAY TO SYSTEMIC DISEASE DETECTION: A SYSTEMATIC REVIEW WITH IMPLICATIONS FOR HEALTHCARE IN KHYBER PAKHTUNKHWA

Author: Najah Muhammad

Women Dental College, Abbottabad, Pakistan

Background: Oral manifestations are often the earliest clinical indicators of systemic diseases such as diabetes mellitus, HIV/AIDS, and leukemia. In many healthcare settings, these signs are overlooked, leading to diagnostic delays. This systematic review synthesizes published evidence on oral manifestations as early indicators of systemic disease and outlines implications for healthcare delivery in Khyber Pakhtunkhwa (KPK), Pakistan.

Methods: A systematic search of PubMed and Google Scholar was conducted for studies published between January 2010 and January 2025 using the keywords *oral manifestations*, *oral signs*, *systemic disease*, *early diagnosis*, and *diagnostic delay*. The search yielded 125 records; after de-duplication and screening, 52 full-text articles were assessed, and 22 studies met the inclusion criteria (human studies in English reporting oral signs preceding or aiding systemic disease diagnosis). Data were extracted on disease type, oral manifestations, and reported diagnostic delays.

Results: The most represented systemic diseases were diabetes mellitus ($n=6$), HIV/AIDS ($n=5$), leukemia/hematologic malignancies ($n=4$), anemia/nutritional deficiencies ($n=3$), and other systemic disorders ($n=4$). Common oral signs included periodontal disease/xerostomia in diabetes, oral candidiasis and hairy leukoplakia in HIV, gingival enlargement, petechiae, and ulcerations in leukemia, and atrophic glossitis in nutritional deficiencies. Sixty-eight percent of studies reported oral signs appearing before systemic symptoms, with diagnostic delays of 2 weeks to 8 months when oral examinations were not performed. Missed recognition was linked to limited oral pathology training among physicians, absence of oral screening protocols, and low patient awareness.

Conclusion: Oral findings can precede systemic disease diagnosis by weeks or months, offering a critical opportunity for early detection. In KPK, integrating routine oral examinations into general medical practice, enhancing physician training, and establishing referral pathways to dental specialists could substantially reduce diagnostic delays and improve patient outcomes.

Keywords: Oral manifestations; systemic disease; early diagnosis; oral-systemic link; preventive healthcare; diagnostic delay; Khyber Pakhtunkhwa; Pakistan.

SP-1: TO INVESTIGATE THE INTERPLAY OF SOCIETAL EXPECTATIONS, GENDER ROLE CONFLICT, CHILDHOOD TRAUMA, IN THE DEVELOPMENT OF IMPOSTER SYNDROME IN EDUCATIONAL PROFESSIONALS

Author: Fatima Gul

1. Abbottabad University of Science and Technology, Abbottabad, Pakistan

Background/Objectives: Despite growing awareness of imposter syndrome, the underlying causes are still not fully understood. This research focuses on how societal expectations, childhood trauma, and gender role conflict shape its development. The primary aim is to explore how these factors interact to influence the experience of imposter syndrome.

Methods: A correlational research study was conducted from March 2025 across the region of Abbottabad, Pakistan. A total of 300 educational professionals were chosen through random sampling and convenient sampling. Data were collected using a structured questionnaire that included sociodemographic variables, Clance Imposter Scale, Gender Role Conflict Scale etc. Data were analyzed using SPSS version 26. Mediation analysis and regression were applied to assess associations.

Results: Out of 300 participants, gender role conflict and childhood trauma were significantly associated with higher imposter syndrome scores ($r = .46$ and $r = .20$, respectively; $p < .01$). Unmarried individuals reported higher imposter feelings ($M = 60.65$) than married individuals ($M = 57.46$), with a significant difference ($p = .018$). Mediation analysis revealed that gender role conflict and societal expectations partially mediated the relationship between childhood trauma and imposter syndrome. Female participants showed slightly higher imposter scores, though not statistically significant.

Conclusion: Childhood trauma, gender role conflict, and societal expectations are significant psychological predictors of imposter syndrome. The findings highlight the importance of addressing early trauma and sociocultural pressures, especially among unmarried professionals and women, to reduce imposter-related distress.

Keywords: Imposter Syndrome, Gender Role Conflict, Societal Expectations, Childhood Trauma, Marlowe Social Desirability Scale.

SP-2: AI-ASSISTED RENAL TUMOR MANAGEMENT: A COMPARATIVE EVALUATION OF CHATGPT AND MULTIDISCIPLINARY TEAM DECISIONS

Authors: Jawad Khan¹, Aamir Khan¹, Zouha Khan²

1. Ayub Teaching Hospital Abbottabad

2. Women Medical College, Abbottabad, Pakistan

Objectives: To evaluate the concordance between ChatGPT, an Artificial Intelligence (AI) tool, and multidisciplinary team (MDT) decisions in the management of renal tumors, and to assess ChatGPT's potential as a supplementary decision-making tool in urology.

Methodology: This retrospective comparative study was conducted in the Urology department, Ayub Teaching Hospital Abbottabad. It included 13 cases of renal tumors from September 2024 to December 2024 spanning a duration of 04 months. Sampling was purposive, selecting cases discussed in MDT meetings and managed according to the European Association of Urology (EAU) guidelines. Patient data, including clinical, radiological, and laboratory findings, were entered into ChatGPT for treatment recommendations. ChatGPT's recommendations were compared with MDT decisions using expert validation.

Results: The dataset comprised 46.2% localized RCC, 23.1% advanced RCC, and 30.7% metastatic RCC cases. ChatGPT achieved 100% concordance with MDT decisions across all cases. Surgical recommendations (e.g., partial or radical nephrectomy) aligned in 9 cases. Systemic therapy suggestions for metastatic RCC matched MDT decisions in all 4 cases. Palliative care and surveillance strategies agreed in 3 cases. These results highlight ChatGPT's ability to adhere to clinical guidelines while providing rapid and evidence-based recommendations.

Conclusion: ChatGPT demonstrated strong concordance with MDT decisions, suggesting its potential as a valuable supplementary tool for renal tumor management. However, AI tools require contextual understanding and human oversight to address limitations such as socio-economic and patient-specific considerations. Future studies with larger datasets are recommended to validate these findings.

Keywords: Artificial Intelligence, ChatGPT, Clinical Decision-Making, Multidisciplinary Team, Renal Tumors, Urology

SP-3: BRIDGING CLINICAL SCREENING AND RESEARCH: PREVALENCE OF BLOOD-BORNE INFECTIONS AMONG POTENTIAL EXPATRIATES ENTERING GCC STATES, 2024

Authors: Urooj Amjad¹, Dr. Junaid Qadri², Dr. Nayab Amjad³, Dr. Habib-e-Ajmi⁴

1. Medical Diagnostics centre, Peshawar, Pakistan
2. Atlas Medical centre, Peshawar, Pakistan
3. Lady reading hospital, Peshawar, Pakistan
4. Yashfeen College of pharmacy, Lahore Pakistan

Background: This retrospective cross-sectional study integrates clinical diagnostics with applied research to support healthier global mobility.

Methodology: Conducted at a medical diagnostic centre in Peshawar from January to December 2024, the study assessed the prevalence of major blood-borne infections i.e. Hepatitis B (HBsAg), Hepatitis C (HCV), Human Immunodeficiency Virus (HIV), and Syphilis (VDRL). A total of 15,240 blood samples were tested using enzyme-linked immunosorbent assays (ELISA) with the ARCHITECT i1000SR and i2000SR automated analysers, which utilize microparticle immunoassay technology. Results: Among 15,240 individuals from different districts of Khyber Pakhtunkhwa (KPK) undergoing mandatory pre-departure medical screening for employment in GCC states, demographic analysis

revealed a predominantly male sample (99.6%) with blood group B+ being the most common (27.1%). HCV was the most prevalent infection (1%), followed by Hepatitis B (0.62%) and Syphilis (0.6%), with HIV showing minimal prevalence (0.2%). Descriptive statistics were processed using SPSS version 30, and Chi-square tests (X^2) were conducted at a 95% confidence level. A statistically significant association was found between age and infection prevalence ($p < 0.05$), with the highest rates in the 36–45 age group. Occupationally, labourers represented the highest infection burden (60%), highlighting an at-risk subgroup within migrant populations.

Conclusion: These findings emphasize the critical role of routine infectious disease screening in safeguarding public health and shaping evidence-based policy for expatriate healthcare. This study reflects the potential of academic-clinical partnerships to generate actionable data, guide preventive interventions, and contribute to medical education through real-world insights. Targeted awareness and education programs, especially for high-risk professions and age groups, are essential to reducing disease burden and promoting a healthier tomorrow.

Keywords: Blood-borne infections, Expatriates, Healthcare, Screening, Public health.

SP-4: INTRODUCING A PRE-OPERATIVE CHECKLIST IN LINE WITH NHS WEST HERTFORDSHIRE GUIDELINES TO MINIMIZE PREOPERATIVE ERRORS: A CLOSED-LOOP AUDIT

Authors: Dr. Haris Khan¹, Dr. Hafsa Arif Kundi², Dr. Muhammad Mustafeez Waheed Jami³, Dr. Shehzada Alamzeb¹, Dr. Hina Gillani¹

1. Ayub Teaching Hospital, Abbottabad, Pakistan
2. Women Medical College, Abbottabad, Pakistan
3. DHQ, Abbottabad, Pakistan

Background and Objectives: Preoperative preparation errors—such as missing lab reports, unsigned consent forms, unmarked surgical sites, and incomplete imaging—were frequently observed in our surgical unit. These errors often led to delays or cancellations of surgeries, resulting in patients being dropped from the OT list. Such disruptions not only affected patient safety and clinical outcomes but also caused financial losses and inefficient use of operating theatre time and hospital resources. The objective of this audit was to identify these common errors and implement a standardized pre-operative checklist based on NHS West Hertfordshire guidelines. By doing so, we aimed to reduce the frequency of preoperative errors and improve patient flow, theatre efficiency, and overall surgical safety through a closed-loop audit.

Methods: A prospective, closed-loop audit was conducted in the Surgical B Ward of Ayub Teaching Hospital, Abbottabad, to evaluate the effectiveness of a standardized pre-operative checklist in reducing preparation errors. The audit was performed in two cycles, each three months apart. The first cycle was conducted in September 2024 under existing routine practices, where a conventional checklist was in use. Following the identification of frequent preoperative errors, a new, structured pre-operative checklist was developed based on comprehensive reviews of the WHO Surgical Safety Checklist and NHS West Hertfordshire Guidelines. This revised checklist was introduced as an intervention, accompanied by multiple educational sessions for ward doctors and paramedical staff. These sessions aimed to enhance awareness of the checklist's significance and ensure its correct application in clinical practice. Each audit cycle included a randomized sample of 50 patients. Inclusion criteria consisted of adult patients admitted for elective surgical procedures in the Surgical B Ward. Patients undergoing

emergency surgeries or those managed conservatively were excluded. In the first cycle, data were retrospectively collected from ward admission records and patient files, focusing on cases where surgery was delayed or cancelled due to incomplete preparation. In the second cycle, conducted in December 2024, data were collected prospectively using the newly implemented pre-operative checklist proforma, which was completed for each eligible patient prior to surgery. The primary outcome measure was the number of patients who experienced delays or were removed from the operating list due to incomplete preoperative preparation. The results of both audit cycles were compared to assess the effectiveness of the intervention.

Results: In the first audit cycle, conducted under routine practice without the use of a standardized checklist, 19 out of 50 patients (38%) experienced incomplete preoperative preparation, resulting in removal from the surgical list. After the introduction of a customized pre-operative checklist and staff education, the second audit cycle showed notable improvement, with only 8 out of 50 patients (16%) affected. The results were derived by comparing error rates before and after the implementation of the checklist using a basic formula for percentage reduction. This demonstrated a 58% decrease in preoperative preparation errors, highlighting the checklist's effectiveness in improving surgical readiness and theatre efficiency.

Conclusion: A structured checklist greatly improves surgical preparedness and should be routinely used in surgical wards to optimize patient safety and operating room efficiency.

Keywords: Preoperative checklist, Audit loop, Patient preparation, NHS guidelines, WHO surgical checklist, Operating theatre efficiency, Elective surgery, Clinical audit

SP-5: OUTCOMES OF EARLY AND LATE REMOVAL OF CATHETER AFTER TRANSURETHRAL RESECTION OF PROSTATE

Author: Dr. Malik Furqan Mahmood

Ayub Teaching Hospital

Introduction: One of the most common urological diseases affecting the aging male population is benign prostatic hyperplasia. Since delayed removal of catheter is associated with a longer hospital stay and increased cost of healthcare, this study will help patients by early discharge from hospitals and benefit surgeons by accelerating discharge process and decreasing waiting list for new patients.

Objective: To observe frequency of post-operative complications of early and late removal of catheter after transurethral resection of prostate in patients with benign prostatic hyperplasia.

Methodology: It was a descriptive study in the department of urology of Ayub Teaching Hospital from 1st of March 2024 to 1st of September, 2024. A total of 78 male patients undergoing TURP surgery were included in the study. Patients who had their catheter removed on 2nd postoperative day and 5th post-operative day were then evaluated. Data regarding the patients' post-operative complications was recorded.

Results: In this study comparing early versus late catheter removal, postoperative clot formation was found in 8% of patients with early removal and 15.1% with late removal ($p=0.382$), urinary tract infection in 8% with early removal and 20.8% with late removal ($p=0.158$), and hematuria in 36% with early removal and 9.4% with late removal ($p=0.004$).

Conclusion: In conclusion, the timing of catheter removal following TURP does not show a statistically significant impact on postoperative complications.

Keywords: Benign prostatic hyperplasia, Transurethral resection, Complications

SP-6: QUALITY OF LIFE AFTER LAPAROSCOPIC CHOLECYSTECTOMY VS OPEN CHOLECYSTECTOMY; A SINGLE CENTER CASE-CONTROL STUDY.

Authors: M. Azhar Qureshi, Khaizran Zareen Bukhari, Afrah Ramzan, Madiha Komal, Ayesha Muhammad Shah, Qudsia Nazir, Areej Zareen Qureshi

Rawal Institute of Health Sciences

Background: Cholelithiasis is a common disease worldwide which if symptomatic can end up causing biliary colic and other complications. Cholecystectomy is its definitive treatment. There are two types of gallbladder removal surgery; open and laparoscopic. Laparoscopic cholecystectomy is preferred due to its minimal invasiveness. The objective of this study was to examine and compare QoL outcomes in patients who underwent open cholecystectomy to those who underwent laparoscopic cholecystectomy.

Materials and Methods: In this prospective case-control study conducted at RG&DH (August 2024–January 2025), a validated 45-item bilingual QoL questionnaire (English and Urdu) which was developed to assess the QOL among patients undergoing cholecystectomy preoperatively and at 3 months postoperatively. The study included adult patients (over the age of 18 years) who underwent cholecystectomy at RG&DH. Patients who underwent emergency cholecystectomy, diagnosed with choledocholithiasis, experienced any complications, had metastasis present were excluded. All the rules related to research ethics such as consent, confidentiality and privacy of the patients were strictly adhered to by the research group. IBM SPSS VERSION 26 was used for data analysis. Wilcoxon signed-rank and Mann-Whitney U tests were used; multiple linear regression assessed age/gender effects.

Results: A total of 100 patients (66 laparoscopic; 34 open) with mean age of 44.07 were included in this study. Both groups showed significant postoperative QoL improvements (all domains, $p < 0.001$). The laparoscopic group had a higher median overall QoL than the open group (169.4 vs. 164.0; $U = 834.5$, $p = 0.036$). Age and gender were not significant predictors.

Conclusions: Laparoscopic cholecystectomy confers greater QoL benefits compared to open surgery. Further multicentre studies should explore long-term outcomes.

Keywords: Cholelithiasis, Cholecystectomy, QOL

SP-7: ASSESSING THE IMPACT OF WORKPLACE ERGONOMICS ON MUSCULOSKELETAL HEALTH: A SURVEY OF IT PROFESSIONALS

Author: Ayesha Arshad

Central Park Medical College Lahore, Pakistan

Background/Objectives: Work-related musculoskeletal disorders (MSDs) are highly prevalent among IT professionals, largely due to prolonged computer use, static postures, and repetitive tasks. Poor workstation ergonomics and inadequate posture significantly contribute to the development of these

disorders in the IT workforce. This study evaluates the prevalence of musculoskeletal symptoms in an IT professional population and examines how ergonomic factors influence these health outcomes.

Methods: A cross-sectional study was conducted among 250 IT professionals aged 20–39 years. Data were collected using a self-administered online questionnaire comprising the Standardized Nordic Musculoskeletal Questionnaire (NMQ) and an ergonomic workstation evaluation checklist. Collected data were analyzed using SPSS version 25. Chi-square tests, correlation analysis, odds ratios, and factor analysis were employed to assess the relationships between ergonomic conditions and musculoskeletal symptoms.

Results: The survey revealed a high prevalence of musculoskeletal symptoms among participants. The most commonly affected regions were the lower back (83.6%), neck (70%), shoulders (53.6%), and wrists/hands (39.6%). Females reported a significantly higher prevalence of symptoms in the neck, shoulders, and wrists. Poor ergonomic setups were significantly associated with symptom severity and frequency ($p < 0.05$).

Conclusion: A high prevalence of musculoskeletal complaints among IT professionals was observed, with significant associations to poor ergonomic conditions. Early ergonomic interventions, improved workstation design, and awareness about posture and movement can help reduce MSD risk and enhance occupational well-being.

Keywords: Musculoskeletal Disorders, Ergonomics, IT Professionals, Occupational Health, Cross-sectional Study.

SP-8: FREQUENCY OF BLOOD DONOR DEFERRAL AND ITS CAUSES IN THE REGIONAL BLOOD BANK, LAHORE.

Author: Amna Liaquat

Central Park Medical College Lahore, Pakistan

Objective: The study's purpose was to measure how often blood donors are deferred and which reasons account for their deferrals at the blood bank. The research aims to inform updates in selecting blood donors, medical responses for the public, and attracting potential blood donors.

Methods: The data used for the study came from volunteers who donated blood from January 2018 to December 2021. Everyone who donated was needed to complete a standard 23-item Universal Donor History Questionnaire (UDHQ), have a medical review and take post-donation infectious disease screenings. Researchers used SPSS version 22.0 for analysis of the data. The research team relied on chi-square (χ^2) tests for typical datasets and independent t-tests for continuous variables, where $p < 0.05$ was considered significant.

Results: Among the 26,453 donors checked, 1,063 had to be deferred (4%). Most doctors chose to defer due to low haemoglobin levels (in 43.9%), syphilis (13.17%) and hepatitis C virus (9.97%). Most donors who were declined because of anaemia were females. A higher number of students (68.4%) had a temporary deferral than those who had permanent ones (31.5%). Among young people (aged 19–28 years), anaemia, not being the right weight, recent dental tips, and aftershave practices with contaminated blades were common reasons why they were not allowed to donate.

Conclusion: Blood donor deferrals reveal certain health issues in this group, such as nutrition deficiencies and infections that can be passed through a blood transfusion. Clinics that follow up with deferred donors and offer informed health care to target groups can lead to safer donated blood. The information gathered from this study will aid in crafting policies on donating blood and using transfusions in low-resource areas.

Keywords: Blood donation, donor deferral, transfusion safety, anaemia, infectious diseases, Pakistan

SP-9: ASSOCIATION OF SERUM DIGOXIN CONCENTRATION WITH MORBIDITY AND MORTALITY IN PATIENTS WITH ATRIAL FIBRILLATION, HEART FAILURE AND REDUCED EJECTION FRACTION OF 45 % OR BELOW

Author: Laiba Irfan

Central Park Medical College Lahore, Pakistan

Background: Atrial fibrillation (AF) and heart failure with reduced ejection fraction (HFrEF) are common cardiovascular conditions linked to significant health burdens.

Objective: This review aims to study the relationship of serum digoxin concentration and mortality and morbidity outcomes in defined population.

Methods: We conducted a thorough search of databases such as PubMed, Google Scholar, and Cochrane Library, from inception until 20th Aug 2023. Studies that explored the relationship between serum digoxin concentration and mortality, morbidity, or other clinical endpoints in AF and HFrEF patients (ejection fraction $\leq 45\%$) were eligible for inclusion.

Results: The selected studies exhibited a wide range of designs, patient cohorts, and measured outcomes. The association between serum digoxin concentration, mortality and morbidity endpoints like hospitalization rates and cardiovascular events were assessed in these studies. Despite the methodological diversity, our systematic review uncovered consistent trends across the studies, suggesting that elevated serum digoxin concentrations may correlate with higher mortality and morbidity in AF and HFrEF patients.

Conclusion: This systematic review emphasizes the need for cautious management of serum digoxin levels in patients with concurrent AF and HFrEF. While digoxin remains a valuable treatment for heart failure, its potential adverse effects on outcomes in this specific patient subgroup call for vigilant monitoring and individualized treatment approaches. Further research is required to elucidate the dose-response relationship and potential confounding factors influencing outcomes associated with serum digoxin concentration in AF and HFrEF patients. Clinicians should consider these findings when making therapeutic decisions to enhance patient care and outcomes.

POSTER PRESENTATION

PO-01: IMPACT OF SEHAT SAHULAT PROGRAMME ON PATEINT'S WORKLOAD AND PUBLIC OPINION IN PRE- AND POST-BAN PERIOD.

Authors: Maryam Ali Khan, Zaheda Pathan, Tahreem Zeb

Women Medical College, Abbottabad, Pakistan

Background/Objectives: Sehat Sahulat programme acted as a pioneering step towards universal and/or affordable healthcare in The Sehat Sahulat Programme marked a major step toward universal and affordable healthcare in Pakistan, drawing inspiration from systems in countries like the U.S., U.K., India, and Bangladesh. It strengthened Pakistan's healthcare infrastructure, improving access for underserved populations and prompting significant administrative and clinical reforms. However, a change in government temporarily halted the programme, which was later reinstated due to strong public demand. The study has two main objectives. First, to gather unfiltered perspectives from beneficiaries during and after the programme's suspension. Second, to survey healthcare professionals who experienced major system changes. These insights are compared to evaluate the programme's impact, highlight its challenges, and recommend improvements for future healthcare initiatives.

Methods: This study employed a mixed-methods approach, combining both qualitative and quantitative methods to provide a comprehensive understanding of the Sehat Sahulat Card's impact. Quantitatively, data was collected through self-constructed questionnaires administered to healthcare professionals working under the program and patients admitted to hospitals under the Sehat Sahulat Card. The questionnaire encompassed sociodemographic questions and inquiries about experiences during the ban and post-ban periods. Qualitatively, Focus Group Discussions (FGDs), Focus Group Interviews, and In-Depth Interviews were conducted to explore the experiences, perceptions, and opinions of healthcare professionals and patients. By integrating both methods, this study aimed to capture a nuanced and multifaceted understanding of the Sehat Sahulat Card's effects.

Results: The study revealed key socio-economic insights about Sehat Sahulat Card users. About 35% of respondents were from the lower economic class and 23% from the middle class, highlighting the card's role in improving healthcare access. A strong majority (96%) viewed the card positively, with 176 respondents calling it completely successful. During the ban, 52.2% faced financial hardship and 49.1% reported increased stress, while 49.6% were dissatisfied with alternative treatments. After the ban was lifted, 75.2% experienced reduced stress. Overall, 95.5% expressed satisfaction with the card, and 98.3% supported similar initiatives. Healthcare professionals were also impacted, with 90.2% reporting longer working hours and 88% facing greater administrative burden. As a result, 71.6% noted increased stress, potentially affecting patient care. Post-ban, 71.6% reported reduced workload. However, 26.8% of staff at referral-free tertiary facilities like Ayub Teaching Hospital continued to face high workloads due to increased patient referrals.

Conclusion: Overall, the Sehat Sahulat Programme improved patient care and satisfaction, especially for low-income communities, highlighting its importance as a healthcare solution. The findings also call for expanding the program to more hospitals to manage the increased patient load and improve care delivery.

Keywords: Sehat Sahulat Programme, Sehat Sahulat Card, Universal Healthcare, Healthcare Systems, Public Opinion, Patient Workload, Sehat Sahulat Card Ban.

PO-02: EXPLORING KNOWLEDGE, ATTITUDES, AND PRACTICES OF MEDICAL AND DENTAL STUDENTS REGARDING ARTIFICIAL INTELLIGENCE (AI) AND AI-BASED CHATBOTS

Authors: Sardar Noman¹, Sobia Saeed²

- 1. Bacha Khan Medical College, Mardan, Pakistan*
- 2. Women Medical College, Abbottabad, Pakistan*

Background/Objectives: Artificial Intelligence (AI) endows machines with human-like abilities such as learning, analyzing, decision-making, and problem solving. This KAP study provides a comprehensive analysis of the knowledge, attitudes, and practices of medical and dental students based on gender, academic year, and institution types.

The key objectives include:

- a) Assessing interest, knowledge, attitude, general perception, and practice.
- b) Exploring gender, course (MBBS vs BDS), institute type (private or public), and education year differences in interest, knowledge, attitude, and practices regarding AI.

Methods: Sample size was calculated using OpenEpi.com with a 95% confidence interval and 5% margin of error. A tool was developed based on literature for data collection, including items for interest, knowledge, attitude, practice, and general perception of AI and AI-powered chatbots. Google Forms and hard copies of the questionnaire were used to collect data.

Results: The study sample consisted of 50.9% males and 49.1% females, with 86% MBBS students and 16% BDS students. The participants were from both public (56.7%) and private (43.3%) institutes, with a mean age of 21.81 ± 1.712 years. The questionnaire demonstrated good reliability with a Cronbach's alpha of 0.887. The analysis revealed a mean knowledge score of 20.81 ± 5.11 and a mean attitude score of 54.74 ± 8.42 . A significant gender difference was found in interest in technology ($p = 0.014$), while education field, education year, and institute type showed no significant differences. Specifically, 59.8% of students demonstrated good knowledge of AI, while 49.6% had a positive attitude. There were no significant differences in AI knowledge and attitude scores, except for a significant gender difference in AI attitude ($p = 0.003$). Further analysis revealed that 80.7% of participants had used AI-based chatbots, and 96.5% of them agreed that AI made their tasks easier. Significant differences were observed in the use of AI chatbots based on gender ($p < 0.0001$) and institute type ($p = 0.019$).

Conclusion: The study findings indicate that medical and dental students have good knowledge and positive attitudes towards AI, with the majority utilizing AI-based chatbots and finding them useful. However, significant gender differences were observed, with females demonstrating lower interest in technology and AI-related attitudes.

Keywords: Artificial Intelligence, Machine Learning, Deep Learning, Medical Education.

PO-03: STRESS PREVALENCE AMONG MEDICAL STUDENTS: A COMPARISON OF PUBLIC AND PRIVATE MEDICAL COLLEGES IN KHYBER PAKHTUNKHWA (KPK), PAKISTAN

Authors: Eman Nadeem, Bakhtmeena Nizam, Eman Ahmad, Ayesha Bibi, Fareeha Gul.

Women Medical College, Abbottabad, Pakistan

Background/Objectives: Medical education is a demanding field, with stress being a major source of concern. Contributing factors include academic workload, financial problems, and family dynamics. This study aims to highlight the prevalence of stress among medical colleges of KPK, Pakistan, and focuses on distinct challenges faced by students in public versus private institutions.

Methods: A cross-sectional study was conducted on 325 medical students from two public and two private medical colleges. Participants included students from 1st–5th year MBBS and 1st–4th year BDS programs. Data was collected through a structured self-administered questionnaire evaluating stress based on academic pressure, financial constraints, demotivation, family problems, and emotional well-being. Data analysis was performed using SPSS v20, applying chi-square and t-tests to identify significant correlations.

Results: Significantly higher stress levels were observed among private medical students compared to public sector students. Financial burden was a key stressor, affecting 30% of private students ($p=0.014$), and was strongly associated with family problems ($p=0.000$) and demotivation ($p=0.010$). Loneliness was more prevalent in the private sector (41%; $p=0.000$). While academic pressure was significant in both groups, private students reported more difficulty with academic content ($p=0.050$) and revision (74% vs. 63%; $p=0.000$). Demotivation was associated with parental wish ($p=0.000$) and dissatisfaction with career choice ($p=0.012$), with 14.5% of private students dissatisfied with their choice.

Conclusion: Sector-specific stressors highlight the need for targeted interventions to alleviate stress among medical students. Financial assistance and mental health support are crucial for private institutions, while public institutions may benefit from academic mentoring and resource enhancement.

Keywords: Medical students, Psychological Stress, Public vs Private Medical Colleges, Academic pressure, Financial stress.

PO-04: VITAMIN D'S ROLE IN CARDIOVASCULAR DISEASES

Authors: Hamza Islam¹, Syed Muhammad Hassaan², Rabia Islam¹, Tamur Islam³, Fizza Zaidi², Haris Ur Rehman⁴, Muhammad Muheet Ul Haque⁵, Zoha Turabee⁵, Maria Asim⁶, Iftikhar Ahmad⁷, Ahmed Kunwer Naveed²

1. Department of Internal Medicine, Punjab Medical College, 38000 Faisalabad, Punjab, Pakistan
2. Department of Internal Medicine, Dow Medical College, 74200 Karachi, Sindh, Pakistan
3. Department of Internal Medicine, Medicare Hospital, 38610 Faisalabad, Punjab, Pakistan
4. Department of Internal Medicine, Ayub Medical College, 22040 Abbottabad, KPK, Pakistan
5. Department of Internal Medicine, Karachi Medical and Dental College, 74700 Karachi, Sindh, Pakistan
6. Department of Internal Medicine, Fazaia Ruth Pfau Medical College, 74350 Karachi, Sindh, Pakistan
7. Department of Internal Medicine, Saidu Medical College Swat, 19200 Swat, KPK, Pakistan

Background/Objectives: Vitamin D, through activation of the vitamin D receptor (VDR), influences key cardiovascular processes including renin–angiotensin–aldosterone system regulation, endothelial function, vascular smooth muscle proliferation, and inflammatory cytokine production. Observational evidence links vitamin D deficiency to increased cardiovascular disease (CVD) risk, yet randomized controlled trials (RCTs) of supplementation report inconsistent outcomes. This review synthesizes

mechanistic insights, cohort associations, and RCT findings to clarify vitamin D's role in CVD prevention and therapy.

Methods: A narrative review was conducted of preclinical studies examining VDR signaling in cardiovascular tissues, cohort analyses correlating serum 25-hydroxyvitamin D [25(OH)D] levels with CVD events and rehospitalization post-acute myocardial infarction, and RCTs assessing vitamin D supplementation in coronary artery disease (CAD), heart failure (HF), and general older adult populations. Key RCTs include Bahrami et al. (2018), Wu et al. (2015), Dalbeni et al. (2014), Virtanen et al. (2022), Manson et al. (2018), and Zittermann et al. (2017).

Results: Mechanistic data demonstrate that intact 1,25(OH)₂D/VDR signaling suppresses renin expression, enhances nitric oxide bioavailability, and attenuates pro-inflammatory cytokines (IL-6, TNF-α). Cohort studies reveal inverse associations between serum 25(OH)D levels and blood pressure, rehospitalization after myocardial infarction, and HF mortality. RCTs in high-risk cardiac patients report modest benefits: reductions in systolic and diastolic blood pressure, inflammatory markers, CAD severity scores, and improvements in left ventricular ejection fraction. In contrast, large primary prevention trials in generally healthy older adults show no significant reduction in major cardiovascular events, mortality, or secondary endpoints.

Conclusion: Vitamin D deficiency contributes to cardiovascular pathophysiology via RAAS overactivation, endothelial dysfunction, and inflammation. Supplementation yields beneficial hemodynamic and inflammatory effects in CAD and HF populations but does not reduce major cardiovascular outcomes in broader primary prevention settings. Future RCTs should focus on vitamin D-deficient individuals, standardized dosing regimens, and hard cardiovascular endpoints to determine the therapeutic value of vitamin D supplementation in CVD.

Keywords: cardiovascular diseases; heart failure; vitamin D; renin-angiotensin-aldosterone system; hypertension

PO-05: KNOWLEDGE, ATTITUDE AND PRACTICE OF NOMOPHOBIC BEHAVIOUR AMONG MEDICAL STUDENTS OF KPK.

Authors: Muneeba Ali, Khansa Gul

Ayub Medical College, Abbottabad, Pakistan

Background: Nomophobia - derived from 'no mobile phone phobia' - is a modern psychological condition involving fear or anxiety when unable to use mobile phones. This growing smartphone dependence is particularly evident among medical students, linked to anxiety, insomnia, poor concentration, and academic difficulties.

Objectives: The objectives of the study are:

- To evaluate medical students' knowledge of nomophobia, its definition, and consequences.
- To explore attitudes toward smartphone dependency and its perceived impact on concentration, productivity, and social interactions.
- To analyze behavioural patterns including usage frequency, dependency levels, and anxiety triggers during phone separation.

Methods: This cross-sectional study surveyed 350 KPK medical students (July 2nd to 11th, 2025) selected via convenience sampling. Using Raosoft calculator for sample size determination, data were collected through self-administered Google Forms questionnaires and analyzed in SPSS-20.

Results: Among 350 respondents (66.6% female), 55.7% were familiar with the term nomophobia while 44.3% were unaware. Psychological impacts were widely acknowledged, including reduced attention span (60.6%) and anxiety (60.3%). Phone dependency affected academics and social interactions for over half of participants. Usage patterns showed 37.1% spent 4-6 hours daily on their phones, with 70.6% experiencing separation anxiety and 67.7% anxiety during low battery situations.

Conclusion: The study reveals significant mobile phone dependency among KPK medical students, with notable impacts on attention span. These nomophobic behaviours threaten academic focus and well-being, underscoring the need for awareness campaigns promoting mindful phone usage.

Keywords: Nomophobia, medical students, phone dependency.

PO-06: A CASE REPORT OF MUCINOUS TUBULAR AND SPINDLE CELL CARCINOMA OF THE KIDNEY

Authors: Abdul Basit Khan¹, Jawad Khan², Haris Rehman¹, Ahmed Mustafa Faisal¹

1. Ayub Medical College, Abbottabad
2. Ayub Teaching Hospital, Abbottabad

Objectives: Mucinous Tubular and Spindle Cell Carcinoma (MTSCC) is a rare renal tumor, accounting for 1% of renal tumors. This case highlights MTSCC's distinctive features on imaging and histopathology, diagnostic challenges, and importance of accurate diagnosis for optimal management.

Case Presentation: We report a 35-year-old female presenting with right flank pain and a 6.3 cm exophytic hypodense enhancing mass on CT KUB, in the superolateral aspect of the right kidney. Histopathology revealed characteristic tubular and spindle cell morphology with mucinous stroma, confirming MTSCC.

Intervention: Surgical resection via right partial nephrectomy through subcostal approach was performed.

Outcomes: The surgical outcome was good, and a follow-up CT KUB at 6 months was planned with an annual review afterward. The prognosis was deemed favorable.

Conclusion: MTSCC are incredibly rare RCC variants and may originate from the distal nephron. Renal tumors like papillary RCC resembles MTSCC in its histological feature, hence a thorough histological examination is necessary. A long-term survival is possible when surgical resection of the mass is carried out. To ensure the best possible care in terms of prognosis, adjuvant therapy, surveillance, and a precise diagnosis is essential.

Keywords: Mucinous Tubular and Spindle Cell Carcinoma, renal tumor, partial nephrectomy, case report.

PO-07: PREVELANCE OF JOB SATISFACTION AMONG FACULTY OF BASIC SCIENCES IN WOMEN MEDICAL COLLEGE, ABBOTTABAD, PAKISTAN.

Authors: Rabeeha Sheikh, Samavia Idrees, Laiba Aziz

Women Medical College, Abbottabad, Pakistan

Background/Objectives: Job satisfaction is a key factor influencing employee motivation, performance, and overall workplace well-being. In academic settings, job satisfaction among faculty members is critical, as it directly impacts teaching effectiveness, research productivity, and student outcomes.

Methods: A descriptive cross-sectional study was done, including 60 faculty members from basic sciences from Women Medical College Abbottabad. Data collection was carried out using a job satisfaction questionnaire with six constructions, which were adapted and modified from a previous study.

Results: The study found that 77% of participants were highly satisfied with a mean job satisfaction score of 65.58 ± 20.33 , high satisfaction scores were seen in general working conditions (4.07 ± 0.989) and work relationships (4.10 ± 1.020). However, the lowest satisfaction was noted in pay and promotion potential (2.37 ± 1.164).

Conclusion: Participants generally experienced a high level of job satisfaction, particularly in aspects related to working conditions and interpersonal relationships, while notable dissatisfaction was seen concerning compensation and career advancement opportunities. The highest satisfaction levels were associated with the nature of the work, daily working hours, and supportive workplace relationships, suggesting that these factors positively influence overall job satisfaction.

Keywords: Basic sciences, job satisfaction, faculty performance, motivation

PO-08: ASSOCIATION BETWEEN SOCIOECONOMIC STATUS AND PREVALENCE OF NON-COMMUNICABLE DISEASE RISK FACTORS IN ABBOTTABAD, PAKISTAN.

Authors: Aamenah Rustam, Areeba Mukhtar, Aqsa Shad, Arooba Nawaz

Women Medical College, Abbottabad, Pakistan

Background: This research aimed to highlight the significant role of socioeconomic status (SES) in the prevalence and development of NCDs. Individuals with low SES often face environmental challenges, such as limited access to clean water, nutritious food, and adequate housing, which heighten their risk for poor health outcomes.

Methodology: A cross-sectional study design was used to survey 368 patients from two public and two private hospitals. The participants included patients with either hypertension, diabetes or obesity from different socioeconomic status from the age 30 to 70 yrs. Data was collected using a self-administered structured questionnaire, SPSS version 25 was employed for statistical analysis, using chi-square and t-tests to identify significant relationships.

Results: This study found strong associations between socioeconomic status and both hypertension ($p = 0.031$) and diabetes ($p = 0.002$), with higher socioeconomic classes showing lower prevalence. Socioeconomic status was not significantly linked to BMI ($p = 0.134$) but was associated with greater physical activity ($p = 0.000$). No significant association was found between diabetes and BMI ($p =$

0.462), though BMI was strongly associated with hypertension ($p = 0.008$) and lower physical activity ($p = 0.024$). Physical inactivity was significantly linked to hypertension ($p = 0.048$) and diabetes ($p = 0.011$). Family history showed strong associations with both diabetes ($p = 0.000$) and obesity ($p = 0.000$).

Conclusion: In conclusion, this study demonstrates the relationship between socioeconomic status (SES) and the prevalence of non-communicable disease risk factors, revealing that individuals from lower and middle SES backgrounds are at significantly higher risk for these conditions.

Keywords: Socioeconomic status, Non-communicable Diseases, Hypertension, Diabetes Mellitus, Obesity

PO-09: BARRIERS TO FAMILY PLANNING IN MOTHERS REPORTING TO JINNAH INTERNATIONAL HOSPITAL ABBOTTABAD (JIHA), WOMEN AND CHILDREN HOSPITAL (WCH) ABBOTTABAD, and REGIONAL TRAINING INSTITUTE RTI) ABBOTTABAD

Authors: Sibgha Iftikhar, Sara Mehmood

Women Medical College, Abbottabad, Pakistan

Introduction: This study aims to explore the barriers to family planning among women attending Jinnah International Hospital, Women and Children Hospital, and the Regional Training Institute in Abbottabad. The primary objectives are to assess the influence of socio-demographic factors, spousal support, postpartum counselling, and stigma on contraceptive use. By identifying these barriers, the study seeks to inform targeted interventions that can enhance contraceptive uptake and improve reproductive health outcomes in the region.

Methodology: A mixed-methods cross-sectional design was employed, combining both qualitative and quantitative data. A purposive sample of 311 women was selected. Quantitative data were collected using structured questionnaires and analysed via SPSS v20, focusing on variables such as age, education, occupation, and family structure. Qualitative insights were gathered through focus group discussions to capture perceptions and lived experiences regarding contraceptive use.

Results: Findings revealed a strong association between spousal support and contraceptive use, with 62.2% of women whose husbands supported contraception actively using it ($p = 0.045$). While education showed no significant association ($p = 0.382$), informal sources—particularly family and friends (38.3%)—emerged as influential knowledge channels. Financial constraints were not a dominant barrier ($p = 0.210$), but postpartum counselling had a significant positive impact ($p = 0.000$). Although 29.6% of participants reported feeling stigmatized, stigma was not significantly associated with usage ($p = 0.654$).

Conclusion: The study highlights the importance of addressing both interpersonal and systemic factors in improving contraceptive uptake. Strengthening spousal involvement, integrating routine postpartum counselling, and enhancing provider-patient communication should be prioritized in family planning initiatives. These efforts can play a pivotal role in meeting the reproductive health needs of women in Abbottabad and fostering greater acceptance of contraceptive use.

Keywords: Family planning, contraceptive use, socio-demographic factors, spousal support, postpartum counselling, stigma

PO-10: PREVELANCE OF NOMOPHOBIA AND ITS ASSOCIATION WITH SOCIAL ANXIETY AMONG MEDICAL STUDENTS OF WOMEN MEDICAL COLLEGE, ABBOTTABAD, PAKISTAN.

Authors: Gul-E-Arzo, Hania Anab, Hajra

Women Medical College, Abbottabad, Pakistan

Objectives:

1. To identify the frequency of nomophobia among medical undergraduates of women medical college, Abbottabad.
2. To access the association between nomophobia and social anxiety among medical undergraduates of women medical college, Abbottabad.

Methods: The study design is cross-sectional and descriptive. A sample size of 150 is selected using the method of random sampling.

Results: According to the study's findings, 12.7% of young adults (17–25 years old) had mild nomophobia, 37.3% had high nomophobia, and 50% had moderate nomophobia. 13.3 % of subjects had mild social anxiety, whereas 31 % had high levels. Nomophobia and social anxiety were shown to be significantly correlated, with a p-value of 0.01, suggesting a substantial association between the two conditions.

Conclusions: Social anxiety is a significant contributing factor to the rise in nomophobia among medical students. Participants are frustrated with device access, fear being inaccessible, and require frequent phone check-ins. social anxiety and nomophobia are closely linked.

Keywords: Nomophobia, Social Anxiety, Medical Students, Smartphone Dependence, Mental Health, Technology Addiction, Mobile Phone Usage.

PO-11: SATISFACTION WITH HEALTH CARE SERVICES IN TERTIARY LEVEL HOSPITALS; A COMPARISON OF GOVERNMENT AND PRIVATE HOSPITALS OF ABBOTTABAD, KPK.

Authors: Tehreem Shehzad, Umaima Mamoon

Women Medical College, Abbottabad, Pakistan

Objectives:

1. To assess patient experiences in tertiary healthcare settings, such as staff attitudes, communication, accessibility, waiting times, and general quality of care.
2. To see differences in patient satisfaction level in government and private hospitals.

Methods: A Cross-sectional study was conducted over a period of 8 months from March 2024 to October 2024. The participants were selected through random Sampling. A Questionnaire of 24 Questions was distributed among 258 participants. Out of which Half of the Participants (129) were selected from Govt Hospitals and half from Private Hospitals of Abbottabad.

Results: The survey of 258 participants, mostly female 131(50.8%) with an average age of 38.5 years. 96% of private and 82% of public hospital patients appreciated the calm environment (p value=0.00). Affordability of medications was acknowledged by 61% of private and 51% of public patients (p value=0.06). Positive interactions with staff were reported by 97% of private and 88% of public hospital patients (p value=0.04). Additionally, 89% of private and 80% of public patients found waiting times reasonable (p value=0.01).

Conclusion: Our study shows that there is significant difference in patient satisfaction level between public and private sector hospitals. As far as provision of facilities like clean environment, bathroom facilities, treatment affordability, attitude of doctors and nurses/paramedics and waiting time are concerned patient showed more satisfaction with the facilities provided in private hospital than those provided in public hospitals as they were much better in private sectors as compared to public hospitals.

Keywords: Patient satisfaction, Health Care Services, Tertiary Care Hospital, Public Hospital, Private Hospital.

PO-12: EXPLORING KNOWLEDGE, ATTITUDE AND PERCEPTIONS OF PHARMACY AND MEDICAL STUDENTS ABOUT HIV PRE-EXPOSURE PROPHYLAXIS: A CROSS-SECTIONAL STUDY IN PAKISTAN

Authors: Usama Idrees¹, Bilal Ahmad ², Abdur Rehman², Maryam Alam Wazir³

1. Khwaja muhammad Safdar Medical college, Sialkot, Pakistan
2. Saidu Medical College, Swat, Pakistan.
3. Women Medical and Dental College, Abbottabad, Pakistan

Background & Objectives: Pre-Exposure Prophylaxis (PrEP) is a crucial strategy for preventing HIV transmission, yet its awareness and uptake remain limited in Pakistan. Future healthcare providers, including medical and pharmacy students, play a pivotal role in HIV prevention. This study aims to assess the knowledge, attitudes, and perceptions of pharmacy and medical students regarding PrEP to inform educational interventions and enhance HIV prevention strategies.

Methods: A cross-sectional study was conducted among fourth and final-year medical and pharmacy students from private and public institutions in Pakistan. Data were collected through a structured questionnaire assessing students' knowledge of PrEP, their attitudes toward its use, and perceptions regarding its implementation. Statistical analyses were performed using SPSS, with Spearman's correlation applied to evaluate relationships between knowledge, attitudes, and perceptions.

Results: Among 359 participants, 70.5% reported being aware of PrEP. However, knowledge gaps were evident, with misconceptions regarding pre-initiation testing (55.6%) and PrEP being mistaken for a vaccine (51.8%). Medical students exhibited higher knowledge scores than pharmacy students (p=0.001), while pharmacy students demonstrated more favorable attitudes (p<0.001) and perceptions (p=0.023). The correlation between knowledge and perception was negative but statistically insignificant (r = -0.100, p = 0.059), whereas the correlation between attitude and perception was positive and statistically significant (r = 0.555, p < 0.001). Gender and institution type also influenced knowledge levels.

Conclusion: While awareness of PrEP among healthcare students in Pakistan is relatively high, significant knowledge gaps persist, particularly among pharmacy students. Attitudes and perceptions were generally positive, highlighting the need for targeted educational interventions. Incorporating PrEP education into medical and pharmacy curricula could enhance preparedness for future HIV prevention efforts.

Keywords: HIV, PrEP, medical students, pharmacy students, cross-sectional study

PO-13: EVALUATING THE PREVALANCE OF DIFFICULT VENOUS ACCESS AND DETERMINING THE RISK FACTORS REALTED TO IT IN HEALTHCARE FACILITIES: A CROSS SECTIONAL STUDY.

Authors: Muneeba Rafique, Nimra Waheed.

Women Medical College, Abbottabad, Pakistan

Background/Objectives: In clinical practice, placing a peripheral intravenous catheter is standard procedure in medical and surgical wards yet, intravenous cannulation failure is a common occurrence.

Difficult intravenous access (DIVA) defined as the inability to obtain peripheral venous access after two or more attempts by a trained healthcare provider. Our research is done to access the prevalence of difficult venous access in hospital of Abbottabad, to identify the risk factor associated with difficult venous access and to determine the knowledge and practice of nurses towards care and maintenance of IV cannulation.

Methods: A cross-sectional observational study was conducted from February to August 2025 across three hospitals in Abbottabad: Ayub teaching hospital, DHQ, Jinnal International hospital, Pakistan. A total of 195 sample size of patients for DIVA and 100 sample size of nurses for evaluating their practices and knowledge were enrolled through stratified random sampling. Data were collected using a validated scale (DIVA score) that included sociodemographic variables and patients of 18 or older male or female admitted in above mentioned hospitals. Data were analyzed using SPSS version 20. Chi-square test and logistic regression were applied to assess associations.

Results: Out of 195 patients, 1st successful attempt rate was 56.9% and the variables affecting it were no visibility of target veins(33.3), hypovolemia(35.9%), diabetes mellitus(22.1%), renal insufficiency(30.8%), fastened for >6hours(43%), vascular diseases(31.3%). It was noticed that patient with 2 or more attempt rate had history of 37.5% difficult cannulation. Site and size of catheter also affect the first attempt rate. 60% site were hands and 36.9% were forearm. The most commonly gauge size in practice were 20 gauge(45.1%) and 24 gauge (40.5%). Among 195 patients, 33.3% patients have DIVA score of 4 suggesting higher likelihood of failed first attempt. It has been seen that difficult intravenous access related to nurses practice and knowledge too. As nurses experience, degree do affect the outcome, findings revealed that among 97 sample size only 20 % were specialized, 57.7% were students nurses practicing in government and private hospitals. Staff nurses were 16.5%, 45.4% were aware with factors that influence the risk of infections while 62% were neutral and 3.1% disagreed. 85.5% were aware of complications of IV cannulation.

Conclusion: It is the first time evaluation of DIVA score in Pakistan especially done in Abbottabad. It is a reliable and predictive scale to identify the risk factors in patients with difficult intravenous cannulation. If it is used in daily practice then 1st attempt success rate would be increased. In contrast

patients with 4 or more DIVA scale should be provided with near infrared vein finders and ultrasound machines provided in government and private hospitals.

Keywords: Difficult intravenous access(DIVA), Nurses practices and knowledge,Cross sectional Study.

PO-14: ROBOTIC VERSUS LAPAROSCOPIC LEFT COLECTOMY: A META-ANALYSIS OF OVER 70,000 PATIENTS ACROSS 24 TRIALS

Authors: Shiza Abid¹, Kanza Farhan², Erum Siddiqui², Muhammad Saad Khan², Muhammad Burhan Tariq², Maliha Khalid², Cecille Nemeth³

1. Ayub Medical College, Abbottabad, Pakistan.
2. Jinnah Sindh Medical University, Karachi, Pakistan.
3. Kirksville College of Osteopathic Medicine, Kirksville, MO, USA.

Background: Robotic-assisted left colectomy (RLC) is increasingly utilized for the management of colorectal illnesses; nonetheless, there remains debate regarding its superiority over laparoscopic left colectomy (LLC). This meta-analysis integrates data from 24 studies including over 70,000 people to provide a comprehensive overview of the outcome disparities pre- and post-surgery.

Methods: We conducted a comprehensive search on PubMed, Scopus and Cochrane (2004 to 2025) to identify studies comparing RLC vs LLC in adults. We utilized RevMan 5.4 to amalgamate the data and employed random-effects model to determine the risk ratios (RRs) and mean differences (MDs). Subgroup and sensitivity analyses were conducted based on the clinical indication and heterogeneity.

Results: A total of twenty-four investigations were included. RLC significantly reduced the likelihood of requiring open surgery (RR0.53), experiencing postoperative complications (RR0.87), encountering an anastomotic leak (RR 0.84), developing a superficial wound infection (RR 0.79), and necessitating additional surgery. Results were significantly more robust when high-variance trials were excluded from the sensitivity analysis. Operative time was significantly extended with RLC (MD+40 minutes), although there were no changes in mortality (RR 1.26;p=0.07) or hemorrhage (RR 1.00). In instances of diverticular disease, subgroup analysis indicated that RLC did not alleviate postoperative ileus. No significant changes were observed in Clavien-Dindo >2 complications or stoma formation.

Conclusion: RLC demonstrates modest yet clinically significant advantages compared to LLC, particularly in reducing the incidence of surgical conversions and sequelae. These findings advocate for its application in a select group of patients, considering the duration of treatment and institution's resources.

Keywords: Robotic Surgery, Laparoscopy, Left Colectomy, Meta-analysis, Anastomotic Leak, Postoperative Complications

PO-15: ASSOCIATION OF DIET QUALITY AND PHYSICAL ACTIVITY WITH BODY MASS INDEX AMONG THE STUDENTS OF WOMEN MEDICAL AND DENTAL COLLEGE, NAWANSHEHR, ABBOTTABAD

Authors: Marriam Naushad, Marva Ali, Maraib Fatma, Malaika Noor

Women Medical College, Abbottabad.

Background: Since medical students are supposed to provide an example of healthy living, it is especially important for them to comprehend the connection between nutrition, exercise, and body mass index (BMI). Despite this knowledge, students may find it difficult to maintain a healthy BMI due to lifestyle issues.

Methods: 250 MBBS and BDS students participated in a cross-sectional study at Women Medical and Dental College in Abbottabad. The International Physical Activity Questionnaire (IPAQ) was used to measure physical activity levels, while the Healthy Eating Index (HEI) was used to evaluate dietary habits. WHO criteria were used to classify BMI. SPSS version 20 was used to analyse the data. Using chi-square tests, relationships between variables were identified.

Results: The majority of participants (63.6%) had normal BMIs, with 2% being obese, 14.4% being overweight, and 20% being underweight. Most ate little in the way of fruits, vegetables, and whole grains, although 70% were moderately active. The relationship between BMI and physical activity or food quality was not statistically significant. There was no correlation between differences in BMI, nutritional quality, or levels of physical activity and the year of study or program (MBBS vs. BDS).

Conclusion: BMI did not correspond with either component in this group, despite low to moderate levels of physical activity and typically poor food quality. These results point to the necessity of more comprehensive interventions that target other environmental, psychological, and behavioural factors that influence BMI.

Key words: Diet quality, Body mass index, physical activity

PO-16: ASSESSING THE INFLUENCE OF MINDFULNESS AND MEDITATION ON STRESS IN MEDICAL STUDENTS

Authors: Urooj Iqbal, Mahnoor, Kinza khan

Women Medical And Dental College Abbottabad, Pakistan

Background/Objectives: Stress starts to build up early in medical training and stays high during residency. Researches reveal that 46.6% of medical students have low levels of a sense of personal accomplishment, 34% feel significant degrees of depersonalization toward others, and 34% experience emotional tiredness. It has been demonstrated that mental silence-oriented meditation is a secure and successful method for helping full-time employees cope with work-related stress and depression symptoms.

Results: A significant association was found between motivation for mindfulness/meditation and likelihood of recommending it ($p < .001$), with 70.0% of those citing personal growth/spiritual reasons recommending it versus 23.1% with “other” motivations. Sleep duration was significantly associated with medication/therapy use for stress ($p = .005$), highest among students sleeping <4 hours (21.1%). Sleep duration was also linked to participation in structured mindfulness program ($p = .001$),

highest among those sleeping ≥ 8 hours (23.5%). Living situation was related to medication/therapy use ($p < .001$), highest in off-campus shared hostels (12.0%). Year of study correlated with structured program participation ($p = .005$), highest in Year 5 (35.0%) and lowest in Years 1–3 ($\leq 3.6\%$). Age was significantly associated with program participation ($p = .002$), highest at ages 19 (25.0%) and 25 (16.7%), and zero at age 20. No significant association was found between academic program (MBBS/BDS) and perceived improvement in recognizing stress triggers ($p = .877$).

Methodology: The purpose of this research is to assess how well mindfulness and meditation techniques can reduce stress among medical students at Women Medical and Dental College in Abbottabad, Pakistan. **230 students** between the ages of 18 and 25 were chosen. **MBBS and BDS students** were enrolled through cluster followed by simple random sampling. Data was collected via structured **Google Forms** questionnaire and analyzed using **SPSS version 20** between May and August 2025. Descriptive statistics (frequencies and percentages), cross tabulations and chi square tests were applied to determine association between. A **p-value of <0.05** was considered statistically significant.

Conclusion: Participation in mindfulness and meditation techniques is strongly correlated with demographic and lifestyle parameters, such as age, year of study, living circumstances, sleep duration, and personal motivation. According to these results, medical students may experience less stress and burnout if they get focused mindfulness-based therapies.

Keywords: Mindfulness, Meditation, Stress, Medical Students, Burnout, Chi-square Analysis

PO-17: ASSOCIATION OF LIFESTYLE INTERVENTIONS AND GESTATIONAL DIABETES

Authors: Haram Fatima, Zubda malik

Women medical and dental college, Abbottabad, Pakistan

Introduction: Gestational diabetes mellitus (GDM) is a major public health concern affecting maternal and neonatal health. There is a higher chance of perinatal morbidity for women with GDM. The prevalence of GDM is also expected to continue to rise, placing a significant strain on the country's healthcare system.

This study was done to observe the association of diet, physical exercise (before and during pregnancy) with gestational diabetes development.

Methodology: By using descriptive cross sectional study design 100 pregnant females in Ayub teaching hospital, Abbottabad international hospital and Jinnah international hospital (Abbottabad) were selected through convenient sampling technique.

Results: Our study showed that family history of diabetes mellitus, consumption of sugary and fried foods are strongly statistically associated with GDM. Our study didn't find any strong association with Physical activity and GDM.

Conclusion: By continuing healthy lifestyle and dietary modifications before and during pregnancy can reduce the risk of GDM.

Keywords: Gestational diabetes mellitus (GDM), physical activities, diet, lifestyle interventions.

PO-18: RECURRENT RHINOPHYMA: A CASE OF TRIPLE RELAPSE AND THERAPEUTIC CHALLENGES

Authors: Bilal Aslam¹, Muhammad Abbas¹, Syed Muhammad Tayyab¹, Samreen Najeeb², Fazeela Bibi³, Ahmad Sanan⁴, Said Hamid Sadat⁵

1. University of Lahore, Lahore.
2. Women Medical College, Abbottabad.
3. Jinnah Medical and Dental College, Karachi.
4. Khyber Medical College, Peshawar.
5. Kabul University of Medical Sciences, Kabul.

Background/Objectives: Highlights the diagnostic and surgical challenges in recurrent rhinophyma and emphasizes the histopathology and long-term follow-up.

Case presentation: We report a case of a 66-year-old guy with a history of recurrent rhinophyma who has undergone two prior surgical excisions. The patient demonstrated advancing nasal hypertrophy despite previous treatments. The clinical examination demonstrated significant thickening of the nasal skin and a lobulated deformity. Imaging verified significant sebaceous gland hyperplasia, and histological assessment excluded cancer. Administration and Results: Surgical excision with tissue debulking was effectively executed, resulting in considerable cosmetic and functional enhancement. Postoperative surveillance revealed no immediate problems; nonetheless, the elevated recurrence rate highlights the need for long-term follow-up and alternative treatment strategies.

Discussion: Rhinophyma, a rare and progressive manifestation of late-stage rosacea, predominantly affects elderly males and often necessitates repeated surgical intervention due to its high recurrence rate. Our case involved a 67-year-old male presenting with typical clinical features and partial nasal obstruction, warranting further surgical management.

Conclusion: This case underscores the difficulties in handling recurrent rhinophyma, highlighting the necessity for precise surgical methods, postoperative monitoring, and the investigation of supplementary therapy to avert recurrence.

Keywords: Rhinophyma, recurring rhinophyma, nasal mass, reconstructive surgery, surgical excision.

PO-19: DEDIFFERENTIATED LIPOSARCOMA OF THE KIDNEY: SURGICAL MANAGEMENT AND DIAGNOSTIC INSIGHTS

Authors: Syed Suleman Shah¹, Jawad Khan²

1. Abbottabad International Medical Institute, Pakistan
2. Ayub Teaching Hospital, Abbottabad, Pakistan

Background: A 62-year-old male presented with a two-month history of right flank pain and decreased appetite. Clinical evaluation revealed a palpable, non-tender mass in the right flank. Laboratory tests showed mild anemia (hemoglobin 9.3 g/dL) with otherwise normal renal function. Contrast-enhanced CT revealed a large heterogeneous mass in the lower pole of the right kidney with mixed densities, fatty components, and coarse calcifications. Angiomyolipoma was initially suspected.

Case Presentation: After multidisciplinary discussion, the patient underwent radical nephrectomy. Gross examination revealed a lobulated, yellowish tumor with necrotic and hemorrhagic areas. Histopathology confirmed dedifferentiated liposarcoma, showing spindle cell proliferation, moderate nuclear atypia, and mature adipocytes. Immunohistochemistry was positive for MDM2 and p16. The tumor was staged pT3aNxM0. Postoperative monitoring was initiated.

Discussion: Dedifferentiated liposarcoma of the kidney is extremely rare and often mimics benign tumors such as angiomyolipoma. Imaging alone may not provide a definitive diagnosis. Histopathology and immunohistochemical markers like MDM2 are key for accurate identification. Surgical resection remains the mainstay of treatment due to poor responsiveness to adjuvant therapies.

Conclusion: This case emphasizes the importance of considering dedifferentiated liposarcoma in the differential diagnosis of renal masses with fatty elements. Early surgical management is critical to achieving favorable outcomes.

Keywords: Dedifferentiated liposarcoma, kidney, management, surgery, case report

PO-20: ASSOCIATION BETWEEN SCREEN TIME AND SLEEP DISTURBANCES AMONG MEDICAL STUDENTS: A CROSS-SECTIONAL STUDY IN ABBOTTABAD, PAKISTAN

Authors: Mahnoor Rasheed, Javeria Iqbal, Khansa Mukhtiyar, Bibi Hamda

Women Medical College, Abbottabad.

Background: Sleep is essential for maintaining physical and mental health, particularly among medical students who experience high levels of academic stress. With the rising use of smartphones and digital devices, there is growing concern over the impact of prolonged screen exposure on sleep patterns. Screen time, especially at night, can disrupt circadian rhythms and suppress melatonin, leading to impaired sleep quality.

Objectives: To evaluate the association between screen time duration and the prevalence of sleep disturbances among medical students in Abbottabad, Pakistan.

Methods: A cross-sectional study was conducted in July 2025 among medical students from Women Medical College, Abbottabad. Participants were recruited through convenience sampling. Data were collected using a structured questionnaire, which included screen time duration, frequency of device use before bedtime, and the Pittsburgh Sleep Quality Index (PSQI). Statistical analysis was performed using SPSS version 26. Correlation analysis and chi-square tests were used to assess the relationship between screen time and sleep quality.

Results: Preliminary analysis indicated that students with daily screen time exceeding 5 hours reported a significantly higher prevalence of poor sleep quality (PSQI > 5), particularly those who used devices immediately before sleeping. A moderate negative correlation ($r = -0.24$) was observed between total screen time and sleep quality. Increased non-study screen use was also associated with reduced sleep duration and more frequent sleep disturbances.

Conclusion: Excessive screen time is significantly associated with poor sleep quality among medical students. Interventions targeting digital habits, especially nighttime device use, may help improve sleep health in this population.

Keywords: Screen Time, Sleep Disturbance, Medical Students, Sleep Quality, Pakistan, Cross-Sectional Study

PO-21: PAGING THE WORLD: WHAT DRIVES PAKISTANI DOCTORS TOWARDS GLOBAL CERTIFICATION?

Authors: Noorain Jadoon, Alishba Zainab, Omama Tariq, Zarqa Manzoor, Sundas Zarin

Women Medical College, Abbottabad, Pakistan

Background/Objectives: The increasing migration of Pakistani medical graduates towards global certification routes such as USMLE, PLAB, and AMC highlights a critical phenomenon of medical brain drain. This trend reflects deep-rooted dissatisfaction with local healthcare systems and growing attraction towards international training and work environments. This study aimed to explore the motivations, barriers, and influencing factors driving medical students and junior doctors in Pakistan to pursue foreign licensing exams.

Methods: A cross-sectional, quantitative study was conducted between June and August 2025 at Women Medical College and its affiliated hospitals, DHQ and Jinnah International Hospital, Abbottabad. A total of **230 participants**, including MBBS students (1st to 5th year), House Officers, and Medical Officers, were enrolled through **cluster followed by simple random sampling**. Data were collected via a structured **Google Forms** questionnaire and analyzed using **SPSS version 27**. Descriptive statistics (frequencies, percentages), **Chi-square tests** were applied to determine associations between year of study and preparation status. A **p-value of <0.05** was considered statistically significant.

Results: Out of 230 participants, **82.6%** planned to pursue global certification. The **primary motivations** reported were financial stability (58.1%), lack of opportunities (53.8%), and quality postgraduate training abroad (52.2%). The most **influential factors** included long-term career progression (40%), postgraduate training (39.1%), and international exposure (35.7%). A significant association was found between **year of study** and **exam preparation status** ($p < 0.001$). Moreover, only **29.1%** reported receiving institutional career counseling, while **49.1%** admitted to being influenced by social media. Notably, **81.7%** indicated they would consider staying in Pakistan if local training programs were improved.

Conclusion: The study reveals a strong inclination among Pakistani medical students and junior doctors towards global certification, driven largely by professional growth and systemic dissatisfaction. These findings underscore the need for structured reforms in local postgraduate training and improved institutional support to retain medical talent within the country.

Keywords: Medical Migration, Brain Drain, USMLE, PLAB, Pakistani Doctors, Foreign Certification, Medical Education, Career Motivation

PO-22: SERUM TAU PROTEIN AND NEUROFILAMENT LIGHT CHAIN AS EARLY BIOMARKERS FOR ALZHEIMER'S DISEASE: A COMPARATIVE ANALYSIS FOR DIAGNOSTIC EFFICACY

Authors: Amna Tehreem, Quindeel Naveed, Mirza Umer Baig, Esha Babar Baig, Dr. Nimra Sarfraz, Dua Zahra, Naa Odokor Shedah Oddoye, Dr Rimsha Murad, Mubashra Amjad, Nayab Shahid Qureshi, Ayesha Rawan, Dr. Farah naz tahir, Rabbia Rehan, Misbah Aslam

Central Park Medical College, Lahore, Pakistan

Background/Objectives: Within the framework of this research, the diagnostic significance of serum tau and NfL in early-time Alzheimer's disease (AD) was investigated through screening of healthy individuals and patients with early AD. Within the framework of this study, there were 200 participants screened, out of which patients with early stages of AD and their age-matched counterparts made two groups.

Methods: Serum tau and NfL organizational and clinical biorepositories were prepared according to ELISA and ROC methods respectively.

Results: A significant difference in the level of tau serum ($p < 0.01$) and NfL ($p < 0.01$) was found in AD patients when compared with controls. The AUC values for tau and NfL were 0.87 and 0.9 respectively establishing the biomarkers as potent.

Conclusion: Blood tau and NfL levels are useful non-invasive techniques to detect AD in asymptomatic patients with NfL being slightly more sensitive than tau. Further research needs to identify whether the two are more effective when used singly or in combination.

Keywords: Alzheimer, neurofilament light chain, bialka tau

PO-23: INCIDENCE OF POSTPARTUM HEMORRHAGE IN INDUCED VERSUS NORMAL LABOUR

Authors: Minal Fatima , Zahra Aman

Central Park Medical College, Lahore, Pakistan

Aim: Postpartum haemorrhage (PPH), defined as blood loss exceeding 500 mL within 24 hours of childbirth, remains a major cause of maternal morbidity and mortality worldwide. PPH can result in severe complications, including anemia, transfusion requirements, organ dysfunction, and even maternal death. Prompt recognition, effective management and risk reduction strategies are essential for improving maternal outcomes **Objective:** To examine the cause and frequency of Postpartum Hemorrhage (PPH) in induced versus normal labour.

Methods: This research was conducted in the Obstetrics and Gynecology Department. Unit no.2 at the Central Park Teaching Hospital. The research was conducted on three hundred and ten (310) patients, who were classified into two equal groups for the purposes of fair comparison, Group 1 consisted of one hundred and fifty-five (155) women who were either induced or had a cesarean section whereas Group 2 had one hundred and fifty-five (155) women who underwent a normal labour. The study was conducted in a six (6) month time duration from May 2023 to July 2023, the reason for PPH was observed and recorded in both groups. The patients and the hospital were informed beforehand of the

research and written, and at times oral consents were taken from both for recording the information below.

Results: After examining both Group 1 and Group 2. It was observed that induced labour was associated with 5.8% higher risk of PPH as compared to normal labour. It was further observed that frequency of PPH was highest in women induced by oxytocin as compared to women induced by prostaglandin.

Practical Implications: It will help in early and prompt management of labour and it also suggest that labour shouldn't be induced until unless it's indicated and otherwise it can lead to post-partum hemorrhage.

Conclusions: The risk of PPH increases with inducing the labour as compared to normal labour which is why a patient should only be induced in case of utmost emergency. Moreover, if such an emergency does arise, one should use prostaglandin as they are safer than oxytocin.

Keywords: Postpartum Hemorrhage, Induction, Induced Labour, Labour, Spontaneous Labour, Normal Labour

PG-01: PENILE THREAD TOURNIQUET SYNDROME IN A 10-YEAR-OLD CHILD: A RARE PRESENTATION BEYOND INFANCY

Authors: Aamir Khan, Jawad Khan

1. Ayub Teaching Hospital, Abbottabad, Pakistan

Background/Objectives: Penile Thread Tourniquet Syndrome (PTTS) is a rare pediatric urological emergency usually observed in infants, caused by hair or thread constriction around the penis. It can lead to ischemia, necrosis, or even penile amputation if not promptly managed. We report a unique case of PTTS in a 10-year-old male—a rare age of presentation—with no urethral damage but significant local infection and tissue compromise, highlighting the need for awareness in atypical age groups.

Methods: A 10-year-old circumcised boy presented with penile swelling, redness, and pain, initially misdiagnosed as an allergic reaction by a general practitioner. At tertiary evaluation, a tight thread was found encircling the penoscrotal junction, causing localized infection and edema. The patient underwent urgent surgical removal of the thread, debridement of necrotic tissue, and was managed with intravenous antibiotics, analgesics, and local wound care. Psychological evaluation was also performed to rule out intentional injury.

Results: The child responded well to conservative postoperative management. There was no urethral involvement, and follow-up after three weeks showed complete wound healing with no residual infection or voiding difficulty. No signs of abuse or psychiatric issues were identified.

Conclusion: PTTS can occur outside the typical infantile age range and may be misdiagnosed if not thoroughly examined. Prompt diagnosis and intervention are critical to prevent severe complications. Clinicians, especially in primary care settings, should maintain a high index of suspicion when encountering penile edema in children.

Keywords: Penile Thread Tourniquet Syndrome, Pediatric Urology, Penile Injury, Thread Strangulation, Penoscrotal Constriction

PG-02: EXPLORING DETERMINANTS OF DELAYED REPORTING IN PAEDIATRIC DENTAL TRAUMA INJURIES

Authors: Dr. Satiha Qazi¹, Dr. Sajjad Ahmad²

1. Department of Paediatric Dentistry, Postgraduate trainee, Khyber College of Dentistry Peshawar, Pakistan
2. Department of Paediatric Dentistry, Associate Professor, Khyber College of Dentistry Peshawar, Pakistan

Background/Objectives/Rationale: Paediatric population is prone to traumatic dental injuries and if not attended to on time, may lead to severe complications. Delayed reporting leading to missed opportunities for early diagnosis is in fact a dilemma and thus, requires critical analysis to identify the major causes of it. The purpose of this study is to investigate the determinants of delayed reporting amongst paediatric patients with dental trauma. Despite substantial study on the occurrence, etiology, and scoring of traumatic oral injuries, only few studies have explored the factors, solely influencing delayed reporting, particularly in Pakistan.

Methods: To bridge the gap, a pilot study was carried out with a sample of 20 paediatric patients (aged 1-16 years) presenting with delayed traumatic injuries for 2 months at a tertiary dental care hospital in Peshawar, Pakistan. Data collection was done retrospectively on the basis of case histories taken from designed questionnaire along with the clinical findings of injured dentition and jaw. After obtaining required guardian consent, under standardized routinely performed procedures and universal infection control precautions, clinical examination was done by a single dental operator (trainee medical officer) in outpatient department of pediatric dentistry. Gathered data from case history taken from distributed questionnaires included: sociodemographic factors (age, gender, education and monthly salary status of guardian), dental injury symptoms and location, delayed reporting time, access to healthcare facilities, parental awareness and knowledge on early reporting of dental trauma injuries and child's interest about oral health. Data was subjected to descriptive statistical analysis using IBM SPSS version 25 software. Chi square test was applied with p value being defined as statistically non-significant due to small sample size as it was a pilot study.

Results: The analysis of collected data using IBM SPSS Version 25 revealed lack of symptoms (identified in 85% of the patients) as a major factor of delayed reporting. Additional contributing factors included shortage of paediatric dentists (75%) and unawareness of parents or caregivers (55%). The occurrence of such cases were most frequently in boys aged between 6 to 12 years. Impacted mostly in outdoor environment with 80% of reported cases involving permanent dentition and 75% were limited to maxillary dentition. Majority of delayed reporting cases showed more than a year time lapse with dental trauma.

Conclusion/Discussion: In the light of results, parental education on early reporting with or without symptoms of injury and expansion of paediatric dental services with affordable dental care is recommended. This will encourage timely reporting and precautionary checkups. These factors can greatly encourage timely intervention and thus lead to better oral health outcomes in pediatric patients with dental trauma.

Keywords: dental trauma, delayed reporting factors, pediatric dentistry

PG-04: FREQUENCY AND PATTERN OF THIRD MOLAR IMPACTIONS IN ORTHODONTIC PATIENTS WITH SKELETAL CLASS II VS. CLASS III MALOCCLUSION.

Authors: Dr. Atika Noor Khan , Dr. Zouha Khan

Women Medical & Dental College, Abbottabad, Pakistan

Introduction: Third molar impactions are a common clinical concern in orthodontics, influenced by skeletal growth patterns and craniofacial morphology. Skeletal Class II and Class III malocclusions differ significantly in jaw relationships, which may affect the eruption path and impaction pattern of third molars.

Objective: To assess and compare the frequency and pattern of third molar impactions in orthodontic patients with skeletal Class II versus Class III malocclusion.

Methods: A retrospective cross-sectional study was conducted using panoramic radiographs and cephalometric records of orthodontic patients diagnosed with skeletal Class II and Class III patterns based on ANB angle and Wits appraisal. The presence, position, and angulation of impacted third molars were analyzed and classified using Pell and Gregory and Winter's classifications. Statistical comparisons were made between the two groups.

Results: Class II patients demonstrated a higher frequency of maxillary third molar impactions, with mesioangular and vertical impactions being most common. In contrast, Class III patients showed a greater prevalence of mandibular third molar impactions, often in a horizontal position and deeper impaction levels. The overall incidence of impactions was significantly different between the two groups ($p < 0.05$), with skeletal morphology influencing impaction type and location.

Conclusion: Skeletal pattern has a notable impact on the frequency and pattern of third molar impactions. Class II malocclusions are more associated with maxillary impactions, whereas Class III patients show a predilection for mandibular impactions. These findings can aid orthodontists in treatment planning and decision-making regarding third molar management.

Keywords: third molar impaction, skeletal Class II, skeletal Class III, orthodontics, panoramic radiograph.

PG-05: COMPARISON OF OUTCOMES OF DIALECTICAL BEHAVIOR THERAPY (DBT) ALONE VERSUS DBT COMBINED WITH SECOND-GENERATION ANTIPSYCHOTIC IN THE TREATMENT OF BORDERLINE PERSONALITY DISORDER

Author: Dr Mudassar Ijaz

Gulab Devi Hospital, Lahore, Pakistan

Introduction: Borderline Personality Disorder (BPD) is a severe psychiatric illness marked by emotional instability, impulsivity, and self-harming behaviors. While Dialectical Behavior Therapy (DBT) is the standard treatment for BPD, emerging evidence suggests that combining DBT with second-generation antipsychotics such as olanzapine may enhance symptom control. This study evaluates the comparative effectiveness of DBT alone versus DBT combined with olanzapine in treating BPD.

Objectives: To compare the treatment outcomes of DBT alone versus DBT combined with second-generation antipsychotic (olanzapine) in patients with Borderline Personality Disorder.

Materials & Methods: This randomized controlled trial was conducted at the Department of Psychiatry and Behavioral Sciences, Gulab Devi Hospital, Lahore. A total of 102 patients diagnosed with BPD based on DSM-5 criteria were randomly allocated into two groups: Group A (DBT alone) and Group B (DBT + olanzapine, 5–20 mg/day). Both groups underwent 12 weeks of intervention. Outcomes were assessed using the Hamilton Depression Rating Scale (HAM-D), Hamilton Anxiety Rating Scale (HARS), Barratt Impulsiveness Scale (BIS-11), number of self-harm attempts, and emergency unit visits. Data were analyzed using SPSS version 26. Independent and paired t-tests were used to evaluate within-group and between-group differences.

Results: It is anticipated that the group receiving DBT combined with olanzapine will demonstrate greater improvement across all psychiatric measures compared to the DBT-only group. Prior evidence supports significant reductions in HAM-D, HARS, and BIS-11 scores, as well as reduced self-harming behaviors and fewer emergency visits in the combination group.

Conclusion: The study aims to highlight the clinical advantages of integrating pharmacotherapy with psychotherapy in managing BPD. If confirmed, the combination of DBT and olanzapine may offer a superior therapeutic approach over DBT alone, especially in managing severe symptoms such as affective instability, impulsivity, and suicidal tendencies.

Keywords: Borderline Personality Disorder, Dialectical Behavior Therapy, Olanzapine, Impulsivity, Depression

PG-06: PREVALENCE OF TOOTH AGENESIS AT RMPDH

Authors: Asma Sahib , Hareem Khan, Manahil Saeed, Saira Habib, Hafsa Ibrahim

Women Dental College Abbottabad, Pakistan

Background: The literature has occasionally reported non-syndromic tooth agenesis, and there is little information on how often it is in Pakistan. This retrospective radiography study was conducted to gather information on the frequency of non-syndromic hypodontia in patients who were admitted to the Rehmat memorial postgraduate dental hospital.

Objectives: The purpose of the current study was to assess the frequency of tooth agenesis in orthodontic patients.

Material And Methods: From the records, 500 consecutive patients who matched the inclusion requirements were chosen. At least one orthopantomogram (OPG) of clear, sufficient clarity was recorded in the radiographic data; if required, a periapical radiograph was appended.

Results: In the sample, hypodontia was present in 17% of cases

Conclusions: It was determined that the prevalence of hypodontia in Pakistan is considerable, at 17%. To precisely ascertain this incidence of hypodontia, more research on a larger non-orthodontic population is necessary

Keywords: Agenesis, Orthopantomogram, Periapical Radiograph, Orthodontics

PG-07: CLINICAL PROFILE AND OUTCOME OF EMPHYSEMATOUS PYELONEPHRITIS: A CASE SERIES FROM AYUB TEACHING HOSPITAL, ATD

Authors: Dr. Saddam Hussain, Dr. Syed Muhammad Ali

Department of Urology, Ayub Teaching Hospital, Abbottabad, Pakistan

Introduction: Emphysematous pyelonephritis (EPN) is a rare but potentially life-threatening necrotizing infection of the kidney characterized by gas formation within the renal parenchyma or perirenal tissues. It is most commonly seen in patients with poorly controlled diabetes mellitus and poses significant diagnostic and therapeutic challenges.

Case Series: We conducted a retrospective review of seven patients diagnosed with CT-confirmed EPN at Ayub Teaching Hospital, ATD, between January 2023 and March 2025. The mean age was 54.7 ± 10.3 years, and the female-to-male ratio was 5:2. Diabetes mellitus was present in 6 patients (85%), and urinary tract obstruction in 2 patients (28%). Based on Huang and Tseng's CT classification, there was 1 case of Class I, 3 of Class II, 2 of Class III, and 1 of Class IV. All patients received empirical IV antibiotics. Percutaneous drainage was performed in 4 cases, while 2 patients underwent nephrectomy. One patient died, resulting in a mortality rate of 14.2%.

Discussion: This case series highlights the clinical patterns and management outcomes of EPN in a resource-limited, tertiary care setting. Timely CT-based diagnosis and early initiation of antibiotics—with or without percutaneous drainage—led to good clinical recovery in most cases. Nephrectomy was required only for patients with poor response to conservative measures. Multidisciplinary management proved crucial in improving prognosis.

Conclusion: EPN is a urological emergency seen mostly in diabetic patients. Early diagnosis and aggressive, individualized treatment can significantly improve outcomes. Conservative management remains effective in most cases, with nephrectomy reserved for severe presentations.

PG-08: KNOWLEDGE, ATTITUDE AND PERCEPTION OF HEALTHCARE PROFESSIONALS AND MEDICAL STUDENTS TOWARDS ARTIFICIAL INTELLIGENCE (AI) – A CROSS-SECTIONAL STUDY

Authors: Muqadus Rizwan¹, Murtaz Khalid²,

1. Final year MBBS student, CMH Kharian Medical College, Pakistan
2. Professor, Department of Physiology, CMH Kharian Medical College, Pakistan/Tutor PGDip Diabetes, University of South Wales, UK

Background: Artificial Intelligence (AI) is rapidly transforming the landscape of healthcare by enhancing diagnostic accuracy, clinical decision-making, and patient management. However, the successful integration of AI in medical practice depends significantly on the knowledge, attitude, and perception of healthcare professionals and medical students. Despite its potential benefits in healthcare profession, it will raise various challenges for the clinicians and can result in reduction in humanistic aspects of medicine and can affect patient's autonomy. Despite its importance and advantages, there is a lack of regulatory framework to govern the development and deployment of AI in healthcare. There are many barriers that can cause AI integration into healthcare industry challenging.

Objective: This study aimed to assess the knowledge, attitude, and perception of healthcare professionals and medical students towards AI. Aim of the study is to find out potential barriers in successful integration of AI in healthcare industry.

Methods: A cross-sectional survey was conducted among healthcare professionals and medical students using a structured questionnaire. The tool assessed participants' knowledge of AI, attitudes towards its integration into clinical practice, perceptions of its benefits, limitations and ethical consideration. Data were analyzed using descriptive statistics and appropriate inferential tests, chi-square to explore associations between categorical variables and Mann-Whitney U test to explore associations between ordinal variables and qualification level.

Results: A total of 382 participants responded to the survey. The majority had moderate to low levels of knowledge about AI, although attitudes were generally positive. Many participants acknowledged the potential of AI to improve healthcare delivery but expressed concerns over ethical issues, data privacy, and the potential replacement of human healthcare physician. A statistically significant association was found between qualification level and AI-related training and awareness ($p < 0.05$).

Conclusion: While healthcare professionals and medical students display a positive attitude towards AI, their limited knowledge highlights the need for formal education and training in this domain. Integrating AI-related content into medical curricula could enhance preparedness for future clinical environments where AI will play a pivotal role.

Keywords: Artificial Intelligence, AI, Healthcare Professionals, Medical Students, Knowledge, Attitude, Perception, Medical Education.

