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CONTENTS

Description	AUTHORS	
PLANERIES		1
Plenary 1		**1**
From Strategy to Impact: Aligning Governance, Leadership, And Reform For Health System Performance	Vishna Devi V. Nadarajah	
PLENARY 2		**1**
From Uncertainty to Opportunity: Leading Innovation in Health Professions Education	Divine Ndonbi Banyubala	
SYMPOSIUM 1		
Breaking the Silence: Understanding, Addressing, and Preventing Workplace Violence in Healthcare Education and Practice		3
Speaker 1: The Hidden Epidemic: Mapping the Landscape of Workplace Violence in Healthcare	Sarah Khalid	3
Speaker 2: Beyond Physical Harm: The Psychological, Educational, and Professional Consequences of Workplace Violence	Shaukat Ali Jawaid	3
Speaker 3: From Awareness to Action: Evidence-Based Interventions for Preventing Workplace Violence	Lubna Ansari Baig	4
Speaker 4: Creating Safer Healthcare Workplaces: Policy Priorities and a Roadmap for the Future	Saniya Sabzwari	4
SYMPOSIUM 2		
Building Cultures of Well-Being and Resilience in Health Professions Education		5
Speaker 1: From Burnout to Brilliance: Innovative Assessment Strategies for Enhancing Student Well-Being and Resilience	Amara Butt	5
Speaker 2: Cultivating Resilience Through Mindfulness and Self-Care in Health Professions Education	Aminath Huda	5
Speaker 3: Measuring What Matters: Evaluating Well-Being and Resilience in Health Professions Education	Usman Mahboob	6
SYMPOSIUM 3		
Beyond Awareness: Embedding Social Determinants of Health Across Medical Education, A competency-based roadmap from curriculum design to clinical implementation		6
Speaker 1: Why Social Determinants of Health Matter: Preparing Future Physicians	Syed Murtaza Hassan Kazmi	6

Speaker 2: Designing an SDOH-Centered Curriculum Across the Educational Continuum	Saira Akhlaq	7
Speaker 3: Teaching Social Determinants of Health in Clinical Practice	Nosheen Kazmi	7
Speaker 4: Assessing Competencies in Social Determinants of Health	Muslim Atiq	8
SYMPOSIUM 4		
Integrating Artificial Intelligence in Medical Education		8
Speaker 1: Why AI Matters in Medical Education: The Case for Urgent Action	Masood Jawaid	8
Speaker 2: Designing an AI Curriculum for Medical Students: A Progressive Framework	Madiha Sajid	9
Speaker 3: Assessing AI Competencies in Medical Education: From Blueprinting to Programmatic Assessment	Rehan Ahmed Khan	10
Speaker 4: Title: Faculty Development for the AI Era: Building Educator Capacity to Teach, Assess, and Model AI Competency	Sarah Khalid	10
Symposium 5		
The Nexus of Leadership and Innovation: Current Trends and Future Realities		11
Speaker 1: The Impact of Neuroleadership on Innovation in Medical Education: Transforming Learning, Leadership and Organisational Excellence	Fadil Citaku	11
Speaker 2: Transformational Leadership in the Era of AI Innovation	Julius Kwaku Adu-Ntim	12
Speaker 3: From Stethoscope to Algorithm: Building the Institutional Ecosystem for AI-Ready Medical Education	Shabana Ali	13
Speaker 4: Title: Digital Leadership: From Learning to Leading Through AI	Raheela Yasmeen	13
Symposium 6		
Resilient Medical Education: Leadership, Postgraduate Training and Assessment for Excellence		14
Speaker 1: Developing Resilience for Wellness Amongst Faculty in Medical Education	Zubia Masood	14
Speaker 2: Building Resilient Postgraduate Medical Education Programmes for Changing Healthcare Systems	Maqsood-ul-Hassan	14
Speaker 3: Assessment for Resilience and Excellence in Medical Education	Mashaal Sabqat	15

PRE-CONFERENCE WORK SHOPS		**17**
PCW: Converting Concepts to Impactful Communication in Medical Education: Enhancing Teaching & Learning Through Artificial Intelligence	Aasma Nudrat Zafar	17
PCW: Beyond the Script: Teaching Patient-Centred Communication in Pharmacy Education: Motivational Interviewing, Cultural Humility, and Role-Play Design	Aisha Nasir Hashmi, Sidra Shahid, Wafa Omer	17
PCW: Integrating Artificial Intelligence into Case-Based Learning: Enhancing Teaching and Learning in Health Sciences Curricula	Amara Butt, Raheela Yasmeen	17
PCW: The Art of Engaging Learners Through Technology	Sidra Mehak	18
PCW: Assessment XP: Turning Tests into Gaming	Zubia Masood, Masood Jawaid	18
PCW: Leading with the Brain, Heart and Social Mind: Applying Neuroleadership, Emotional Intelligence and Social Intelligence in Medical Education	Fadil Çitaku	18
PCW: Crafting the Future of Education: AI-Powered Immersive Learning Design	Hasnain Zafar Baloch, Shahid Hassan, Simranjeet Kaur Judge	19
PCW: Evidence Synthesis Skills in Health Professions Education Using AI Agents	Mahrukh	19
PCW: Safety Leaders in the Making: Innovation-Driven Curriculum Design for Tomorrow's Clinicians	Maqsood-ul-Hassan, Shabana Ali, Mashaal Sabqat	20
PCW: Thriving, Not Just Surviving: Building Resilience and Well-being in Health Professions Education	Usman Ahmad Kamboh, Mahham janjua, Nosheen Khurram	20
PCW: Leading Health Professions Education: Understanding Leadership Styles, Personality Preferences and Conflict Management	Farzana Mahdi, Sucheta Dandekar	21
ORAL PAPER PRESENTATIONS		
Faculty Assessment in Clinical Teaching: Radiology Residents' Perceptions of Clinical Teachers as Role Models in Tertiary Care Hospital in Pakistan	Aasma Nudrat Zafar	22
Re-thinking Surgical Case-Based Learning: Development and Implementation of Case-File–Based Learning for Surgical Residency Training	Haadia Ali	22
Development and Validation of an Instrument for Measuring Generative AI Dependency among Postgraduate Medical Research Students	Muhammad Ali Rabbani, Rehan Ahmed Khan, Raheela Yasmeen, Faiza	23
Effect Of Two Retrieval Practice Exercises on Scores of Anatomy in MBBs Students: A Quasi-Experimental Study	Amber Ilyas, Syed Moin Ali, Muhammad Hayyan Qadri	24

Evaluating the Efficacy of Virtual Reality Among Adult Patients Undergoing Cardiac Catheterization in Oman: A Randomized Controlled Trial	Bushra Al-Badowi, Maryam Al-Harrasi,Diala Al-Twalbeh, Fahad Al-Kindi	25
Lifelong Learning Tendencies Among Postgraduate Medical Trainees in Punjab, Pakistan	Haris Shakil, Hammad Zia	25
Exploring Effectiveness of Self-Directed Learning (SDL) Among Medical Students in Achieving Learning Goals	Alishba Mukhtar, Amara Butt, Shabana Ali, Raheela Yasmeen	26
Assessing the Effectiveness of Workplace based Faculty Development Framework using Kirkpatrick Model of Evaluation	Raheela Yasmeen, Muhamad Saiful Bahri Yusoff, Amara Butt	26
The Interplay of the Hidden Curriculum and Professional Identity Transition: A Literature Review of Undergraduate Medical Education	Bushra Riaz, Usman Mahboob	27
Self-Regulated and Socially Shared Regulation of Learning in Adaptive Collaborative Educational Environments: A Scoping Review	Faiza Ikram, Raheela Yasmeen, Humaira Fayyaz	28
Power, Knowledge, and Neo-colonialism in Health Professions Education: A Critical Narrative Review Toward a Decolonial Framework for Pakistan	Fouzia Sultana, Junaid Sarfraz, Ayesha Junaid	29
Faculty Reflections on Perception and Practices of Social Accountability. A Mixed Method Approach	Sidra Mehak	29
Comparison Of Surgery Test Scores Using Concept Maps and Interactive Lectures Among the Undergraduate Medical Students	Zubia Masood, Masood Jawaid	30
More Mindful, Higher Achieving? Mindfulness and Academic Performance Among Medical Students	Elham A. Akbari, Mohamed A. Al-Eraky	30
Assessing the Role of Self-Compassion in Dental Environment Stress and Academic Performance Among Dental Students: A Mixed-Methods Study	Fatima Ehsan	31
Game-Based Learning Improves Academic Performance, Knowledge Retention and Student Engagement among Remedial Anatomy Students: A Quasi-Experimental Study	Javeria Noor, Aizaz Ahmad Khan, Maryam Fatima, Sarah Khalid	32
Teaching diagnostic reasoning to surgical residents: early evaluation of a real patient intervention in an LMIC	Mushtaq Ahmed, Madiha Ata, Sheeraz Siddiqui, Shafaq Sultana, Ghina Shamsi	33
Validity and Reliability of SCOPE (Structured Comprehensive Oral Problem-based Examination) using Generalizability and Decision Study	Mashaal Sabqat, Noorul Ain, Rehan Ahmed Khan	33

Exploring Leadership Power Distance among medical faculty members and its influence on Teamwork in the Clinical Teaching Environment	Nimra Anwar, Raheela Yasmeen, Shabana Ali	34
Development and Validation of Teacher Questionnaire for Measuring Enablers of Medical Curriculum Viability	Nosheen Khurram, Rehan Ahmed khan	35
Association Between Learning Style Preferences and Academic Performance in Bachelor of Dental Surgery (BDS) Students: Implications for Adaptive, Learner-Centered Teaching	Palwasha Arif	36
Enhancing Organizational Professionalism and Strategic Implementation in Medical Colleges in Pakistan: A Qualitative Study of Faculty Perceptions	Abdul Razaque	36
Association between Perception Constructs and Attitude towards Adoption of Artificial Intelligence as a Teaching Tool among Medical Students	Saadia Shahzad	37
Digital Shift in Clinical Teaching: Constructing a Contextual Digital Competency Framework for Clinical Educators (ClinDigCom): A Modified Delphi Study	Saad Ahmed, Muhammad Nasir Ayub	38
Culturally Sensitive Patient-Centered Education as an Essential Need for Increasing Inhaler Adherence in Adults with Asthma	Syed Murtaza Hassan Kazmi, Saira Akhlaq, Nosheen Kazmi, Sajawal Hussain, Quratulain Khan, Hira Jahangir Kayani	38
Dental Faculty's Perspectives on the Integration of AI Support in the Curriculum	Samar Fatima Jalal, Saira Akhlaq	39
Can a Story Preserve the Science? Validating Storytelling in Embryology	Sarah Khalid, Aizaz A Khan, Rehan A khan, Zahid Bashir, Maryam Fatima	40
Empowering Medical Minds: The Role of Programmatic Assessment in Sparking Intrinsic Motivation	Shabana Ali	40
Student-Held Values and Psychological Wellbeing	Usman Mahboob, Hina Umair	41
Multi-Model Educational Approach to Strengthening Antimicrobial Stewardship And Reducing Healthcare-Associated Infections In Healthcare Settings In The Maldives	Fathimath Zimna, Seema Umar, Suryabrata Banerjee, Joe Brayson, Ashleigh McMaster, Alexander James Martin, Heather Lawson, Scott Barett, Fawaz Ali Shareef, Fathimath Shiranee, Khadija Abdul Rahman, Aishath Maharath, Aishath Majidha	42

	Hassan, Ahmed Ziyad, Aishath Mazuda, Ms. Fathimath Sausan Mohamed Sodhiq, Muiz Ibrahim, Fathimath Wafaa & Aishath Rafahath Rameez.	
Competency-Based Education (CBE) in Physiotherapy Undergraduate Education"- A Systematic Review	Felix Renald Selvaraj	43
Evaluating Students' Perceptions of Physiology Through the Implementation of Problem-Based Learning: A Qualitative Study	Khadija Abdulrahman Hussein	44
Exploring the Impact of Clinical Supervision on Students' Professional Development: Perspectives of Supervisors and Supervisees in Maldives	Mariyam Ifshan Ahmed	44
Students' Perception of Scenario-Based Learning As A Teaching Strategy to Diversify Pharmacy Education at Maldives National University	Ruban Singh	45
A Longitudinal Analysis of Student Performance in Medicine and Society at The Maldives National University	Shaistha Zubair	46
The Meaning Behind Care: Undergraduate Nursing Students` Perception of Spiritual Awareness Educational intervention in Nursing Education	Sizna Mohamed; Aishath Ali	46
Physiotherapy Clinical Education in the Maldives	Uzma Sayyad	47
From Classroom to Practice: Combining Scenario-Based Learning and Field Expertise in Health Sciences Education	Zeenath Shakir	48
Teaching Clinical Reasoning in the Era of Artificial Intelligence: Preparing Medical Students to Reason with and Beyond AI	Aminath Huda	48
Integrating Clinical Biochemistry and Artificial Intelligence into Clinical Reasoning: An Innovative Approach to Medical Education	K. M. Huria Parveen	49
Team-Based Learning as an Innovative Strategy for Large-Group Medical Teaching: A Student Feedback Analysis	Mehwish Qamar	50
From Reflection to Action: Using Structured Reflective Writing to develop Communication Skills	Punya Laxmi Manandhar	51

An Inferential Statistical Approach to Item Analysis of Forensic Pathology I Examinations at The Maldives National University	Rijen Shrestha	52
Integrating Artificial Intelligence in teaching Forensic Pathology at The Maldives National University	Rijen Shrestha	52
POSTER PRESENTATION		54
Assessing Effectiveness of Resilience Intervention For Supporting And Empowering Students' Module on Resilience And Burnout Levels of First-Year Medical Students	Asma Malik, Raheela Yasmeen, Rehan Ahmed Khan	54
Enhancing Assessment Recovery: A Mixed-Method Study on Satisfaction and Perceived Efficacy of MCQ-Based Remediation for Underperforming Medical Students	Khadija Iqbal, Saima Irshad	54
Cultural Humility in Nephrology Fellowship Training: A Qualitative Exploration of Fellows' Experiences of Inclusion, Mentorship, and Psychological Safety	Batool, Alisha Shoukat, Arshad	55
Effectiveness of Google Classroom–Based Structured Assignments on Knowledge Acquisition and Clinical Reasoning Among Fifth-Year Medical Students During Pediatric Orthopedics Clerkship	Dhitaya Kriangkhaidaj, M.D., Chayanee Dechosilpa, M.D.	56
Exploring the Perceptions of Medical Students on the Influence of Surgical Clerkship Experience on Their Professional Identity Formation: A Multi-Method	Kaleem Akhtar	57
Dialogue Reasoning Simulation: Evaluating Structured Dialogue Prompting with Large Language Model as an Instructional Strategy for Clinical Reasoning Development	Ahmed Abdullah, Rehan Ahmad Khan, Raheela Yasmeen	57
Students' Perceptions About Professional Openness and Group Dynamics in Rawalpindi Medical University's Community Awareness Program: A Mixed-Methods Study	Omaima Asif, Fozia Fatima, Kashif, Rabia Ashraf, Farzana Fatima, Alina Alvi	58
Exploring the Influence of Agentic Engagement in AI Learning on the Professional Identity Formation of Undergraduate Medical/ Dental Students	Fatima Sabih, Madiha Sajjad	59
Exploring Dental Faculty's Perspectives on Incorporating the Socio-Cultural Aspects of EDI (Equity, Diversity & Inclusion) In Undergraduate Dental Curricula	Hina Ali, Raheela Yasmeen	60

Exploring The Challenges in Integrating Diversity, Equity, and Inclusion (DEI) Into Physiotherapy Curricula	Hina Javed	61
Building An International Teaching Community in Chemical Pathology: Six-Year Experience of a National Educational Initiative in Pakistan	Imran Siddiqui, Hafsa Majid, Siddiqua Maniar, Shahid Pervez, Sibtain Ahmed	61
Exploring Faculty Readiness to Integrate Planetary Health Education into Undergraduate Medical Curriculum in Developing Countries	Nida Tariq, Raheela Yasmeen	62
Exploring the Influence of Agentic Engagement of Students as Partners on Institutional Governance in Medical Education: A Qualitative Exploratory Case Study	Shazia Qayyum, Raheela Yasmeen, Madiha Sajjad	63
The Transformative Potential of Artificial Intelligence in Medical Education: A Review of Benefits and Implications	Urjuwan Mohamed, Nihal Ahmed Niyaaz, Shahaa Mohamed Hassan, Ahmed Abdulla, Mohamed Maavy Mujuthaba,	64
The Role of Reflective Writing in Improving Clinical Competency Among Healthcare Professionals	Mariyam Luba Abdulla, Aishath Nafha Abdulla	64

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PLENARIES

PLENARY 1:

FROM STRATEGY TO IMPACT: ALIGNING GOVERNANCE, LEADERSHIP, AND REFORM FOR HEALTH SYSTEM PERFORMANCE

Speaker: Vishna Devi V. Nadarajah
Institute: Registrar & Chief Executive Officer Medical and Dental Council Ghana

Abstract: Good health policies and ambitious reform plans do not automatically translate into better healthcare. The real challenge is turning strategy into action that patients, health workers and communities can actually experience. This presentation, "From Strategy to Impact: Aligning Governance, Leadership, and Reform for Health System Performance," explores how governance, leadership and reform must work together to close the gap between policy ambition and health-system performance.

The presentation makes a simple argument: governance sets the direction and creates accountability; leadership brings people together and drives action; and reform changes the systems, structures and practices that stand in the way of better care. When these three are aligned, health systems are better positioned to deliver safer, fairer, more efficient and more resilient healthcare.

Using practical areas of health-system performance, the presentation considers what this alignment means for primary healthcare, health financing, the health workforce, digital transformation, data use and preparedness for future crises. It also confronts the realities that often derail otherwise promising reforms: fragmented decision-making, weak accountability, resistance to change, inadequate resources, poor data, overburdened health workers and short political time horizons.

Ultimately, the presentation argues that health-system transformation is not simply about producing more strategies or introducing more reforms. It is about creating institutions that can turn good intentions into sustained action and measurable results. Alignment therefore becomes the bridge between strategy and impact—supported by accountable governance, purposeful leadership, practical reform, continuous learning and an unwavering focus on the people the health system exists to serve.

Learning Objectives

By the end of this presentation, participants should be able to:

- Explain the interconnected roles of governance, leadership and reform in strengthening health-system performance.
- Identify key health-system reform priorities and the common barriers that prevent strategies from translating into effective implementation.
- Examine how effective governance and purposeful leadership can drive and sustain reform, accountability and improved service delivery.
- Apply an integrated governance–leadership–reform approach to translate strategy into measurable improvements in quality, equity, efficiency and health outcomes.

PLENARY 2:

FROM UNCERTAINTY TO OPPORTUNITY: LEADING INNOVATION IN HEALTH PROFESSIONS EDUCATION

Speaker: Divine Ndonbi Banyubala
Institute: Deputy Vice-Chancellor (Academic), IMU University, Malaysia

Abstract: Health professions education across Asia is being reshaped by a volatile, uncertain, complex and ambiguous environment. Rapid technological change, workforce pressures, demographic transitions, health inequities, climate related threats and evolving models of

care are challenging institutions to prepare graduates for a future that is increasingly difficult to predict.

In this context, innovation is no longer optional. However, innovation alone is insufficient. The greater challenge is leadership: creating the conditions in which new ideas can be tested, supported, adapted and sustained. This requires institutions to move from a defensive posture focused on protecting existing systems, minimizing risk and preserving scarce resources, to an investment mindset that builds capability, develops people and creates space for responsible experimentation. Educators are central to this transition. Beyond transmitting knowledge, they must help learners navigate uncertainty, model adaptability, foster critical inquiry and contribute to cultures of continuous improvement.

This presentation will explore why innovation, and leadership must progress together in shaping the future of health professions education. It will argue for a growth oriented institutional mindset in which faculty development, digital capability, interprofessional ecosystem and educational redesign are viewed as strategic investments, with excellence emerging as the outcome of purposeful innovation.

SYMPOSIA

SYMPOSIUM 1:

Breaking the Silence: Understanding, Addressing, and Preventing Workplace Violence in Healthcare Education and Practice

Speaker 1: Sarah Khalid: Professor, Shalimar Medical and Dental College, Pakistan

Title: The Hidden Epidemic: Mapping the Landscape of Workplace Violence in Healthcare

Presentation Synopsis: Healthcare institutions are designed to heal, yet for millions of healthcare workers they have become environments where violence is experienced, witnessed, tolerated, and too often normalized. Globally, healthcare workers account for nearly a quarter of all workplace violence incidents, with studies suggesting that up to half experience violence during their professional lives. In Pakistan, multicenter studies have reported that 75% of healthcare workers have experienced or witnessed violence, while 25% have personally suffered abuse. Yet these figures are likely to represent only the visible tip of the iceberg, as most incidents remain unreported because of fear, normalization, or the belief that reporting will change nothing.

Violence is conceptualized not only as physical assault, verbal abuse, threats, or intimidation from patients and families, but also as the misuse of power within healthcare institutions. Academic bullying, public humiliation, coercive supervision, retaliatory behaviors, unethical research demands, authorship coercion, pressure to conform, and intimidation surrounding learner assessment represent forms of violence that are rarely discussed despite being widely experienced. The quieter forms of violence hidden beneath the language of professionalism and institutional culture, Ethno-racial discrimination, microaggressions, stereotyping, exclusion from opportunities, and being persistently viewed as another continue to shape the experiences of healthcare professionals. These acts may leave no visible scars, yet they reinforce entrenched hierarchies of power and privilege, creating environments where exclusion becomes normalized and silence becomes a survival strategy.

The hidden epidemic of workplace violence is sustained by silence. Some acts occur in public view; others are concealed behind institutional hierarchies, professional dependence, and cultures that equate endurance with professionalism. By exposing both the visible and invisible dimensions of workplace violence, this presentation seeks to broaden the conversation from isolated incidents to the systems, structures, and power dynamics that allow violence to persist within the very institutions entrusted with care.

Speaker 2: Shaukat Ali Jawaid: Chief Editor, Pakistan Journal of Medical Sciences, Karachi, Pakistan.

Title: Beyond Physical Harm: The Psychological, Educational, and Professional Consequences of Workplace Violence

Presentation Synopsis: The psychological toll of violence is real, and it's often worse because it stays hidden. Anxiety, depression, PTSD, burnout, moral injury all show up again and again in healthcare workers who've experienced violence on the job, and clinical culture isn't great at catching them. When "push through it" is the norm, a lot of this goes undiagnosed.

In a study of 26,000 public health workers, amongst them the ones that were exposed to workplace violence had significantly higher rates of depression, anxiety, PTSD, and suicidal ideation than colleagues who hadn't been exposed. About 60% of medical and nursing

students experience some form of violence or harassment during clinical rotations (Fnais et al., 2014). This leaves a mark such as weaker professional identity, less commitment to the field, more thoughts of leaving before they've even started (Choi et al., 2025; Zhang et al., 2025).

Zoom out further and the effects show up at the institutional level too: more absenteeism, worse patient care, faster staff turnover. The Joint Commission has flagged these as real threats to whether hospitals can keep running (Joint Commission, 2024). The American Hospital Association recently attached a number to this; over $541 million a year lost to violence-related staffing disruption in U.S. hospitals (AHA, 2025). And that's likely a floor, not a ceiling, given how much of this goes unreported in the first place (Al-Qadi, 2021; Magnavita & Heponiemi, 2011).

So, the point of laying all this out isn't just to catalog damage. It's to say clearly: workplace violence costs more than we usually admit. Psychologically, educationally, professionally and any real prevention effort has to start by facing that cost honestly. That's where the next part of this talk picks up.

Speaker 3: Lubna Ansari Baig: Professor and Director PhD-HPE, University College of Medicine and Dentistry, Pakistan

Title: From Awareness to Action: Evidence-Based Interventions for Preventing Workplace Violence

Presentation Synopsis: Workplace violence (WPV) has been recognized as one of the major threats to the safety, well-being, and retention of healthcare professionals internationally. Despite increasing awareness of its prevalence and consequences, organizational responses are reactive rather than proactive -- a knee-jerk reaction happens when a complaint is registered or a major morbid incident occurs. The intervention-based policies are inconsistently implemented, creating a persistent gap between available evidence and routine practice (Phillips, 2016; Lanctôt & Guay, 2014). This talk will present contemporary evidence from systematic reviews, meta-analyses, and international policy frameworks to identify interventions that have effectively prevented and/or mitigate workplace violence across the continuum of care.

Current evidence suggests that interventions at three levels of prevention; integrating educational, organizational, environmental, and leadership components are more effective than awareness building and training programs in reducing workplace violence (Moreno-Poyato et al., 2022). This talk will also review policy developments, including the Joint Commission's workplace violence prevention standards, which reinforce leadership accountability, systematic reporting, worksite risk assessment, and post-incident support as essential components of organizational safety (Arnetz, 2022). The presentation will build suggestions for building competencies for workplace violence prevention within undergraduate, postgraduate, and continuing professional development curricula. The presentation will lead into the fourth talk which leads into building sustainable institutional policies and educational practices that strengthen workforce resilience and foster safer healthcare environments across diverse and Low Middle-Income Countries.

Speaker 4: Saniya Sabzwari: Professor and Chair, Department for Educational Development, Aga Khan University, Pakistan

Title: Creating Safer Healthcare Workplaces: Policy Priorities and a Roadmap for the Future

Presentation Synopsis: This concluding session will focus on translating evidence into practical steps for low- and middle-income

countries, where healthcare workers often face workplace violence in resource-constrained settings with limited institutional support. Building on the issues discussed in the earlier sessions, the presentation will examine policy and organizational approaches that are both feasible and sustainable in these contexts. It will discuss the importance of leadership commitment, clear reporting mechanisms, supportive institutional policies, staff training, and post-incident support, while acknowledging the challenges of limited resources, workforce shortages, and cultural barriers to reporting.

The session will also highlight the role of health professions education in preparing future healthcare professionals to recognize, prevent, and respond to workplace violence. A practical roadmap will be proposed to guide healthcare institutions, educators, and policymakers in strengthening workplace safety and fostering respectful learning and working environments that are appropriate for low- and middle-income countries.

SYMPOSIUM 2:

Building Cultures of Well-being and Resilience in Health Professions Education

Speaker 1: Amara Butt: Assistant Professor, Riphah Academy of Research and Education, Riphah International University, Islamabad, Pakistan

Title: From Burnout to Brilliance: Innovative Assessment Strategies for Enhancing Student Well-being and Resilience

Presentation Synopsis: Assessment is one of the strongest drivers of learning, yet poorly designed assessment systems remain a significant contributor to stress, anxiety, and burnout among health professions students. This presentation explores how assessment can be transformed from a source of pressure into a catalyst for learning, well-being, and resilience. Drawing on contemporary evidence in health professions education, it will examine learner-centered assessment strategies including programmatic assessment, low-stakes formative assessment, meaningful feedback, coaching, competency-based progression, and the thoughtful integration of artificial intelligence to provide timely, personalized feedback.

The session will discuss how assessment design influences motivation, self-regulated learning, psychological safety, and learner confidence. Practical examples from undergraduate and postgraduate medical education will demonstrate how innovative assessment practices can foster growth mindsets, reduce unnecessary academic burden, and promote resilience while maintaining academic rigor. Participants will gain practical strategies to redesign assessment systems that support learner success and well-being without compromising standards of excellence. The presentation will conclude with recommendations for creating assessment cultures that encourage lifelong learning, adaptability, and professional flourishing.

Speaker 2: Aminath Huda: Senior Lecturer, Biography Education, Maldives National University, Male, Maldives

Title: Cultivating Resilience Through Mindfulness and Self-care in Health Professions Education

Presentation Synopsis: The increasing complexity of healthcare education places substantial psychological and emotional demands on both learners and educators. Developing resilience is therefore essential for sustaining professional performance, preventing burnout, and promoting lifelong well-being. This presentation highlights mindfulness and self-care as evidence-based approaches for enhancing resilience within

health professions education.

The session will review current evidence on mindfulness, emotional intelligence, reflective practice, stress management, and self-compassion, demonstrating their impact on cognitive performance, empathy, professionalism, and mental well-being. Participants will explore practical techniques that can be integrated into everyday educational settings, including brief mindfulness exercises, reflective debriefing, gratitude practices, cognitive reframing, and strategies for maintaining work-life integration.

Recognizing that resilience extends beyond individual coping skills, the presentation will also emphasize the critical role of educational leaders and faculty in creating psychologically safe learning environments, modelling healthy professional behaviours, and fostering supportive institutional cultures. By integrating personal wellness practices with organizational commitment, health professions educators can cultivate resilient learners, compassionate clinicians, and thriving academic communities prepared to meet the evolving challenges of healthcare.

Speaker 3: Usman Mahboob: Director DME, Khyber Medical University, Peshawar, Pakistan

Title: Measuring What Matters: Evaluating Well-being and Resilience in Health Professions Education

Presentation Synopsis: Sustainable well-being initiatives require more than good intentions—they require meaningful evaluation. This presentation explores how institutions can assess, monitor, and continuously improve well-being and resilience initiatives using evidence-informed educational evaluation strategies. Participants will examine contemporary frameworks and validated tools for measuring learner and faculty well-being, resilience, burnout, psychological safety, engagement, and organizational climate.

The session will discuss how evaluation can move beyond satisfaction surveys to include meaningful educational, behavioural, and institutional outcomes using models such as Kirkpatrick's Evaluation Model, logic models, and quality improvement frameworks. Practical examples will demonstrate how data from well-being assessments can inform curriculum design, faculty development, mentoring programmes, and institutional policies that support healthy learning environments.

Emerging technologies, including digital dashboards, learning analytics, and artificial intelligence, will also be explored as mechanisms for monitoring trends and supporting timely interventions while maintaining ethical standards and confidentiality. The presentation will conclude by outlining practical steps for embedding well-being indicators into continuous quality improvement processes, enabling educational leaders to make evidence-based decisions that strengthen resilience, enhance educational excellence, and create healthier, more sustainable health professions education systems.

SYMPOSIUM 3:

Beyond Awareness: Embedding Social Determinants of Health Across Medical Education, a Competency-based Roadmap from Curriculum Design to Clinical Implementation

Speaker 1: Syed Murtaza Hassan Kazmi: Consultant Pulmonologist, Shifa International Hospital, Islamabad, Pakistan

Title: Why Social Determinants of Health Matter: Preparing Future Physicians

Presentation Synopsis: Social determinants of health (SDOH)—the non-medical social,

economic, and environmental conditions that shape health outcomes—remain under-addressed in medical curricula despite mounting evidence of their impact on health equity. This talk introduces the WHO framework for SDOH and clarifies the distinction between social determinants, social risks, and health inequities, establishing a shared vocabulary for the symposium. Drawing on international reports and consensus statements, the speaker will argue that healthcare delivery alone cannot meaningfully improve population health without attention to the social contexts in which patients live. The presentation outlines core physician competencies for addressing SDOH in practice, including structured social history-taking, patient advocacy, interprofessional collaboration, systems-level thinking, and community engagement. Key messages from global health education literature will be highlighted: that health is profoundly shaped by social circumstances; that SDOH should be woven throughout the curriculum rather than taught as an isolated topic; that interprofessional collaboration is essential to addressing social needs; that assessment drives student learning and must reflect SDOH competencies; and that institutions must move deliberately from awareness-raising toward actionable curricular and clinical change. By the end of the session, participants will understand why future physicians require explicit SDOH competencies and will be oriented to the rationale underpinning the curricular and assessment strategies presented by subsequent speakers in this symposium.

Speaker 2: Saira Akhlaq: Assistant Professor and Acting Director SSHPE, Shifa Tameer e Millat University, Pakistan

Title: Designing an Sdoh-centered Curriculum Across the Educational Continuum

Presentation Synopsis: This talk presents a practical model for embedding SDOH across both undergraduate and postgraduate medical education. At the undergraduate level, SDOH is introduced early in clinical training through a dedicated one-week orientation module covering the WHO framework and core determinants—education, income, housing, food security, employment, transportation, social support, and health literacy—reinforced through small-group case discussions, community and primary care exposure, and structured reflection on the physician's role in reducing health inequities. At the postgraduate level, rather than teaching SDOH as a standalone course, the model integrates it horizontally throughout residency: weekly academic conferences incorporate SDOH discussion for major cases, consultant ward rounds include structured attention to social barriers, journal clubs address equity implications where relevant, multidisciplinary meetings involve social work and discharge planning, and residents document a key social determinant influencing management for selected patients. An illustrative gastroenterology case will be used to demonstrate this approach: a patient with decompensated cirrhosis whose recurrent presentations with ascites are shaped by medication affordability, distance from a transplant centre, limited health literacy, and lack of caregiver support, prompting resident discussion of how these factors influence adherence, transplant candidacy, discharge planning, and long-term outcomes. This dual-track model offers a scalable approach for institutions seeking to move SDOH from an isolated topic to a longitudinal thread across the educational continuum.

Speaker 3: Nosheen Kazmi: Consultant Psychiatry, Shifa International Hospital, Pakistan

Title: Teaching Social Determinants of Health in Clinical Practice

Presentation Synopsis: This talk addresses practical strategies for teaching SDOH in real clinical settings, including ward rounds and outpatient clinics. It covers structured social history-taking, reflective and bedside teaching techniques, case-based discussion, interprofessional learning, and pathways for community referral and health advocacy, alongside emerging opportunities for AI-assisted educational resources. Particular attention is given to validated screening instruments; the Accountable Health Communities Health-Related Social Needs Screening Tool is discussed as a recommended bedside resource, given its brevity and validation for identifying food insecurity, housing instability, transportation needs, utility needs, and interpersonal safety concerns. Clinical examples drawn from psychiatry illustrate how social determinants intersect with mental health presentations, including depression linked to unemployment and financial insecurity, medication non-adherence associated with homelessness, domestic violence contributing to anxiety and PTSD, and social isolation among elderly patients. By grounding SDOH teaching in concrete clinical encounters and validated tools rather than abstract principles, this session equips educators and clinicians with immediately applicable strategies for weaving social determinants into everyday teaching moments, regardless of specialty or setting.

Speaker 4: Muslim Atiq: Professor of Gastroenterology, Shifa International Hospital, Pakistan

Title: Assessing Competencies in Social Determinants of Health

Presentation Synopsis: This session presents a competency assessment framework for SDOH aligned with competency-based medical education, addressing four domains and their corresponding assessment methods. Knowledge of SDOH concepts is assessed through MCQs, short-answer questions, and case analysis. Clinical skills, such as social history-taking and communication, are evaluated through SDOH-focused OSCEs and standardized patient encounters. Workplace performance, including recognition of social barriers during ward rounds, is assessed using Mini-CEX, case-based discussion, and multisource feedback. Professional identity formation and advocacy are captured through reflective portfolios, community projects, and quality improvement initiatives, reflecting leadership and advocacy competencies. The speaker discusses how this framework was developed and how it can be operationalized within existing assessment structures without requiring wholesale curricular overhaul. The talk concludes with a synthesis: the Shifa Framework for Integrating Social Determinants of Health into Medical Education, comprising four sequential pillars—Recognize, understanding SDOH, health equity, and the physician's role; Design, embedding SDOH longitudinally across undergraduate and postgraduate curricula; Teach, integrating SDOH into bedside teaching, case discussions, community engagement, interprofessional education, and validated screening tools; and Assess, evaluating competency through knowledge tests, OSCEs, workplace-based assessments, portfolios, and advocacy activities. This framework offers institutions a coherent, stepwise model for moving from SDOH awareness to sustained curricular and assessment practice.

SYMPOSIUM 4:

Integrating Artificial Intelligence In Medical Education

Speaker 1: Masood Jawaid: Director Medical

Affairs, Pharm Evo (Pvt) Ltd, Pakistan

Title: Why AI Matters in Medical Education: The Case for Urgent Action

Presentation Synopsis: Artificial intelligence is no longer an emerging technology — it is an active participant in modern clinical environments. AI-powered tools now assist radiologists in identifying malignancies, support pathologists in slide analysis, help clinicians interpret electrocardiograms, and generate preliminary clinical documentation. The pace of clinical AI adoption has substantially outrun the capacity of medical education systems to respond. Most medical graduates globally enter practice having received no formal instruction in AI concepts, critical appraisal of AI outputs, or the ethical dimensions of AI-assisted clinical decision-making.

Purpose

This opening session establishes the foundational rationale for the symposium. It argues that AI integration in medical education is not a matter of technological enthusiasm but of professional responsibility. Drawing on evidence from landmark trials and reports — including the NEJM AI literature, AAMC surveys, and Lancet Digital Health analyses — the session maps the trajectory of AI in clinical medicine and identifies the specific competency gaps that medical education must address.

Content

The session covers: (1) a working taxonomy of AI and machine learning relevant to health professionals; (2) illustrative examples of current clinical AI tools with evidence for their performance; (3) data on the competency gap between clinical AI adoption and medical graduate preparedness; and (4) an international landscape review of how leading medical schools and regulators are beginning to respond. Particular attention is paid to the South Asian and Pakistani context, where AI adoption in tertiary hospitals is accelerating but curriculum response remains nascent.

Conclusion

Medical education that fails to address AI is preparing graduates for a clinical world that no longer exists. The urgency of response — at curriculum, assessment, and institutional levels — is the central argument this session advances, and the context within which the subsequent three presentations must be understood.

Speaker 2: Madiha Sajjad: Medical Educationist - Pathologist, Riphah International University, Pakistan

Title: Designing an AI Curriculum for Medical Students: A Progressive Framework

Presentation Synopsis: Despite broad agreement that medical graduates require AI literacy and competency, the field lacks consensus on what a structured AI curriculum should contain, how it should be sequenced across undergraduate training, and how it relates to existing clinical and basic science learning. Calls for AI integration in medical education have frequently remained aspirational, with practical curriculum design lagging behind rhetorical commitment.

Purpose: This session proposes a coherent, evidence-informed curriculum framework for embedding AI across a six-year undergraduate medical programme. The framework is grounded in Kern's six-step model of curriculum development and draws on Harden's ten questions for curriculum design, ensuring that AI competencies are articulated, sequenced, and implemented with appropriate educational rigour.

Content: The presentation introduces a three-phase progressive model: Phase 1 (Years 1–2) addresses AI Foundations — concepts, data literacy, algorithm bias, and ethics; Phase 2 (Years 3–4) engages Clinical AI — diagnostic AI tools, clinical decision support systems, and AI-

assisted patient communication; Phase 3 (Years 5–6) develops AI Practice — quality audit of AI tools, medicolegal dimensions, and contributing to AI research and innovation. The session maps specific learning outcomes to each phase, identifies appropriate instructional strategies (case-based learning, simulation, reflective practice), and discusses two integration models — standalone AI modules versus longitudinal threading across the curriculum — with their respective advantages and implementation challenges. Reference is made to published AI competency frameworks including those from the Association of American Medical Colleges and the European Federation of Internal Medicine.
Conclusion: A well-designed AI curriculum is achievable within existing undergraduate medical programmes without displacing core clinical content. The key is intentional design, faculty buy-in, and progressive competency development that prepares graduates not merely to use AI tools but to evaluate them critically and advocate for their appropriate use in patient care.

Speaker 3: Rehan Ahmed Khan: Dean, Riphah Institute of Assessment & Evaluation, Riphah International University, Islamabad, Pakistan

Title: Assessing AI Competencies in Medical Education: From Blueprinting to Programmatic Assessment

Presentation Synopsis: Curriculum reform without corresponding assessment reform is unlikely to produce lasting change in graduate competence. If AI competencies are not assessed, they will not be taught or prioritized. Yet assessment of AI competency presents distinctive challenges: the competencies are multidimensional, spanning declarative knowledge, applied reasoning, performance skills, and professional values; the technology evolves rapidly; and conventional assessment instruments have not been validated for this domain. This session presents a conceptual and practical framework for the assessment of AI competencies in undergraduate and postgraduate medical education. It draws on Miller's Pyramid as an organizing scaffold, argues for programmatic assessment as the overarching approach, and applies blueprinting principles — drawing on AMEE Guide 87 — to ensure that AI competency domains are assessed comprehensively and equitably across the curriculum. The session maps AI competencies to four levels of Miller's Pyramid: at Knows level, multiple-choice questions and short-answer items address declarative knowledge of AI concepts, bias, and ethics; at the Knows How level, case vignettes and scenario-based assessments evaluate applied reasoning about AI tool selection and interpretation; at the Shows How level, structured OSCE stations with simulated AI diagnostic environments assess performance competence; and at the Does level, supervised clinical practice observed through workplace-based assessments and reflective portfolios captures authentic competence in real clinical AI encounters. The session also addresses blueprinting an AI assessment — how to map assessment items to competency domains and ensure breadth of coverage — and argues for the ePortfolio as the longitudinal instrument for tracking AI competency development across training. The assessment of AI competencies is both feasible and necessary. Programmatic assessment — integrating multiple methods across multiple points in time — offers the most defensible approach to capturing the complexity and longitudinal development of AI competence.

Speaker 4: Sarah Khalid: Vice Principal- CPD, Head of Anatomy, Shalamar Medical and Dental College, Pakistan

Title: Faculty Development for the AI Era: Building Educator Capacity to Teach, Assess, and Model AI Competency

Presentation Synopsis: The successful integration of artificial intelligence (AI) into health professions education depends not only on curriculum reform but also on the preparedness of educators. However, faculty development remains one of the most neglected aspects of AI implementation. Many educators experience uncertainty regarding AI, question its relevance to their discipline, or lack confidence in integrating AI into teaching and assessment. Without structured faculty development, institutional AI initiatives risk remaining fragmented, superficial, or unsustainable.

Purpose: This session presents a Faculty AI Development Pathway—a staged framework designed to support educators in developing the competencies required for effective AI integration in education. Grounded in faculty development theory, change management principles, and Communities of Practice, the framework emphasizes both individual capability building and institutional capacity development.

Content: The pathway comprises four progressive stages. Aware focuses on foundational AI literacy, terminology, and exploration of AI tools. Apply supports educators in using AI to enhance teaching preparation, learning activities, and feedback processes. Design develops competence in aligning AI with learning outcomes, assessment strategies, and educational innovation. Lead prepares AI Champions who can mentor colleagues, contribute to institutional policy, and promote scholarship in AI-enhanced education. The session also addresses common barriers to faculty engagement, including limited time, digital anxiety, and perceived lack of relevance, while highlighting practical enablers such as peer support, protected development time, recognition mechanisms, and Faculty AI Champions programmes.

Conclusion: Faculty development must evolve alongside AI curriculum implementation rather than precede it. A structured, progressive, and sustainable approach to developing AI-capable educators can provide the human infrastructure necessary for meaningful and lasting educational transformation. Preparing the AI-capable faculty member of the future requires intentional investment today.

SYMPOSIUM 5:

The Nexus of Leadership and Innovation: Current Trends and Future Realities

Speaker 1: Fadil Citaku: professor, Academy of Leadership Sciences Switzerland, Switzerland

Title: The Impact of Neuroleadership on Innovation in Medical Education: Transforming Learning, Leadership and Organisational Excellence

Presentation Synopsis: Medical education institutions are complex adaptive systems under pressure to innovate — to integrate new technologies, revise curricula, and develop leaders capable of guiding teams through sustained uncertainty. Yet innovation initiatives fail not because of a lack of strategy or resources, but because of how the human brain responds to change. Resistance, inertia, and risk-aversion are not character flaws — they are neurological responses.

Neuroleadership — the application of neuroscience to leadership theory and practice — offers medical educators an evidence-based lens through which to understand these responses and design more effective approaches to change. The SCARF model (Rock, 2008), which maps five social domains — Status, Certainty, Autonomy, Relatedness, and Fairness — to threat and

reward responses in the brain, has direct relevance to how faculty respond to curriculum reform, how students respond to assessment change, and how institutions either enable or suppress psychological safety.

This talk makes the case that understanding the neuroscience of learning and leadership is not a luxury for educational theorists — it is a practical prerequisite for any institutional leader attempting to drive innovation in health professions education. It grounds the symposium's subsequent talks in the cognitive science that makes or breaks every leadership strategy, AI integration initiative, and digital transformation programme.

By the end of this 20-minute talk, participants will be able to:

- Explain how key neuroscience principles — including threat and reward circuitry, the SCARF model, and psychological safety — shape leadership behaviour and either enable or inhibit innovation in HPE setting
- Apply at least two neuroleadership frameworks to analyse real barriers to change within their own institutional context
- Recognise the neurological basis of resistance to AI-driven change in academic medical environments, and identify one leadership approach to reduce it

Speaker 2: Julius Kwaku Adu-Ntim

Title: Transformational Leadership in the Era of AI Innovation

Presentation Synopsis: Artificial intelligence does not transform institutions — leaders do. The most sophisticated AI tools, the most carefully designed curricula, and the most generous infrastructure budgets will fail in the absence of leadership that can articulate a compelling vision, build coalitions of commitment, and sustain momentum through the inevitable turbulence of change. Transformational leadership — characterized by idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass & Avolio, 1994) — has been consistently associated with higher levels of innovation adoption, team performance, and organizational resilience across healthcare settings. In the context of AI integration in HPE, its relevance is acute: faculty need leaders who can challenge existing assumptions about what education should look like, inspire commitment to a shared vision of AI-ready graduates, and create the conditions in which experimentation, failure, and learning are not only tolerated but valued. This talk moves from the cognitive foundation established in Talk 1 to the practical leadership behaviours that drive change at team and institutional level. It distinguishes transformational from transactional approaches to AI adoption — and makes the case that HPE leaders who rely on compliance, mandate, or incentive alone will produce surface-level adoption without the deep cultural change that sustainable AI integration requires. It gives participants a framework they can apply within their own sphere of influence, regardless of formal seniority.

Learning Objectives

- Distinguish transformational from transactional leadership approaches to AI adoption in HPE, and explain why the distinction matters for sustained institutional change
- Evaluate how the four dimensions of transformational leadership — idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration — can reduce faculty resistance to AI-driven curriculum change
- Construct one specific, context-appropriate transformational leadership strategy applicable to their own institutional role and sphere

Speaker 3: Shabana Ali: Riphah International University, Islamabad, Pakistan

Title: From Stethoscope to Algorithm: Building the Institutional Ecosystem for AI-Ready Medical Education

Presentation Synopsis: AI clinical tools are no longer approaching — they are already diagnosing diabetic retinopathy in settings with no ophthalmologists, reading mammograms in districts with no radiologists, and flagging sepsis hours before the clinical team notices. The doctor who graduates next year will practice in this environment. The question is whether their institution prepared them for it.

The evidence suggests most have not. A 2024 scoping review found that systematic AI literacy frameworks remain rare across undergraduate, postgraduate, and continuing medical education globally (Tolentino et al., 2024). A multicentre faculty survey found that only 33.7% of health sciences educators are confident in their ability to evaluate AI-generated outputs (PMC, 2025). Students are already using AI tools in clinical placements and for learning — but without the critical frameworks their curricula have not yet provided.

The two preceding talks have addressed the neuroscience of leadership and the transformational strategies that drive change. This talk confronts what those strategies require to land: institutions with prepared faculty, cultures that permit failure and reward critical engagement, and infrastructure that enables AI practice. Without all three, every leadership vision becomes an expensive aspiration.

This talk introduces three original frameworks — the AI Literacy Spectrum (four stages from naive to engaged), the Institutional AI Readiness Matrix (four quadrants across two axes), and the five-domain Ecosystem Blueprint — each designed to be immediately applicable.

The participants will be able to:

- Critically appraise the gap between AI deployment in clinical settings and AI literacy provision in current medical curricula.
- Diagnose the institutional AI readiness using the Institutional Readiness Matrix, positioning it across faculty readiness and institutional infrastructure
- Identify the single highest-leverage first action available within their institutional role across the faculty development, organizational culture, and resource infrastructure

Speaker 4: Raheela Yasmeen: Riphah International University, Islamabad, Pakistan

Title: Digital Leadership: From Learning to Leading Through AI

Presentation Synopsis: Digital leadership in health professions education is not a job title. It is a competency, a stance, and a commitment to continuous learning at the edge of what is known. It requires the ability to learn from AI tools critically and reflectively, to lead teams through digital uncertainty with confidence and intellectual humility, and to advocate for governance, ethics, and equity in the deployment of AI at institutional and system level.

The pathway from digital learner to digital leader mirrors, in important ways, the continuum of clinical expertise: the novice learns the tools; the competent practitioner uses them critically; the expert teaches and questions them; the leader shapes the systems in which they operate. Most HPE faculty are at the novice or competent stage. The institutions and systems they lead are waiting for them to step forward.

This talk closes the symposium not with a summary, but with a mandate. It gives every participant — regardless of seniority or

institution size — a framework for identifying where they currently sit on the digital leadership continuum and one concrete step to move forward. It connects personal development to institutional impact, completing the journey from the cognitive science of leadership (Talk 1) to the embodied practice of digital leadership

Learning Objectives:

- Define digital leadership as a distinct, assessable, and developable competency in AI-era health professions education, distinguishing it from digital literacy and digital fluency
- Map their own current position on the digital leadership continuum — from digital learner through digital practitioner to digital leader — and identify the capabilities required to advance to the next stage
- Commit to one specific, time-bound digital leadership action within their current institutional role, grounded in the frameworks

SYMPOSIUM 6:

Resilient Medical Education: Leadership, Postgraduate Training and Assessment for Excellence

Speaker 1: Zubia Masood, Karachi Metropolitan University, Karachi

Title: Developing Resilience for Wellness Amongst Faculty in Medical Education

Abstract: Faculty members are central to the quality, credibility, and sustainability of medical education. They teach, assess, mentor, supervise, conduct research, support students, lead programmes, and respond to institutional and accreditation demands. However, many faculty members work in environments marked by workload pressure, role overload, emotional labor, limited recognition, administrative burden, and rapid educational change. These pressures can compromise wellness, reduce engagement, and weaken institutional capacity for excellence. This presentation will examine faculty resilience and wellness as strategic leadership priorities in medical education. It will move beyond the narrow view of resilience as individual toughness and instead position resilience as a shared responsibility between faculty members, departments, and institutions. The talk will explore how faculty wellness is influenced by role clarity, workload design, leadership behavior, collegiality, psychological safety, professional identity, faculty development, and organizational culture. The presentation will propose a practical framework for developing faculty resilience at three levels. At the individual level, faculty need reflective practice, boundary management, emotional regulation, mentoring, and career planning. At the team level, they need peer support, communities of practice, fair distribution of work, and constructive feedback cultures. At the institutional level, they need enabling leadership, realistic performance expectations, recognition systems, protected time, and policies that support academic wellbeing. The core argument is direct: institutions cannot achieve educational excellence with exhausted faculty. Sustainable excellence requires leaders to treat faculty wellness not as a welfare activity, but as a core quality and governance issue. By investing in resilient faculty systems, medical education institutions can strengthen teaching quality, assessment credibility, postgraduate supervision, scholarship, and long-term institutional performance.

Speaker 2: Maqsood-ul-Hassan, Riphah International University, Islamabad

Title: Building Resilient Postgraduate Medical Education Programmes for Changing Healthcare Systems

Abstract: Postgraduate medical education programmes are expected to produce competent, reflective, ethical, and adaptable specialists while operating within high-pressure clinical environments. These programmes must balance service delivery, supervision, assessment, patient safety, trainee wellbeing, professional identity formation, and workforce needs. In many contexts, postgraduate training still relies heavily on traditional apprenticeship models, variable supervision, informal feedback, and individual commitment. While these foundations remain valuable, they are no longer sufficient on their own. This presentation will explore how postgraduate medical education programmes can be developed as resilient learning systems. A resilient programme is not simply one that continues to function under pressure; it can learn, adapt, protect standards, support trainees and faculty, and remain aligned with healthcare needs. The talk will examine key design features of resilient postgraduate education, including competency-based curriculum design, structured supervision, workplace-based assessment, trainee support, faculty development, feedback literacy, educational governance, and continuous quality improvement. The presentation will also address common stress points in postgraduate education, including supervisor variability, assessment burden, burnout, service-training tension, weak documentation, limited educational data, and inconsistent trainee progression decisions. It will propose that resilience requires alignment across curriculum outcomes, clinical learning environments, assessment systems, faculty capability, and institutional leadership. A practical programme level framework will be presented around three pillars: purposeful curriculum architecture, supportive workplace learning culture, and evidence-informed programme governance. This framework can help postgraduate programmes move from dependence on individual champions toward sustainable systems that deliver consistent educational quality. The presentation will conclude that excellence in postgraduate medical education depends on building programmes that are academically robust, clinically relevant, humane, and adaptable. Such programmes prepare trainees not only to pass assessments, but also to lead, learn, and serve effectively in complex healthcare systems.

Speaker 3: Mashaal Sabqat, Riphah International University, Islamabad

Title: Assessment for Resilience and Excellence in Medical Education

Abstract: Assessment is one of the most powerful levers for shaping learning, professional behaviour, institutional quality, and public trust in medical education. Yet assessment systems often become fragmented, examination-heavy, and stressful for both learners and faculty. When assessment is poorly aligned, overly focused on isolated scores, or disconnected from workplace performance, it can weaken learning, increase anxiety, and undermine confidence in educational decisions. This presentation will examine how assessment can contribute to resilient and excellent medical education. It will argue that resilient assessment systems do more than measure achievement; they support learning, guide progression, identify risk, promote fairness, inform curriculum improvement, and protect professional standards. Such systems require balance between established assessment fundamentals and contemporary innovations. The talk will revisit core assessment principles

including validity, reliability, fairness, transparency, feasibility, blueprinting, standard setting, examiner training, feedback, and quality assurance. It will then explore how innovations such as programmatic assessment, workplace-based assessment, e-portfolios, simulation, digital assessment platforms, and assessment analytics can strengthen resilience when used responsibly. The presentation will caution against superficial innovation where technology is added without clear educational purpose or faculty readiness. A central focus will be assessment design at the programme level. Resilient assessment depends on coherent systems, not isolated tools. Multiple low- and high-stakes assessments should be aligned with outcomes, curriculum, feedback processes, learner progression, and professional identity formation. The talk will also consider assessment-related risks such as bias, assessment overload, poor feedback culture, inconsistent standards, and learner disengagement. The presentation will conclude that assessment for excellence must be credible, humane, developmental, and accountable. When designed well, assessment becomes a resilience-building system that supports learners, guides faculty, strengthens institutions, and assures society that graduates are ready for safe and ethical professional practice.

PRE-CONFERENCE WORKSHOPS

PCW: Converting Concepts to Impactful Communication in Medical Education: Enhancing Teaching & Learning Through Artificial Intelligence

Facilitator: Aasma Nudrat Zafar
Institute: Foundation University Islamabad, Pakistan

Abstract: Despite vast knowledge, many medical educators struggle with engaging teaching skills. This workshop aims to bridge the gap between AI advancements and their practical applications in medical education. It will empower the participants to utilize AI-driven tools to improve the quality, clarity, and effectiveness of their teaching'

Objectives

By the end of this workshop, participants will be able to:

- Construct structured prompts to extract & summarize high-quality key concepts from medical literature for classrooms and informal teaching
- Utilize AI features to transform text-heavy content into visually engaging slides
- Use AI-powered rehearsal coaches to get feedback on delivery metrics (eye contact, pacing, body language, and delivery timing).

PCW: Beyond the Script: Teaching Patient-Centered Communication in Pharmacy Education: Motivational Interviewing, Cultural Humility, and Role-Play Design

Facilitators: Aisha Nasir Hashmi, Sidra Shahid, Wafa Omer
Institute: Bahria University Health Sciences Islamabad

Abstract: Patient-centered communication is a core clinical competency, integral to patient safety, and mandated by the ACPE 2025 Standards (2.1.d, 2.1.h). However, prevailing pedagogy remains script-based and checklist-driven, privileging scripted delivery over genuinely adaptive, responsive listening. This workshop addresses that persistent gap directly.

Objectives:

- Articulate the evidence base for patient-centered communication as a pharmacy clinical competency, with reference to ACPE 2025 Standards, FIP frameworks, and the MI adherence literature.
- Apply the four core principles of Motivational Interviewing (partnership, acceptance, compassion, evocation) to the design of pharmacy patient encounter learning activities.
- Distinguish between cultural competence and cultural humility and redesign at least one existing pharmacy teaching activity to embed a cultural humility framework.
- Design an evidence-based role-play scenario for pharmacy students that includes a patient brief, faculty facilitator guide, structured feedback protocol, and assessment rubric.
- Facilitate a post-role-play debrief session using the 3D+ debriefing model to deepen student reflection and learning transfer.
- Identify low-cost, high-impact strategies for implementing patient-centered communication training in resource-limited pharmacy education settings.

PCW: Integrating Artificial Intelligence into Case-Based Learning: Enhancing Teaching and Learning in Health Sciences Curricula

Facilitator: **Amara Butt, Raheela Yasmeen**
Institute: Riphah International University, Islamabad, Pakistan

Abstract: This workshop equips health sciences faculty with practical skills to design, facilitate, and implement effective Case-Based

Learning (CBL) sessions. Participants will explore AI tools for creating authentic cases, generating learning resources, and enhancing CBL planning and delivery, while developing a structured CBL session adaptable to their own educational contexts.

Objectives:

- Explain the principles, characteristics, and educational value of Case-Based Learning (CBL) in health sciences education.
- Differentiate CBL from other small-group instructional approaches and identify situations for its application.
- Design a structured CBL session aligned with intended learning outcomes and learner needs.
- Utilize artificial intelligence (AI) tools to develop authentic case scenarios, generate learning resources, and support the planning and delivery of CBL activities.

PCW: The Art of Engaging Learners Through Technology

Facilitator: Sidra Mehak

Institute: Jinnah Sindh Medical University

Abstract: This workshop equips educators with practical educational technology strategies to create engaging, interactive, and learner-centered classrooms. Participants will learn how to use digital tools to enhance student participation, collaboration, formative assessment, and active learning, ultimately improving learner engagement and the overall effectiveness of teaching and assessment.

Objectives:

- Identify barriers to student engagement in the classroom.
- Select appropriate educational technology tools to enhance student participation.
- Demonstrate the use of technology-enhanced strategies to create engaging learning experiences.

PCW: Assessment XP: Turning Tests into Gaming

Facilitator: Zubia Masood, Masood Jawaid

Institute: Karachi Metropolitan University; Pakistan journal of medical sciences

Abstract: Gamification has emerged as an effective strategy for increasing learner engagement, motivation, participation, and immediate feedback. This workshop is designed to equip educators with the knowledge and practical skills to leverage AI responsibly while maintaining the principles of sound assessment through hands-on activities and collaborative exercises.

Objectives:

- Describe the principles of gamification and their role in enhancing learner engagement and motivation.
- Demonstrate how LLM can assist in generating, modifying and improving assessment items.
- Design gamified assessment activities using digital platform

PCW: Leading with the Brain, Heart and Social Mind: Applying Neuroleadership, Emotional Intelligence and Social Intelligence in Medical Education

Facilitator: Fadil Çitaku

Institute: Academy of Leadership Sciences Switzerland (ALSS)

Abstract: Medical educators face cognitive overload, emotional pressure, hierarchy, conflict and rapid change. This workshop responds to the need for evidence-informed leadership approaches that strengthen psychological safety, feedback culture, motivation, collaboration and human-centred educational leadership in health professions education.

Objectives:

- Explain the foundations of neuroleadership in medical education.

- Identify major brain and neurochemical systems associated with leadership, learning and social behaviour.
- Apply the Neuroleadership Competency Model Çitaku and the DRENICA model to educational leadership situations.
- Use the SCARF domains to analyse feedback, assessment, conflict and organisational change.
- Describe the partial overlap between social and physical pain and its implications for exclusion and psychological safety.
- Demonstrate emotional self-regulation, empathetic listening and socially intelligent communication.
- Design leadership interventions that protect dignity, fairness and belonging while maintaining professional accountability.
- Develop a practical 30-day personal Neuroleadership Development Plan.

PCW: Crafting the Future of Education: AI-Powered Immersive Learning Design

Facilitator: Hasnain Zafar Baloch, Shahid Hassan, Simranjeet Kaur Judge

Institute: MILA University; American University of Barbados School of Medicine; UCSI University

Abstract: The rapid convergence of artificial intelligence, extended reality (XR), and human-centered design is fundamentally reshaping how learning experiences are conceived, designed, and delivered. As smart learning environments evolve beyond static digital classrooms into dynamic, adaptive, and immersive ecosystems. Educators and learning designers face an urgent imperative to develop new competencies.

Objective:

- Intensify the pedagogical foundations of immersive and AI-augmented learning environments, grounding design decisions in established learning science. (C1)
- Apply the TPACK and AILD Framework (AI-Integrated Learning Design Framework), framework introduced in this workshop, to analyze and design smart learning experiences. (C3)
- Use at least three AI-powered authoring and prototyping tools to generate adaptive learning content, immersive scenario scripts, assessment and learner feedback loops. (C3)
- Design and prototype a micro-module of an immersive learning experience incorporating AI-driven personalization elements. (C6)
- Evaluate AI-generated learning content critically for pedagogical alignment, ethical considerations, bias, accountability, transparency and accessibility. (C4, C5)
- Develop an actionable implementation roadmap for introducing AI-powered immersive learning at their home institution or research context. (C6)

PCW: Evidence Synthesis Skills in Health Professions Education using AI Agents

Facilitators: Mahrukh

Institute: AD Vivum Education and Research; Watim Medical & Dental College, Rawalpindi

Abstract: This workshop delivers a structured, end-to-end evidence synthesis workflow for health professions educators from PICO framing and PubMed search strategy construction to AI-assisted screening, critical appraisal, and research gap identification. Participants apply skills to their own questions, developing both methodological competence and critical evaluation of AI-generated outputs in real time.

Objective:

- Explain what evidence synthesis is, why it matters for teaching, research, and clinical decision making, and how the major

review types differ in scope and purpose.
- Construct a reproducible PubMed search strategy using MeSH terms, Boolean operators, and appropriate filters for a self-selected research question.
- Export a citation set from PubMed and feed it into an AI agent for structured synthesis.
- Direct an AI agent to synthesize retrieved literature, extract key themes, and identify research gaps.
- Translate an identified research gap into a well-formed research question using a structured framework such as PICo or SPIDER.
- Critically appraise AI-generated synthesis output for fabricated references, unsupported claims, and biased framing.
- Apply current journal and reporting guideline expectations for disclosing AI use in evidence synthesis.

PCW: Safety Leaders in the Making: Innovation-Driven Curriculum design for Tomorrow's Clinicians

Facilitators: Maqsood-ul-Hassan, Prof Shabana Ali, Dr Mashaal Sabqat

Institute: Riphah International University, Islamabad, Pakistan

Abstract: The WHO estimates that unsafe care is one of the leading causes of preventable death worldwide, yet patient safety is inconsistently embedded in health professions curricula, particularly in low- and middle-income countries. This workshop will empower faculty as curriculum architects who can design, implement, and evaluate patient safety education longitudinally.

Objectives:
- Discuss the role of leadership, teamwork, and organizational culture in promoting patient safety.
- Differentiate between types of healthcare teams and their impact on patient outcomes.
- Analyze factors contributing to under-reporting of errors using real-world scenarios.
- Identify patient safety competencies for undergraduate medical education.
- Design a patient safety learning module that aligns learning outcomes, teaching strategies, and assessment methods.
- Integrate patient safety concepts across formal, informal, and hidden curricula within a longitudinal program.

PCW: Thriving, Not just Surviving: Building Resilience and Well-being in Health Professions Education

Facilitators: Usman Ahmad Kamboh, Mahham janjua, Nosheen Khurram

Institute: Punjab Institute of Neurosciences Lahore General hospital, Lahore.; Fatima Jinnah medical university, Sir Ganga Ram Hospital Lahore.; Rashid Latif Medical College

Abstract: Health professions educators and learners increasingly face burnout, workload pressures, and declining well-being. This workshop provides an evidence-informed, practical framework to help institutions foster resilience, psychological safety, compassionate leadership, and sustainable wellness through innovative tools and collaborative action planning.

Objectives:
- Apply the THRIVE-WELL HPE Framework to identify wellness gaps within their educational institutions.
- Differentiate individual resilience from institutional responsibility for well-being.
- Design an Institutional Wellness Audit to assess key organizational factors influencing faculty and learner well-being.
- Develop a prototype Digital Wellness Passport to support longitudinal well-being, mentorship, and professional

development.

- Create a practical institutional action plan to implement sustainable, evidence-informed well-being initiatives that promote compassionate leadership, psychological safety, and educational excellence.

PCW: Leading Health Professions Education: Understanding Leadership Styles, Personality Preferences and Conflict Management

Facilitators: Farzana Mahdi, Sucheta Dandekar
Institute: Era University

Abstract: Effective leadership in health professions education extends beyond technical expertise and administrative responsibility. This interactive workshop equips faculty with practical leadership, self-awareness and conflict management strategies to foster collaborative, resilient and high performing teams.

Objectives:

- Compare the characteristics, strengths, limitations and appropriate applications of leadership styles within health professions education.
- Recognize their own personality preferences framework and appreciate how different personality styles influence communication, teamwork and leadership behaviors.
- Apply the Thomas-Kilmann Conflict Mode Instrument (TKI) to analyze common conflict situations encountered in academic and clinical settings.
- Integrate leadership styles, personality preferences and conflict management strategies to effectively address authentic educational and workplace challenges.
- Develop practical approaches for adapting leadership behaviors according to team dynamics, organizational context and the nature of conflict, thereby enhancing collaboration, faculty engagement and educational outcomes.

ORAL PAPERS

TITLE: FACULTY ASSESSMENT IN CLINICAL TEACHING: RADIOLOGY RESIDENTS' PERCEPTIONS OF CLINICAL TEACHERS AS ROLE MODELS IN TERTIARY CARE HOSPITAL IN PAKISTAN

Author: Aasma Nudrat Zafar
Institute: Foundation University Islamabad, Pakistan
Presenter: Aasma Nudrat Zafar

Background: Quality of patient care is determined by the quality of clinical residency program. Regular evaluation of faculty's professional skills is necessary. It is required by the Accreditation Council on Graduate Medical Education (ACGME) that all clinical residency programs must have a system to evaluate each faculty member's performance at least annually. This study represents an initial step towards 360° faculty evaluation, which is integral for continuous quality improvement in postgraduate medical education.

Methods: This descriptive cross-sectional quantitative study was carried out from January - July 2026. A pre-validated online System of Evaluation of Teaching Qualities (SETQ) was sent to the residents upon completion of their training. A 7-point likert scale was used. Nine faculty members were evaluated regarding the learning climate, professional attitude towards assistants, learner centeredness, evaluation of residents' knowledge and skills & role modelling. Final year residents who had completed their residency were included. Post-graduate trainees from other specialties on rotation & those who had not completed their training were excluded.

Results: Fourteen radiology residents completed post graduate training in 2026; 10/14 (71.4%) responded by filling the questionnaire for evaluation of 9 faculty members. Majority of the faculty (66.6%) had formally been trained in medical education. Approved supervisors were 4/9 (44.4%). The Professor was highest rated for learning climate. The Registrar was the highest-rated faculty member across multiple domains, particularly professional attitude, feedback, evaluation of residents and role modelling.

Conclusion and Recommendations: Overall faculty performance was positively perceived by the residents at completion of clinical training. This initial step can be the foundation of 360-degree faculty evaluation.

Keywords: Faculty evaluation, role model, clinical teaching

TITLE: RE-THINKING SURGICAL CASE-BASED LEARNING: DEVELOPMENT AND IMPLEMENTATION OF CASE-FILE–BASED LEARNING FOR SURGICAL RESIDENCY TRAINING

Author: Haadia Ali
Institute: Department of Surgery, Shalamar Hospital, Pakistan
Presenting Author: Haadia Ali

Background: Case-based discussion is a cornerstone of surgical residency education, yet many teaching sessions remain linear, facilitator-dependent, and focused on retrospective case review rather than authentic clinical reasoning. Surgical practice requires clinicians to interpret evolving information, prioritize differential diagnoses, make time-critical decisions, and adapt management plans as new clinical evidence emerges. Guided by Cognitive Load Theory, Situated Learning Theory, and principles of authentic workplace learning, we redesigned traditional surgical case discussions into Case-File–Based Learning (CFBL).

Methods: Authentic surgical cases representing common emergency and elective conditions were transformed into structured

Case Files using progressive disclosure principles. Each Case File was mapped to competency-based surgical learning outcomes and incorporated sequential decision points requiring residents to formulate differential diagnoses, justify investigations, prioritize management, interpret operative findings, respond to complications, and reflect on evidence-based practice. Educational content, authenticity, and workflow were validated through a three-round Delphi process involving consultant surgeons and medical education experts. Faculty development workshops standardized facilitation strategies before implementation during residency academic sessions. Educational impact was evaluated using pre- and post-session assessments, structured observations, and qualitative interviews

Results: Expert review demonstrated excellent content validity (item-level CVI ≥0.90; scale-level CVI >0.92). Residents described greater engagement, improved clinical reasoning, and increased confidence in managing evolving surgical scenarios. Progressive disclosure encouraged iterative hypothesis generation, prioritization of investigations, interpretation of imaging and operative findings, recognition of complications, and evidence-informed management decisions. Faculty reported richer discussions, more consistent facilitation, greater participation from junior residents, and discussions that more closely reflected authentic surgical practice. Pre- and post-session assessments demonstrated statistically significant improvements in clinical reasoning and knowledge acquisition ($p < 0.05$), supporting the feasibility and educational value of the Case-File approach.

Conclusion and Recommendations: Transforming conventional surgical case discussions into progressively disclosed Case Files shifted learning from retrospective case presentation to authentic surgical reasoning.

Keywords: Case-File–Based Learning; Case-Based Learning; Surgical Education; Surgical Residency Training.

TITLE: DEVELOPMENT AND VALIDATION OF AN INSTRUMENT FOR MEASURING GENERATIVE AI DEPENDENCY AMONG POSTGRADUATE MEDICAL RESEARCH STUDENTS

Authors: Muhammad Ali Rabbani, Rehan Ahmed Khan, Raheela Yasmeen, Faiza
Institute: Nishtar Medical University, Pakistan, Islamic International Medical College, Riphah International University, Islamabad.
Presenting Author: Muhammad Ali Rabbani

Background: Generative artificial intelligence (AI) is increasingly used in medical education and research for literature searching, writing, summarization, idea generation, and task organization. Although AI can improve productivity, excessive or uncritical reliance may compromise independent thinking, verification, self-regulation, and scholarly development. Existing instruments insufficiently distinguish adaptive Functional AI Use from maladaptive Dysfunctional AI Reliance in medical research. This study aimed to develop and validate the Medical Researchers' AI Dependency Questionnaire (MRAD) for postgraduate medical research students.

Methods: Using multiphasic sequential mixed-methods design, Phase 1 generated 53 items through literature review and a focus group with seven postgraduate researchers. Phase 2 involved content validation by 23 health professions education experts using relevance and clarity ratings; I-CVI, S-CVI/Ave, and CCA were calculated. Phase 3 used cognitive interview with eight target respondents for response validation. Phase 4 administered the 40-item pilot MRAD online; 251 complete responses were retained after quality screening. Item analysis, factorability

assessment, exploration factor analysis (EFA), EFA-guided item reduction, and Cronbach's alpha were conducted separately for both item pools.

Results: Content validation showed I-CVI values of 0.77–1.00, S-CVI/Ave of 0.935, and CCA of 2.70–3.00, reducing the instrument to 41 items. Cognitive interviews produced a 40-item pilot with 20 Functional AI Use and 20 Dysfunctional AI Reliance items. Initial Cronbach's alpha values were .869 and .896, respectively. EFA-guided reduction yielded a 30-item MRAD, with 15 items per scale. Functional AI Use comprised Intrinsic Load Management, Metacognitive Verification, Cognitive Offloading, and Germane Ideation Support; Dysfunctional AI Reliance comprised Affective-Executive Reliance and Cognitive Control Failure. Final Cronbach's alpha values were .825 and .878, respectively.

Conclusion and Recommendations: MRAD demonstrated content, response-process, and structural validity evidence with good internal consistency, distinguishing adaptive Functional AI Use from Dysfunctional AI Reliance. Further validation in larger postgraduate research samples is recommended.

Keywords: Generative AI; Medical research; AI dependency; Questionnaire validation

TITLE: EFFECT OF TWO RETRIEVAL PRACTICE EXERCISES ON SCORES OF ANATOMY IN MBBS STUDENTS: A QUASI-EXPERIMENTAL STUDY

Authors: Amber Ilyas, Syed Moin Ali, Muhammad Hayyan Qadri

Institute: Anatomy, Jinnah Sindh Medical University, Pakistan

Presenting author: Amber Ilyas

Background: Retrieval is the transfer of information stored in Long-term memory to working memory. Students often face difficulties in retaining information long-term. Retrieval practice (RP) has been well documented to enhance learning. Currently, there is scant local evidence about whether MCQs or SAQs are more beneficial for RP. The objective of the study is to compare scores after retrieval practice using MCQs and SAQs in the modules of Head & Neck and Endocrinology.

Methods: This quasi-experimental, cross-over study was conducted at SMC, JSMU, involving 350 second-year MBBS students, equally divided into 2 groups by placing all the odd roll numbers in Group A and even roll numbers in Group B. Group A practiced retrieval through SAQs and Group B through MCQs in first module and vice versa in second module. RP exercises were administered at the end of lectures by the Principal Investigator, followed by immediate feedback. At the end of each module, a formative assessment of 25 MCQs was administered to assess student performance. Data was entered and analysed using SPSS version 20.

Results: Independent samples t-test was applied for group comparison within each module which showed no significant results as the p-value was greater than 0.05 for each module. However, the paired samples t-test was used to compare MCQ and SAQ performance across modules which reveal that students engaged in RP using SAQs achieved significantly higher scores (Mean = 81.734 ± 17.444) compared to those who practiced with MCQs (Mean = 70.978 ± 17.027, p = 0.024). Students deemed the RP exercises to be beneficial.

Conclusion and Recommendations: RP is beneficial for improving academic performance. SAQs were more effective than MCQs in promoting retention. These findings underscore the effectiveness of various RP-methods and incorporating them into anatomy instruction.

Keywords: Retrieval practice (RP), MCQ, SAQ, learning, memory

TITLE: EVALUATING THE EFFICACY OF VIRTUAL REALITY AMONG ADULT PATIENTS UNDERGOING CARDIAC CATHETERIZATION IN OMAN: A RANDOMIZED CONTROLLED TRIAL

Authors: Bushra Al-Badowi, Maryam Al-Harrasi, Diala Al-Twalbeh, Fahad Al-Kindi
Institute: Health and Critical Care Nursing, Sultan Qaboos University, Oman
Presenting Author: Bushra Al-Badowi

Background: Cardiovascular disease is considered one of the most prevalent diseases in recent times, and cardiac catheterization is widely used to diagnose and treat cardiovascular disease. However, patients often experience significant anxiety before the procedure due to fear of the unknown, potential complications, and concern about discomfort.

Methods: A multicenter randomized controlled trial is being conducted in three hospitals in Oman. Adult patients undergoing cardiac catheterization are randomized to either the VR-based education group or the standard education control group. Participants in the VR group receive an immersive educational video explaining the cardiac catheterization procedure before the procedure, while the control group receives standard pre-procedural education. Anxiety is measured using the DASS-21 anxiety subscale at baseline, immediately after education/VR, and after cardiac catheterization. Patient education satisfaction is assessed in both groups. Attitude, perceived usefulness, ease of use, and VR satisfaction are assessed among participants in the VR group.

Results: In a balanced interim analysis of 100 participants, with 50 participants in each group, participants who received VR-based education demonstrated greater immediate anxiety reduction compared with those who received standard education. Anxiety reduction was observed in 70% of participants in the VR group compared with 30% in the control group ($p < .001$). Patient education satisfaction was also higher in the VR group, with high satisfaction reported by 78% of VR participants compared with 30% of control participants ($p < .001$). Participants in the VR group also reported positive attitude, perceived usefulness and satisfaction with the VR-based education.

Conclusion and Recommendations: This study suggests that VR-based education is a promising and acceptable strategy to reduce pre-procedural anxiety and improve patient education satisfaction among adults undergoing cardiac catheterization.

Keywords: Virtual Reality, Cardiac Catheterization, Anxiety, Satisfaction, Usefulness, Cardiovascular diseases.

TITLE: LIFELONG LEARNING TENDENCIES AMONG POSTGRADUATE MEDICAL TRAINEES IN PUNJAB, PAKISTAN

Authors: Haris Shakil, Hammad Zia
Institute: Dental Education Dept, FMH College of Medicine and Dentistry, Pakistan
Presenting Author: Haris Shakil

Background: Lifelong learning is an essential competency for medical professionals to maintain clinical competence and adapt to advances in healthcare. However, evidence regarding lifelong learning tendencies among postgraduate medical trainees in Pakistan, particularly Punjab, is limited. This study aimed to explore the concept of lifelong learning, identify factors influencing it, and determine the research gap regarding lifelong learning among postgraduate medical trainees.

Methods: A structured literature search was conducted in PubMed, ERIC, Scopus, Web of Science, and Google Scholar, supplemented by manual searching. Literature published between 2000 and 2026 was considered. A total of 1,029 records were identified; after duplicate removal and screening, 25 studies were included in the final qualitative synthesis.

Results: The review identified individual, educational, and organizational factors influencing lifelong learning. Motivation, curiosity, self-directed learning, reflection, mentorship, constructive feedback, protected learning time, institutional support, and research opportunities were important facilitators. Major barriers included heavy workload, limited mentorship, inadequate resources, and lack of protected learning time. Evidence from Pakistan was limited, particularly regarding postgraduate medical trainees in Punjab

Conclusion and Recommendations: Lifelong learning is a key competency in postgraduate medical education, but substantial evidence gaps remain in Pakistan.

Keywords: Lifelong Learning, Postgraduate Medical Education, Self-Directed Learning, Medical Education

TITLE: EXPLORING EFFECTIVENESS OF SELF-DIRECTED LEARNING (SDL) AMONG MEDICAL STUDENTS IN ACHIEVING LEARNING GOALS

Authors: Alishba Mukhtar, Amara Butt, Shabana Ali, Raheela Yasmeen

Institute: Riphah Academy of Research and Education, Riphah International University, Pakistan

Presenting Author: Amara Butt

Background: Self-directed learning (SDL) is a cornerstone of adult learning and an essential competency for developing lifelong learners in medical education. It promotes learner autonomy, self-regulation, critical thinking, and reflective practice. However, its effectiveness is influenced by factors such as learner motivation, effective use of self-study time, and appropriate faculty guidance. This study aimed to explore the effectiveness of SDL in helping medical students achieve their learning goals in integrated medical curriculum.

Methods: Qualitative exploratory study was conducted to understand the perceptions and experiences of medical students regarding their self-directed learning. Two face to face interviews were conducted and rest were conducted online for feasibility. The interview guide comprised 11 open-ended questions developed through an extensive literature review and validated by five medical education experts. Thematic analysis of data was conducted using ATLAS. ti software.

Results: Open and axial codes were identified. Thematic analysis identified seven subthemes, which were organized into four overarching themes: (1) a supportive learning environment, (2) the role of peers in self-directed learning, (3) students' personal responsibility in self-directed learning, and (4) external factors influencing student learning. SDL is better accomplished in a comfortable environment and modification in SDL sessions can help students focus better.

Conclusion and Recommendations: SDL is influenced by learning environment, peer and teacher support, self-regulation, and motivation. Converting it to Directed Self-learning through structured guidance and feedback enhances effectiveness while preserving learner autonomy.

Keywords: Self-directed learning, medical students, guided learning, andragogy

TITLE: ASSESSING THE EFFECTIVENESS OF WORKPLACE BASED FACULTY DEVELOPMENT FRAMEWORK USING KIRKPATRICK MODEL OF EVALUATION

Authors: Raheela Yasmeen, Muhamad Saiful Bahri Yusoff, Amara Butt

Institute: Riphah Academy of Research and Education, Riphah International University, Islamabad, Pakistan

Presenting Author: Amara Butt

Background: There is need to develop and assess effectiveness of workplace-based approaches. Hence the aim of the research

project was to; to develop, validate, and evaluate the effectiveness of workplace-based faculty development (WBFD) model that enhances the transfer of teaching skills among medical faculty at workplace, grounded in social theories of learning, and compare its effectiveness against traditional faculty development approaches i.e. workshop.

Methods: The model was evaluated through Quasi Experimental study design. The study was conducted at a Riphah International University medical school. The sample were 66 junior/novice faculty members from basic and clinical medical sciences, out of which 36 fulfilled the inclusion criteria. They are divided into two equal Groups, 18 in each: Intervention Group 1 (trained through Workshops) and Intervention Group 2 (trained through WBFD model). Non-probability convenience sampling was done due to lack of random assignment. The senior faculty was used as 'Experts' in the WBFD model and were trained in peer coaching.

Results: The Wilcoxon Ranked Test was applied to analyze differences between pretest and post test scores for group 1 & 2 and 'p' value of <0.05 was considered as significant. For group 1 & 2 four domains were significant except 'decision making'. The cognition scores were highly significant for both groups. The post-training questionnaire data for Group 1 & 2 revealed high levels of satisfaction and perceived effectiveness. A direct comparison of performance scores between Group 1 and 2 after two months highlighted the superiority of WBFD V2 in fostering long-term behavioral improvements.

Conclusion and Recommendations: WBFD integrates experiential learning, peer coaching, feedback, and reflection directly in the work environment, fostering continuous improvement and impacts on cognitive, behavioral, and satisfaction outcomes among novice faculty.

Keywords: Workplace-based faculty development, Peer coaching

TITLE: THE INTERPLAY OF THE HIDDEN CURRICULUM AND PROFESSIONAL IDENTITY TRANSITION: A LITERATURE REVIEW OF UNDERGRADUATE MEDICAL EDUCATION

Authors: Bushra Riaz, Usman Mahboob
Institute: Riphah International University, Islamabad, Pakistan.
Presenting Author: Bushra Riaz

Background: The formation of a professional identity is increasingly recognized as a central objective in medical education. Students develop this identity not only through formal teaching but also through the hidden curriculum. The transition from preclinical to clinical education is a critical period, as students face new responsibilities and interact closely with professional role models. This study focuses on how the hidden curriculum shapes professional identity during this transition within the context of Pakistani medical education.

Methods: This research will adopt a qualitative, exploratory design. Approximately 15 undergraduate MBBS students from various academic years will be purposively selected from a private medical college in Lahore. Data collection will involve semi-structured interviews to gather students' perspectives on role modeling, institutional culture, hierarchy, professional values, and their experiences transitioning from preclinical to clinical education. Thematic analysis will be employed to uncover patterns and themes related to the hidden curriculum and professional identity formation.

Results: Hidden curriculum as a lived experience: Students are expected to describe how the hidden curriculum manifests in daily routine.

- Role modeling: Faculty members,

residents, and senior students likely influence students' professional attitudes.
- Clinical transition as an identity milestone: The move from preclinical to clinical education is expected to be viewed as a defining moment in students' development as future physicians.
- Theory-practice gap, Student agency, Cultural and hierarchical factors: In the Pakistani context, respect for authority and hierarchical structures are likely to influence how students interpret and respond to professional behaviors and ethical challenges.

Conclusion and Recommendations: The literature indicates that the hidden curriculum significantly shapes professional identity during undergraduate medical education and the findings could help educators recognize gaps between formal teaching and students' lived experiences

Keywords: Hidden curriculum, professional identity formation, undergraduate medical education, clinical transition.

TITLE: SELF-REGULATED AND SOCIALLY SHARED REGULATION OF LEARNING IN ADAPTIVE COLLABORATIVE EDUCATIONAL ENVIRONMENTS: A SCOPING REVIEW

Authors: Faiza Ikram, Raheela Yasmeen, Humaira Fayyaz
Institute: Nishtar Medical University, Pakistan
Presenting Author: Faiza Ikram

Background: Collaborative learning is central to higher education, yet its effectiveness depends on learners' ability to regulate learning both individually and collectively. While self-regulated learning (SRL) and socially shared regulation of learning (SSRL) are recognized as complementary processes, their interaction within adaptive collaborative learning environments remains insufficiently synthesized. The objective of this scoping review was to map and synthesize existing literature describing the components, processes, and adaptive strategies underpinning the interplay between SRL and SSRL in health professions education.

Methods: A scoping review was conducted following the Arksey and O'Malley framework and reported in accordance with PRISMA-SCR guidelines. Searches were performed across PubMed/MEDLINE, Google Scholar, ScienceDirect, Semantic Scholar, and Taylor & Francis for studies published between 2004 and 2024. Eligible studies addressed SRL, SSRL, collaborative learning, and/or adaptive learning in higher or health professions education. Data was systematically charted and analyzed using a hybrid inductive-deductive thematic analysis.

Results: A total of 31 studies met inclusion criteria, including 14 empirical, 12 conceptual/theoretical, 4 review-based contributions and one bibliometric analysis. Regulation in collaborative learning was found to be dynamic, involving continuous shifts between individual and shared processes across affective, cognitive, metacognitive, and motivational domains. Recurrent challenges included emotional strain, misaligned goals, invisible reasoning, uneven participation, and coordination breakdowns. Adaptive learning supports regulatory processes through personalized feedback, scaffolding, dashboards, and prompts. However, these systems largely operated in parallel, addressing either individual regulation or group-level processes, with limited emphasis on harmonizing SRL and SSRL. Empirical evidence from health professions education was limited.

Conclusion and Recommendations: Limited evidence supports coordinated individual and shared regulation within higher education, particularly health professions education. This highlights major gap for future theory-informed adaptive designs harmonizing

individual autonomy with shared accountability.

Keywords: Self-regulated learning, socially shared regulation, Collaborative learning, Adaptive learning, Health education

TITLE: POWER, KNOWLEDGE, AND NEO-COLONIALISM IN HEALTH PROFESSIONS EDUCATION: A CRITICAL NARRATIVE REVIEW TOWARD A DECOLONIAL FRAMEWORK FOR PAKISTAN

Authors: Fouzia Sultana, Junaid Sarfraz, Ayesha Junaid

Institute: Department of Medical Education, Shaheed Zulfiqar Ali Bhutto Medical University, Pakistan

Presenting Author: Fouzia Sultana

Background: Health Professions Education (HPE) is strongly influenced by Western educational theories, curricula, assessment systems, and research priorities. Although these frameworks have advanced educational standards, their uncritical adoption in postcolonial settings such as Pakistan may reinforce neo-colonial power structures and marginalize local knowledge.

Objective: To critically examine power–knowledge relations sustaining neo-colonialism in HPE and propose a contextually relevant decolonial framework for Pakistan.

Methods: This critical narrative review drew upon theoretical perspectives of Foucault, Said, Fanon, and Freire. Literature published between 2006 and February 2026 was identified through PubMed, Web of Science, and Google Scholar. Relevant conceptual, empirical, and policy literature was interpretively synthesized.

Results: Four interconnected mechanisms of neo-colonialism emerged: coloniality of Decolonizationknowledge, structural standardization through accreditation and governance, culturally misaligned pedagogical transfer, and digital neo-colonialism driven by algorithmic dependence and artificial intelligence. These mechanisms contribute to epistemic dependency, internalized academic inferiority, and professional aspirations disconnected from local healthcare priorities. Potential pathways toward transformation include epistemic pluralism, critical pedagogy, community-engaged curricula, participatory research, equitable international partnerships, and socially accountable assessment.

Conclusion: Decolonizing HPE in Pakistan requires contextually responsive curricula, bilingual education, locally prioritized research, assessment reform, faculty development, and institutional transformation. Rather than rejecting global knowledge, decolonization seeks equitable knowledge production, contextual relevance, institutional autonomy, and greater responsiveness to national healthcare needs while maintaining international academic engagement and educational quality standards.

Keywords: Health Professions Education; Decolonization; Neo-colonialism; Power–Knowledge; Pakistan; Epistemic Justice.

TITLE: FACULTY REFLECTIONS ON PERCEPTION AND PRACTICES OF SOCIAL ACCOUNTABILITY. A MIXED METHOD APPROACH

Author: Sidra Mehak

Institute: Department of Medical Education, Jinnah Sindh Medical University, Pakistan

Presenting Author: Sidra Mehak

Background: According to World Health Organization, “Medical schools have the obligation to direct their education, research and service activities towards addressing the priority health concerns of the community, region, and/or nation they have a mandate to serve. Faculty members of different medical schools across the globe have different perspectives regarding social accountability.

My research aims to assess both the perceptions and practices of social accountability.

Methods: A cross sectional, descriptive and exploratory study was conducted among faculty members of different health disciplines of Hamdard University from May 8th to Dec 30th, 2024. It was a mixed method study. The inclusion criteria were all the faculty members with a minimum of one year of experience whereas any incomplete questionnaires and responses during FGDs were excluded. For Quantitative data the questionnaire aimed to elicit perceptions of social accountability, whereas Focus group discussions were used to analyze practices of social accountability.

Results: There is no significant correlation between sociodemographic factors and Social Accountability, except for Master's education, which significantly predicted Social Accountability (OR = 0.256). The Social Accountability practices across different departments revealed distinct themes like Health Education, Community-Centered Learning and Research etc.

Conclusion and Recommendations: The faculty perceived their institution as socially accountable and fulfilling WHO criteria, faculty holding postgraduate degrees showing higher Social Accountability. Future studies should aim for a more balanced gender distribution.

Keywords: Social Accountability, knowledge, Implementation, health professions institutions

TITLE: COMPARISON OF SURGERY TEST SCORES USING CONCEPT MAPS AND INTERACTIVE LECTURES AMONG THE UNDERGRADUATE MEDICAL STUDENTS

Authors: Zubia Masood, Masood Jawaid
Institute: Department of Surgery, Karachi Metropolitan University, Pakistan
Presenting Author: Zubia Masood

Background: Concept Maps (CM) aid in the acquisition of new information and comprehend prior knowledge with better retention. Their use is not explored in undergraduate surgical education in our country, hence this study aimed to compare the surgery test scores of undergraduate medical students taught by concept maps and interactive lectures.

Methods: This quasi-experimental study was carried out at the Department of Surgery, at a Private University Hospital among 60 students of fourth year MBBS. The students were divided into Group-A taught by interactive lectures and Group-B taught by CM. Post class Multiple Choice Questions test was taken and scores were compared for immediate effects on knowledge and short term knowledge retention using the Unpaired t- test. A P-value of < 0.05 was considered significant.

Results: Our study reported a mean test score of 19.5 (2.75 ± 0.49) for Group-A, while 21.1 (3.49 ± 0.65) for Group-B with a negative t value of 2.003 with a significant p-value of 0.05. This showed that the test scores of Group-A were lower than the scores of Group-B.

Conclusion and Recommendations: Concept Mapping is an effective and promising way to give learners better understanding of complex concepts in short amounts of time. providing valuable evidence for instituting the use of concept

Keywords: Concept maps, surgery scores, undergraduate

TITLE: MORE MINDFUL, HIGHER ACHIEVING? MIND FULNESS AND ACADEMIC PERFORMANCE AMONG MEDICAL STUDENTS

Authors: Elham A. Akbari, Mohamed A. Al-Eraky
Institute: Department of Medical Education, University of Sharjah, United Arab Emirates
Presenting Author: Elham A. Akbari

Background: Mindfulness improves

concentration and present-moment awareness and supports emotional and mental health, factors that have been linked to academic performance. It has gained attention in health professions education for its potential to foster purpose, self-regulation, self-confidence, and emotional control. Research indicates that mindfulness reduces stress and anxiety and promotes mental clarity, helping students manage academic demands and protect their psychological well-being.

Methods: A quantitative, cross-sectional study examined the relationship between mindfulness and academic performance among first-year medical students. A total of 225 students completed the Mindful Attention Awareness Scale (MAAS), and academic performance was indexed by end-of-year grade averages obtained from the academic affairs department. Comparing high- and low-achieving learners, students in the top 25% and bottom 25% of the cohort were contrasted. Data was analyzed in SPSS using descriptive statistics, Pearson correlation, and independent-samples t-tests.

Results: A statistically significant, moderate positive correlation was found between mindfulness and academic performance ($r = 0.298$, $p < 0.001$). High-achieving students (top 25%) reported significantly higher mindfulness scores than low-achieving students (bottom 25%; $t(98) = 4.28$, $p < 0.001$, Cohen's $d = 0.86$). The mindfulness–performance correlation was significant within the high-achieving group ($r = 0.309$, $p = 0.029$) but not within the low-achieving group ($r = 0.152$, $p = 0.291$).

Conclusion and Recommendations: Mindfulness positively predicted medical students' academic performance, especially among high achievers, by supporting attention, stress management, and competencies. Teachers should embed mindfulness in curricula, while giving struggling students broader support.

Keywords: medical education, performance, mindfulness, well-being

TITLE: ASSESSING THE ROLE OF SELF-COMPASSION IN DENTAL ENVIRONMENT STRESS AND ACADEMIC PERFORMANCE AMONG DENTAL STUDENTS: A MIXED-METHODS STUDY

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Background: Dental education places substantial academic and clinical demands on students, influencing learning, coping, and functioning within the training environment. Dental environment stress (DES) is common, yet less is known about learner-level resources that may support adaptive responses to these demands. Self-compassion has emerged as a potential resource for student well-being but its relationship with stress and academic performance remains underexplored in dental education.

Methods: A sequential explanatory mixed-methods study was conducted among 203 second, third and fourth-year BDS students. Self-compassion and DES were assessed using the 26-item Self-Compassion Scale and modified 34-item Dental Environment Stress questionnaire. Academic performance was obtained from the most recent completed mid-stake institutional assessment, with theory and practical/OSPE scores recorded separately. Quantitative findings informed three focus group discussions with 18 students representing low, intermediate, and high self-compassion levels. Qualitative data were analyzed using reflexive thematic analysis, and findings were then integrated to develop a comprehensive understanding of student experiences.

Results: Self-compassion showed a weak but statistically significant negative correlation with DES ($r = -0.247$, $p < .001$), indicating that higher self-compassion was associated with lower reported stress. Self-compassion was not significantly associated with theory or practical academic performance. Four qualitative themes were generated: demands of dental education; self-compassion shaping responses to academic and clinical challenges; managing stress to sustain academic, clinical and professional functioning and the influence of the institutional learning environment. Integration showed that self-compassion influenced how students interpreted setbacks, coped with stress and remained engaged with academic and clinical responsibilities.

Conclusion and Recommendations: Higher self-compassion was associated with lower dental environment stress, supporting self-compassion–focused student support, mentoring, and supportive supervision to promote well-being, engagement, coping, and professional development within dental education.

Keywords: Self-compassion; dental environment stress; academic performance; mixed-methods research

TITLE: GAME-BASED LEARNING IMPROVES ACADEMIC PERFORMANCE, KNOWLEDGE RETENTION AND STUDENT ENGAGEMENT AMONG REMEDIAL ANATOMY STUDENTS: A QUASI-EXPERIMENTAL STUDY

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Background: Anatomy is a challenging subject in undergraduate medical education due to its vast content and clinical relevance. Traditional lectures often encourage passive memorization, leading to poor retention among students. Game-based learning is an active teaching approach that enhances engagement, motivation and knowledge retention. However, evidence of its effectiveness in remedial anatomy education is limited. This study evaluated the impact of structured game-based learning on academic performance and student engagement among remedial MBBS students.

Methods: A Quasi-experimental pre-test/post-test study was conducted among 36 undergraduate MBBS students identified as remedial learners following institutional anatomy examinations. Baseline examination scores served as pre-test scores. Participants underwent structured gamified learning sessions using educational games specifically designed for embryology, histology and gross anatomy according to Bloom's taxonomy. Academic performance was reassessed using a post-test of comparable difficulty. Student engagement, perceived knowledge retention and motivation were evaluated using structured feedback questionnaires. Descriptive statistics were calculated and pre-test and post-test scores were compared using paired-samples t-tests. Effect size was calculated using Cohen's d.

Results: Thirty-three of the 36 participants demonstrated improvement in post-test performance following the intervention. Mean academic scores increased significantly from 52.03 ± 12.72 before the intervention to 57.08 ± 6.94 after gamification (mean learning gain 5.06 marks; $t(35)=3.35$, $p=0.002$). The intervention demonstrated a moderate educational effect (Cohen's $d=0.56$). Student perceptions were highly favorable: 88% agreed that the games were engaging and immersive, 71% reported improved retention of anatomical concepts, 73% believed the activities strengthened clinical correlations, and 77% stated that gamification increased

motivation and made anatomy more enjoyable.

Conclusion and Recommendations: Game-based learning significantly improved learner engagement and knowledge retention among remedial anatomy students. The findings support incorporating gamification into undergraduate anatomy curricula as an effective strategy to supplement teaching methods.

Keywords: Gamification; Game-based learning; Anatomy education; Medical education; Remedial students; Active

TITLE: TEACHING DIAGNOSTIC REASONING TO SURGICAL RESIDENTS: EARLY EVALUATION OF A REAL PATIENT INTERVENTION IN AN LMIC

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Background: Diagnostic reasoning remains insufficiently prioritised within medical education and clinical practice in Pakistan. We implemented a real patient programme at a tertiary teaching hospital in Karachi to train junior surgical residents, followed by early implementation evaluation.

Methods: In small groups, faculty directly observed residents and provided feedback on clinical methods and data analysis, which used concept mapping to structure problem representation and differential diagnosis. Residents refined their analysis through self-directed study, and once a definitive diagnosis was available, reflected on performance and updated their mental models of disease. We evaluated this process by assessing residents' perceptions via questionnaires and focus groups. Early outcomes were measured through performance in problem representation and differential diagnosis. To examine learning attribution, we compared Diagnostic Thinking Inventory (DTI) scores with non-equivalent controls using a quasi-experimental design.

Results: Over 60 weeks, 11 residents encountered 51 patients with complex, undiagnosed conditions (median 20 per resident; range 12-40). Surveys and focus groups indicated the program was acceptable, relevant, and supported professional growth. Residents' problem representations and differential diagnoses frequently aligned with the definitive diagnosis achieved in 39 of 51 cases (76.5%). Comparisons of Diagnostic Thinking Inventory scores with non-equivalent controls provided modest evidence that learning gains were attributable to the intervention. However, residents reported anxiety related to knowledge gaps, exhibited persistent deficiencies in data gathering and analysis, and pointed to limited faculty support amid heavy service demands.

Conclusion and Recommendations: Early evaluation suggests potential effectiveness, although important gaps remain. Future efforts should emphasize structured illness script development and greater integration of supervised learning in the workplace.

Keywords: Diagnostic reasoning ability; implementation evaluation

TITLE: VALIDITY AND RELIABILITY OF SCOPE (STRUCTURED COMPREHENSIVE ORAL PROBLEM-BASED EXAMINATION) USING GENERALIZABILITY AND DECISION STUDY

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Background: Objective: To validate the SCOPE (Structured Comprehensive Oral Problem-based Examination) tool, determine its reliability, and identify sources of score variation using Generalizability theory, including a Decision Study to optimize its structure.

Methods: The study was conducted at Islamic International Medical College (IIMC), Rawalpindi. SCOPE marking sheet and CVI form were reviewed by medical educationalists for validation. Reliability was determined by pilot involving 37 final-year students. Four trained examiners conducted SCOPE, with each student assessed by one examiner using problems derived from predefined must-know and good-to-know topic lists. Performance was scored using structured marking sheet for Recall (five marks) and Application (20 marks) categories. Reliability was assessed using Generalizability study (G-Study) with a crossover random-effects design, followed by Decision Study (D-Study) to estimate projected reliability coefficients across varying numbers of problems and categories.

Results: Ten medical educationalists provided qualitative feedback and rated the relevance and clarity of SCOPE sheet, demonstrating strong content validity (S-CVI/Ave = 0.92) and clarity (average CCA = 2.85). Reliability analysis showed a G-Coefficient value of 0.793, and Phi-coefficient value of 0.696, indicating good reliability for ranking students, and moderate reliability for absolute decisions. Students contributed the largest variance (48.13%), followed by student × problem × category interaction (19.8%). D-Study revealed that increasing the number of problems and categories substantially improved both relative and absolute reliability.

Conclusion and Recommendations: SCOPE is a feasible, reliable and innovative tool for comparative assessments in low-resource settings, with reliability further enhanced by increasing problem numbers for each student.

Keywords: Assessment, Generalizability study, medical education

TITLE: EXPLORING LEADERSHIP POWER DISTANCE AMONG MEDICAL FACULTY MEMBERS AND ITS INFLUENCE ON TEAMWORK IN THE CLINICAL TEACHING ENVIRONMENT

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Background: Leadership power distance influences communication, participation, and teamwork within healthcare organizations, particularly in hierarchical clinical teaching environments. However, limited qualitative evidence explores how senior and junior faculty experience leadership power distance and its influence on teamwork, particularly within the Pakistani cultural context. This study aimed to address this gap by exploring how leadership power distance influences teamwork, as experienced by senior and junior health professions faculty.

Methods: A qualitative exploratory study was conducted to explore senior and junior faculty experiences of leadership power distance and its influence on teamwork within clinical teaching environments. Hofstede's Power Distance Theory was used as the primary theoretical framework, complemented by Edmondson's Psychological Safety Theory. Twenty-five senior and junior faculty members across medical, nursing, and physiotherapy disciplines working within a tertiary care teaching hospital in Pakistan were purposively selected for semi-structured individual interviews. Interviews were transcribed

verbatim and analyzed using Braun and Clarke's reflexive thematic analysis.

Results: Preliminary findings suggest that leadership power distance influences teamwork differently depending on how authority is exercised. Supportive and participatory leadership appeared to encourage communication, professional voice, and collaborative decision-making, whereas rigid hierarchical interactions appeared to contribute to hesitation and reduced participation. Differences also emerged between senior and junior faculty experiences, particularly regarding communication and involvement in decision-making.

Conclusion and Recommendations: Leadership power distance may influence teamwork through leadership behaviors and psychological safety. Inclusive leadership and open communication are recommended to strengthen professional voice, participation, and collaborative teamwork.

Keywords: Clinical teaching environment, Hierarchy, Leadership Power distance, psychological safety, Teamwork.

TITLE: DEVELOPMENT AND VALIDATION OF TEACHER QUESTIONNAIRE FOR MEASURING ENABLERS OF MEDICAL CURRICULUM VIABILITY

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Background: A viable medical curriculum meets established quality standards and avoids key barriers; however, its long-term success also depends on establishing factors that sustain and strengthen its implementation. Despite their importance, curriculum enablers remain unexplored. This study aimed to develop and validate questionnaires to assess the presence of such enablers in medical education.

Methods: This study employed a mixed-methods exploratory sequential design guided by AMEE Guide No. 87. In Phase 1, a questionnaire was developed through a comprehensive literature review and two focus group discussions with medical teachers. Phase 2 involved psychometric validation of the instrument among teachers from public and private medical colleges in Lahore, Pakistan. Content validity was established through expert review and the Content Validity Index (CVI), while response process validity was assessed using cognitive interviews. Construct validity was evaluated using exploratory factor analysis (EFA), and reliability was determined by analyzing responses from 320 medical teachers using internal consistency measures.

Results: Phase 1 resulted in the development of 36- item questionnaire. During phase 2, content validation by eight experts confirmed strong content validity (S-CVI = 0.97), and cognitive interviews further refined item clarity. Factor analysis was supported by adequate sampling (KMO = 0.860) and significant inter-item correlations ($p < 0.001$). Following validation, four items were removed, resulting in a 32-item questionnaire comprising seven constructs with excellent reliability (Cronbach's $\alpha = 0.933$).

Conclusion and Recommendations: The validated questionnaire provides a practical tool for evidence-based curriculum evaluation and improvement. Future studies should validate it across diverse settings and assess its usefulness for curriculum reforms over time.

Keywords: Medical, Curriculum, Viability, Enablers, Questionnaire validation

TITLE: ASSOCIATION BETWEEN LEARNING STYLE PREFERENCES AND ACADEMIC PERFORMANCE IN BACHELOR OF DENTAL SURGERY (BDS) STUDENTS: IMPLICATIONS FOR ADAPTIVE, LEARNER-CENTERED TEACHING

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Background: As health professions education increasingly emphasizes learner-centered, quality-driven teaching practice, understanding how students' learning style preferences relate to academic performance is essential to designing responsive dental curricula. This study aimed to explore the association between learning style preferences and academic achievement among BDS students, and to understand the strategies underlying this relationship.

Methods: An explanatory sequential mixed-methods design was used. In Phase I, 100 second- and third-year BDS students at Shifa College of Dentistry completed a custom-designed 13-item learning styles questionnaire assessing visual, auditory, read/write, and kinesthetic preferences. Scores were compared against end-of-year examination performance (high achiever ≥75%, average performer 60–74.9%, below-average performer <60%) using one-way analysis of variance (ANOVA) and Tukey post-hoc tests. In Phase II, seven semi-structured interviews were conducted and analyzed thematically to explore students' perceptions and adaptive learning strategies.

Results: Visual and kinesthetic preferences were the most frequently reported learning styles overall. ANOVA revealed a statistically significant difference between performance groups on the visual-learning item ($F = 7.63$, $p = 0.0008$); post-hoc analysis showed average performers scored significantly higher than both high achievers ($p = 0.004$) and below-average performers ($p = 0.0027$), with no significant difference between the latter two groups. Among high achievers ($n = 18$), kinesthetic learning was the predominant style (55.6%; mean = 4.10, standard deviation = 0.45). Thematic analysis identified four themes. showing that high-performing students used flexible, multimodal strategies rather than relying on a single

Conclusion and Recommendations: Academic success among BDS students appears to be associated less with a single preferred learning style than with the adaptive, multimodal use of strategies — particularly kinesthetic and visual approaches.

Keywords: Learning styles, academic performance, dental education, mixed methods

TITLE: ENHANCING ORGANIZATIONAL PROFESSIONALISM AND STRATEGIC IMPLEMENTATION IN MEDICAL COLLEGES IN PAKISTAN: A QUALITATIVE STUDY OF FACULTY PERCEPTIONS

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Background: Organizational professionalism refers to ethical systems, leadership practices, institutional culture, accountability structures, and shared values that enable professional behavior within an institution.

Aims: The study aims to explore faculty perceptions of organizational professionalism in Pakistani medical colleges; identify institutional barriers and facilitators; examine the role of leadership, culture, accountability, and faculty development; and generate practical recommendations for sustainable implementation.

Methods: An exploratory qualitative study

design was used. Semi-structured interviews were conducted by 15 faculty members, heads of departments, were audio-recorded with consent, transcribed verbatim, anonymised, and analyzed using thematic analysis.

Results: organizational professionalism as a system-level responsibility; leadership as the main driver of professional culture; fairness and equity in workload, opportunities, and promotion; transparency and accountability gaps; limited psychological safety and fear of speaking up; respectful culture and civility; faculty development as a core institutional strategy; weak strategic implementation; and the impact of professionalism culture on students, patients, faculty wellbeing, and institutional trust. These findings show that professionalism improves when institutions move from individual blame to systems-based reform.

Conclusion and Recommendations: Organizational professionalism in Pakistani medical colleges requires ethical and inclusive leadership, transparent processes, fair accountability, psychological safety, continuous faculty development, and structured implementation with measurable indicators.

Keywords: professionalism

TITLE: ASSOCIATION BETWEEN PERCEPTION CONSTRUCTS AND ATTITUDE TOWARDS ADOPTION OF ARTIFICIAL INTELLIGENCE AS A TEACHING TOOL AMONG MEDICAL STUDENTS

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Background: The advent of emerging technologies has significantly rephrased educational paradigms across the globe. In the digital world, students' expectations for learning tools are evolving, and today's era demands the development of personalized, systematic, and innovative tools.

Methods: Cross-sectional analytical study was conducted at Allama Iqbal Medical College, after ethical approval from the institutional review board. 285 MBBS students were enrolled using a non-probability convenience sampling technique. Participants aged ≥18 years of either gender who provided informed written consent were included, while those with prior formal training in artificial intelligence were excluded. Data was collected through Google Forms using a predesigned TAM questionnaire. Data analysis: descriptive analysis, EFA was performed to determine the underlying factor structure of the perception items, Kaiser-Meyer-Olkin (KMO) measure, Bartlett's test of sphericity, Multivariate Regression analysis was applied.

Results: The mean score of attitudes toward AI adoption was 4.00±0.719. The mean scores for the two key TAM perception constructs, perceived usefulness and perceived ease of use, were 3.96 ± 0.658 and 3.95 ± 0.618, respectively. Multiple linear regression analysis showed that perceived usefulness and perceived ease of use were significant predictors of attitude toward AI adoption among medical students.

Conclusion and Recommendations: Perceived usefulness emerged as the primary driver of AI adoption among medical students. students should be sensitized and trained in AI during medical undergraduate programs to foster a holistic learning.

Keywords: Artificial intelligence. Machine learning. Adoption. Chatbots. ChatGPT.

TITLE: DIGITAL SHIFT IN CLINICAL TEACHING: CONSTRUCTING A CONTEXTUAL DIGITAL COMPETENCY FRAMEWORK FOR CLINICAL EDUCATORS (CLINDIGCOM): A MODIFIED DELPHI STUDY

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Presenting Author: Sabeen Saad Ahmed

Background: Rapid digital transformation in healthcare has reshaped clinical teaching and patient care, creating new competency demands for clinical educators. Existing frameworks address educators or health professionals separately and fail to capture the integrated clinician–teacher role in technology-mediated environments. This study aimed to develop a contextual digital competency framework for clinical educators (ClinDigCom).

Methods: A three-phase modified Delphi design was used. Initial domains and competencies were derived from prior qualitative findings and mapping of established frameworks. Fifty clinical educators and medical education experts participated in iterative Delphi rounds to rate and refine items using predefined consensus criteria until stability was achieved.

Results: The final ClinDigCom framework comprised seven domains: clinical teaching and learning, digital professionalism and ethics, AI in clinical practice, digital integration in patient care, digital skills development, determinants of digital adaptation, and supportive digital learning environment. The initial 33 items were refined to 35 after consensus. Agreement ranged from 83.0% to 97.9%, with median ratings ≥4.0 and IQR ≤1, indicating strong consensus. No items were excluded; four were reworded and two added. A final pilot with five experts confirmed clarity and contextual relevance.

Conclusion and Recommendations: ClinDigCom is a consensus-based, context-sensitive framework translating digital capabilities into clinically embedded teaching competencies. It offers a practical foundation for faculty development, assessment, and institutional capacity building.

Keywords: Clinical educators; Digital competency; modified Delphi; Clinical teaching; faculty development

TITLE: CULTURALLY SENSITIVE PATIENT-CENTERED EDUCATION AS AN ESSENTIAL NEED FOR INCREASING INHALER ADHERENCE IN ADULTS WITH ASTHMA

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Background: Inhaled corticosteroids are central to asthma control, yet nonadherence is common and is shaped by social and cultural context as much as by clinical factors, and evidence from Pakistan is limited. This exploratory qualitative study explored the cultural, structural, and interpersonal factors acting as parameters that affect asthma management via inhaler adherence among adults with asthma.

Methods: Semi-structured, one-to-one interviews were conducted with 19 adults (≥18 years) with physician-confirmed asthma, recruited by cluster sampling followed by purposive sampling across two clusters (one tertiary-care site; one combining tertiary, urban-family, and semi-urban sites serving disadvantaged patients). Interviews in Urdu or English were transcribed verbatim and analyzed by reflexive thematic analysis in

NVivo, with independent coding by the researcher.

Results: Six themes emerged: sociocultural beliefs and stigma; structural and socioeconomic barriers; complementary and alternative medicine as a parallel pathway; patient evaluation of inhaler therapy; family and social support as a facilitator; and patient-generated recommendations. Cost, low health literacy, dependency fears, and stigma were dominant barriers, whereas family encouragement and clinician counseling were key facilitators.

Conclusion and Recommendations: Inhaler adherence emerged as a sociocultural negotiation rather than a purely clinical behavior. Culturally tailored counseling, stigma reduction, and affordable, reliable inhaled-corticosteroid supply are needed to close the gap.

Keywords: asthma; medication adherence; inhaled corticosteroids; health beliefs; qualitative research; Pakistan.

TITLE: DENTAL FACULTY'S PERSPECTIVES ON THE INTEGRATION OF AI SUPPORT IN THE CURRICULUM

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Presenting Author: Saira Akhlaq

Background: The rapid emergence of Artificial Intelligence has introduced transformative possibilities for dental education, ranging from automated diagnostics to personalized learning pathways. While technological capabilities are expanding, the successful integration of AI into undergraduate dental curricula is fundamentally contingent upon the attitudes, subjective norms, and perceived readiness of the faculty who deliver it. This study explored the perspectives of dental educators in Abbottabad, Pakistan, regarding the integration of AI support, utilizing the Theory of Reasoned Action.

Methods: A basic qualitative research design within an interpretivist paradigm was implemented to gain deep insights into subjective faculty experiences. One-on-one semi-structured interviews were conducted with 14 dental faculty members (including Senior Lecturers and Assistant Professors) from various clinical and basic science departments. Data were analyzed using Braun and Clarke's six-step reflexive thematic analysis. Participants were selected via purposive sampling to represent a broad range of academic levels and clinical specialties.

Results: Seven core themes emerged: general attitudes toward AI as a modern educational tool; perceived clinical and diagnostic benefits; educational efficiency and faculty timesaving; ethical concerns and risks of academic misuse; behavioral engagement and student dependence; social influence and peer interactions; and institutional facilitators and barriers. Faculty exhibited “guarded optimism,” acknowledging the promise of AI in reducing diagnostic errors and streamlining administrative tasks while expressing significant fears regarding “mental laziness,” plagiarism, and misinformation. Significant gaps in infrastructure and digital literacy were identified as primary barriers to responsible integration.

Conclusion and Recommendations: Integrating AI into dental education requires a balanced strategy that prioritizes robust ethical guidelines and structured faculty development. AI should be positioned as a supplementary tool for clinical simulation.

Keywords: Artificial Intelligence, Dental Education, Faculty Perspectives, Qualitative Research

TITLE: CAN A STORY PRESERVE THE SCIENCE? VALIDATING STORYTELLING IN EMBRYOLOGY

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Background: Embryology is inherently dynamic, yet learners often encounter its spatial, temporal, and developmental complexity through static, fragmented representations. Storytelling may bridge this mismatch by organizing development into coherent narrative–visual sequences. However, engaging stories may distort scientific meaning or be interpreted differently than intended. Despite growing interest in narrative learning, storytelling resources for embryology remain insufficiently validated, particularly regarding whether learners can accurately translate narrative representations back into the scientific concepts they were designed to teach.

Methods: A multiphase mixed-methods study developed and validated a narrative–visual embryology resource mapped to curricular outcomes, developmental processes and standard texts. Content validity was evaluated by 17 multidisciplinary experts using a 43-item questionnaire and Content Validity Indices. Face validity and acceptability were evaluated by 22 medical students using a five-point Likert questionnaire. Engagement was explored descriptively in nine students using the Flow Short Scale. Response-process validity was qualitatively examined with nine students to explore how narrative characters, events and illustrations were interpreted and translated into embryological concepts. Findings were integrated to identify convergence, interpretive difficulties and priorities for resource refinement.

Results: Expert evaluation demonstrated strong content validity (mean I-CVI≈0.91; range 0.76–1.00), with highest domain-level agreement for cultural/ethical suitability (S-CVI/Ave=0.96) and scientific accuracy/embryological fidelity (0.94). Face validity and acceptability were favourable (overall FVI=0.90), with strongest learner endorsement for visualization and memorability (86.4% each) and clinical relevance (81.8%). Exploratory Flow scores indicated high overall flow (5.48/7), fluency (5.53/7) and absorption (5.40/7). Response-process analysis generated seven themes encompassing engagement, interpretation, visualization, meaning-making, recall, clinical integration and refinement. Learners generally mapped narrative representations to intended embryological concepts; difficulties decoding some characters highlighted the need for explicit narrative-to-science mapping.

Conclusion and Recommendations: Validated storytelling can transform complex embryology into an engaging narrative–visual learning scaffold without losing scientific meaning. Explicit narrative-to-science mapping and subsequent evaluation of learning, transfer and retention are recommended.

Keywords: embryology, narrative-storytelling, Content- validity, Face-validity, Acceptability, Engagement

TITLE: EMPOWERING MEDICAL MINDS: THE ROLE OF PROGRAMMATIC ASSESSMENT IN SPARKING INTRINSIC MOTIVATION

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Background: Limited research exists on the direct impact of programmatic assessment on intrinsic motivation in medical education, despite its growing use. This study employs Self-Determination Theory (SDT) to explore how continuous low-stakes assessments, as opposed to traditional high-stakes tests, can

enhance intrinsic motivation by influencing students' autonomy, competence, and relatedness.

Objectives:

- To determine the level of intrinsic motivation in preclinical medical students who have had a programmatic assessment.
- To explore the key factors within programmatic assessments that enhance or diminish this motivation.

Methods: Utilizing a Sequential explanatory study, the research integrates quantitative data collected via the Intrinsic Motivation Inventory (IMI) with qualitative insights from semi-structured interviews. The IMI evaluates participants' interest, perceived competence, and choice, and perceived pressure during an activity. For the qualitative part, 15 semi-structured interviews were conducted. This methodology allows for a detailed examination of the interplay between assessment structures and student motivation.

Results: fifteen students had a high level of IM, while 65 students showed a moderate level. Female students exhibit higher levels of interest, perceived competence, perceived choice, and tension compared to male students. The findings reveal that while continuous feedback and supportive educational relationships significantly strengthen student motivation, increased workload and limited autonomy have an adverse effect. These results underline the importance of balancing assessment demands with supportive measures to foster effective learning environments.

Conclusion and Recommendations: This study concludes that well-designed programmatic assessments can significantly enhance student engagement and motivation, thus fostering a nurturing and productive educational atmosphere in medical schools.

Keywords: programmatic assessment, intrinsic motivation, medical students

TITLE: STUDENT-HELD VALUES AND PSYCHOLOGICAL WELLBEING

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Background: The pressures associated with the training and practices of medicine destabilise the psychological wellbeing of students, making it crucial to find personal resources that support wellbeing. This correlational study focused on the values of students, which were measured using the Values in Action (VIA) Character Strengths Inventory, and the different dimensions of psychological wellbeing, which were measured using Ryff's Psychological Well-Being Scale.

Methods: This study was conducted with first through final year medical students in Pakistan for a period of six months. Using a random sampling approach to limit selection bias of selection, the final sample consisted of a total of 250 medical students (Female = 56.8%, Male = 43.2%). This sample was drawn from all five years of the MBBS program, from one medical college.

Results: The psychometric properties showed excellent internal consistency for both scales (VIA-IS α = .88, PWB α = .91). The bivariate Pearson correlation matrix revealed strong and significant positive associations for all character virtue complexes and psychological wellbeing dimensions ($p < .01$). Courage had a strong association with Purpose in Life ($r = .42$). Using independent samples t-test, no significant differences for psychological wellbeing were found ($t = -1.94$, $p = .053$). A One-Way ANOVA revealed that there were significant differences in psychological

wellbeing for academic years (F = 3.02, p = .031).

Conclusion and Recommendations: The findings illustrate the significance of structural strengths in building resilience and wellbeing and highlight the need to embed reflective values-based mentoring in the medical curriculum as a core part.

Keywords: Psychological Wellbeing, Medical Students, Character Strengths, Correlational Design

TITLE: MULTI-MODEL EDUCATIONAL APPROACH TO STRENGTHENING ANTIMICROBIAL STEWARDSHIP AND REDUCING HEALTHCARE-ASSOCIATED INFECTIONS IN HEALTHCARE SETTINGS IN THE MALDIVES

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Background: Antimicrobial resistance (AMR) is one of the most pressing global health threats, contributing to an estimated 1.27 million deaths annually and associated with a further 4.95 million bacterial AMR-related deaths, driven largely by antimicrobial overuse and misuse, limited diagnostic capacity, and weak surveillance systems. Left unaddressed, AMR also carries substantial socio-economic costs, with projections estimating an annual global GDP loss of USD 3.4 trillion and up to 24 million people pushed into extreme poverty. Infection Prevention and Control (IPC) is a cornerstone strategy for reducing healthcare-associated infections (HAIs) and antimicrobial demand, yet many healthcare systems, particularly in low- and middle-income countries, struggle to establish effective IPC structures, implement evidence-based practices, and generate reliable AMR data for policy and clinical decision-making. There are limited research and data available on antimicrobial prescribing patterns and the burden of healthcare-associated infections in the Maldives. The National Action Plan on Antimicrobial Resistance and harmonized health facility assessment survey reveals significant gaps in governance, IPC infrastructure, and highlights the need for training healthcare workers and strengthening surveillance systems in all areas of IPC and AMR. The SCALE (Strengthening Healthcare Workforce Capacity through Global Learning) initiative is aligned with the WHO Global Action Plan on AMR and the Maldives National AMR Action Plan, the SCALE initiative, which aims to strengthen IPC and HAI surveillance mechanisms and promote antimicrobial stewardship at the healthcare facility level through continuing medical education (CME) programs and action research to provide evidence-based policy recommendations and clinical interventions to improve quality systems and clinical practice.

Methods: After a desk review of the policies, standards and actions plans on IPC and AMR, the project employed a multi-modal approach to incorporate innovative technologies, including AI driven data analytics for a live antibiogram dashboard and a gamified approach to conducting CME programs. It also utilized Global Point Prevalence Survey (GPPS) inpatient tool to capture the antimicrobial prescribing patterns, prescribing quality indicators and HAI prevalence rates in the Hulhumale' Hospital.

Results: The project is expected to generate evidence-based recommendations for

strengthening IPC and HAI surveillance systems at the target facilities in the Maldives, contributing to sustainable, facility-level improvements in AMR response. It will develop AI enabled AMS dashboard, and web-based gamifies educational modules for IPC and AMR.

The GPPS reveals that the overall antimicrobial prevalence is 71.9% and is above the continental benchmark of 49.8% in the survey period. Out of those who were on, antimicrobial agents, 66.7 % were on medical prophylaxis, 64% of the antimicrobials fall under WHO watch categorization of antimicrobials. The results reveal that there are opportunities for stewardship, such as improving documentation, and using access drugs whenever clinical guidelines allow. The project will continue to educate the clinicians on critical stewardship priorities.

Key words: Antimicrobial resistance, Infection Prevention and Control, Antimicrobial Stewardship, Technological Innovation, Artificial Intelligence

TITLE: COMPETENCY-BASED EDUCATION (CBE) IN PHYSIOTHERAPY UNDERGRADUATE EDUCATION"- A SYSTEMATIC REVIEW

Authors: Felix Renald Selvaraj
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Presenting author: Felix Renald Selvaraj

Introduction: Physiotherapy education is based on integrating theoretical knowledge, clinical skills, and professional values to prepare students for evidence-based practice aimed at promoting health, preventing disability, and restoring movement and function. Traditionally, physiotherapy education has been time-based and teacher-centered, focusing primarily on the completion of curricular content. Clinical competence enables students to apply theory and practical skills effectively in real clinical scenarios. Competence based education is an educational approach which enables students to develop and demonstrate clearly defined competencies. However, the effectiveness of competence-based education in improving clinical competence and assessment outcomes among undergraduate physiotherapy students remains unclear. This systematic review is aimed to determine whether competency-based education improves clinical competence and assessment outcomes among undergraduate physiotherapy students.

Methods: This Systematic review was conducted in accordance with the PRISMA 2020 guidelines and relevant electronic databases were systematically searched from September to October 2025 using search terms relating to competence-based education, physiotherapy, clinical competence, and assessment outcomes. Studies involving undergraduate physiotherapy students that evaluated competency-based education and reported clinical competence or assessment outcomes were searched and identified. Data were extracted using a structured approach, and the findings were synthesized narratively due to differences in study designs, interventions, and outcome measures.

Results: A total of 15 studies published between 2011 and 2025 met the inclusion criteria. The studies used different study designs, including validation, observational, quasi-experimental, randomized controlled trials, and Delphi studies. The findings showed that competency-based assessment tools were valid and reliable, and early assessments such as OSCEs could help predict students' later clinical performance. Simulation-based learning improved clinical reasoning, decision-making, self-confidence, and readiness for clinical practice. Entrustable Professional Activities and programmatic assessment helped students understand the expected

competencies and allowed educators to monitor their progress over time. Assessor training improved the accuracy and consistency of student assessments.

Conclusion and Recommendations: overall this review found that competency-based education can support the development of clinical competence and strengthen assessment practices in undergraduate physiotherapy education. However, the heterogeneity of the included studies and limited high-quality comparative evidence indicate a need for further rigorous research to establish the effectiveness of CBE compared with traditional educational approaches.

Keywords: competency-based education, physiotherapy education, clinical competence.

TITLE: EVALUATING STUDENTS' PERCEPTIONS OF PHYSIOLOGY THROUGH THE IMPLEMENTATION OF PROBLEM-BASED LEARNING: A QUALITATIVE STUDY

Author: Khadija Abdulrahman Hussein
Institute: The Maldives National University
Presenting Author: Khadija Abdulrahman Hussein

Background: Physiology is an essential module in pharmacy education, enabling students to understand human body systems and serving as a driving force for new discoveries and innovations across various pharmacy disciplines. Pharmacy education requires students to develop skills such as critical thinking and analysis, which can be achieved through active student engagement. This study aims to assess the impact of problem-based learning (PBL) on students' understanding of physiology.

Methods: The research employed a qualitative design, using in-depth interviews with nine participants, three males and six females enrolled in Semester II of the Bachelor of Pharmacy programme at The Maldives National University.

Three main themes emerged from the data: student engagement, the effectiveness of PBL, and the role of the instructor.

The study proposes problem-based learning as a solution that is simple to incorporate into lecture sessions and that encourages active learning through teamwork and collaboration, fostering the development of lifelong learners.

Keywords: Physiology, Pharmacy Education, Problem-Based Learning, Student Engagement

TITLE: EXPLORING THE IMPACT OF CLINICAL SUPERVISION ON STUDENTS' PROFESSIONAL DEVELOPMENT: PERSPECTIVES OF SUPERVISORS AND SUPERVISEES IN MALDIVES

Authors: Mariyam Ifshan Ahmed
Institute: The Maldives National University

Background: Clinical supervision is a critical component of professional development in clinical psychology and counselling, supporting clinical competence, professional identity, and ethical practice. In the Maldives, supervision is mandated for professional registration; however, a limited mental health workforce and the absence of standardized supervision frameworks raise concerns regarding the consistency and quality of supervision, particularly within placement-based training contexts. Guided by a constructivist paradigm, this study aimed to explore the perceived impact of clinical supervision on students' professional development at the Maldives National University. Specifically, the study explored supervisors' and supervisees' perspectives on the supervision process, which consisted of mandatory weekly sessions over 15 weeks, focusing mainly, but not exclusively, on day-to-day monitoring, ethical oversight, and the development of clinical competency.

Methods: A qualitative descriptive design was employed using semi-structured interviews. Participants included eight individuals,

comprising three clinical supervisors and five supervisees from the Master of Science in Psychology (Clinical) and Bachelor of Counselling programmes. Purposive sampling was used to recruit participants with at least one semester of supervision experience, equivalent to 15 hours of supervision. Interviews lasted 45–60 minutes and were conducted either in person or via Google Meet. Data were transcribed and analyzed using reflexive thematic analysis following Braun and Clarke's six-step framework. Comparative analysis was conducted to examine similarities and differences between supervisor and supervisee perspectives.

Results: Findings indicate that effective clinical supervision is multifaceted, integrating structured guidance, reflective practice, and supportive supervisory relationships. Supervisors emphasized their developmental and facilitative roles, whereas supervisees prioritized structured feedback, guided reflection, and emotional support. Differences in expectations were also identified, with supervisees seeking greater consistency and structure, while supervisors highlighted the need for flexibility within resource constraints. Key challenges included limited time, workload pressures, variability in supervision practices, and tensions arising from the dual evaluative and developmental functions of supervision.

Conclusion and Recommendations: The findings highlight the need for more structured and developmentally responsive clinical supervision practices within placement-based training. Greater investment in supervisor training and the development of formalised supervision frameworks may support greater consistency and quality of supervision, particularly within resource-constrained training environments.

Keywords: Clinical Supervision, Professional Development, Clinical Psychology, Counselling Education.

TITLE: STUDENTS' PERCEPTION OF SCENARIO-BASED LEARNING AS A TEACHING STRATEGY TO DIVERSIFY PHARMACY EDUCATION AT MALDIVES NATIONAL UNIVERSITY

Authors: Ruban Singh
Institute The Maldives National University

Background: Traditional lecture-based teaching, in pharmacy education often leads to learning, where students focus more on memorizing information rather than understanding it. There are also chances for students to apply what they have learned to real-world situations. Scenario-Based Learning or SBL offers a way of teaching. It puts students at the center. Uses realistic real-life scenarios to help them learn. This method encourages participation sharpens critical thinking strengthens problem-solving abilities, supports decision-making and builds teamwork skills. Because of these benefits using SBL in pharmacy education could help make teaching and learning more varied and effective.

Methods: A qualitative approach will be used to explore students' experiences of participating in weekly SBL activities. Students will first receive an orientation explaining the purpose and process of SBL and will participate in scenario-based classroom activities during teaching weeks 10–13. Realistic pharmacy-related scenarios will be supported by multimedia resources, including simulations, images, audio clips, and videos. Students will complete weekly exit slips to reflect on their learning experiences. Focus group discussions will be conducted during and at the end of the intervention to identify students' experiences, perceived benefits, challenges, and difficulties. Qualitative data obtained from exit slips and focus group discussions will be analyzed thematically to identify emerging themes.

Results: The study is expected to demonstrate

that SBL can enhance student engagement, critical thinking, problem-solving, decision-making, collaboration, and the application of theoretical knowledge to realistic pharmacy situations. It may also identify challenges associated with implementing SBL, including time requirements, resource needs, assessment, student engagement, and alignment with learning outcomes.

Conclusion: Scenario-Based Learning has the potential to diversify pharmacy education by providing authentic, student-centered, and interactive learning experiences. The findings may support the integration of SBL into pharmacy teaching at Maldives National University and contribute to the development of more active, contextualized, and outcome-based learning practices.

Keywords: Scenario-Based Learning; Student Perception; Active Learning; Critical Thinking; Student Engagement.

TITLE: A LONGITUDINAL ANALYSIS OF STUDENT PERFORMANCE IN MEDICINE AND SOCIETY AT THE MALDIVES NATIONAL UNIVERSITY

Author: Shaistha Zubair
Institute: School of Medicine, The Maldives National University

Background: The Medicine and Society (MS) courses are an essential component of the integrated medical curriculum at the Maldives National University. The subject is taught over three modules in the second, third and sixth semesters of the course. The modules are designed to prepare the students for holistic patient care. Understanding student performance patterns and progression is critical for curriculum evaluation and quality assurance. This study evaluates the longitudinal performance of students across the three Medicine and Society (MS) modules at The Maldives National University.

Methods: A retrospective cohort analysis was conducted using de-identified student data from 2020 to 2026. The grade results of 212 students (634 student-course entries) were analyzed. Statistical methods included chi-squared tests, ordinal logistic regression, generalized linear mixed models and subgroup analyses.

Results: Credit was the most common grade (41.7%), followed by Distinction (28.2%). The students demonstrated significant grade improvement across the MS sequence (χ^2 = 35.79, $p < 0.001$), with Distinction increasing from 23.3% (MSI) to 41.9% (MSIII). Students were 47% more likely to achieve higher grades at each level (OR = 1.47, $p < 0.001$). Subgroup analyses showed no effects from cohort size ($p = 0.875$), term ($p = 0.937$) or COVID-19 ($p = 0.769$), indicating curriculum robustness. Prior grade was the strongest predictor of success (OR = 1.67, $p < 0.001$). Failure rates were low (1.9%), with near-perfect grade agreement ($\kappa = 0.92$).

Conclusions and Recommendations: Students demonstrate significant and consistent progression across the MS sequence, representing genuine educational development. The curriculum is robust across contextual factors with effective assessment processes. Early performance strongly predicts later success, enabling early intervention.

Keywords: Medical education; Longitudinal assessment; Student progression; The Maldives National University

TITLE: THE MEANING BEHIND CARE: UNDERGRADUATE NURSING STUDENTS` PERCEPTION OF SPIRITUAL AWARENESS EDUCATIONAL INTERVENTION IN NURSING EDUCATION

Authors: Sizna Mohamed, Aishath Ali
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Presenting Author: Sizna Mohamed

Background: Spiritual intelligence is an important quality that helps an individual make sense of their actions and understand the purpose of their life, grounded in values and principles. SI is an essential quality that enables a meaningful connection with the patient, fostering empathetic and compassionate care. Further research is warranted to develop and evaluate structured educational interventions for fostering SI among nursing students. Therefore, the purpose of the study is to explore the undergraduate nursing student's perception of Spiritual Awareness Educational intervention in nursing education

Methods: A qualitative descriptive design was employed in this study. Eight undergraduate nursing students were selected through purposive sampling. Data was collected through focus group discussions. The research instrument included a semi-structured interview guide and a researcher's reflective journal. The interview data were analyzed using Braun and Clarke's six-phase approach to thematic analysis. Ethics approval number unit was RE/2024/A-3.

Results: The findings revealed that undergraduate nursing students perceived SI as an important quality to embody for providing compassionate care. Students perceived the Spiritual Awareness Educational intervention as strengthening their self-awareness and enhancing their connection with patients.

Conclusion and Recommendation: The study highlights the importance of academic and clinical efforts to cultivate SI qualities and values among nursing students, thereby fostering greater compassion and reflection and promoting holistic nursing care.

Keywords: Spiritual Intelligence, Nursing care, Nursing students, barriers, support, educational intervention

TITLE: PHYSIOTHERAPY CLINICAL EDUCATION IN THE MALDIVES

Authors: Uzma Sayyad
Institute: The Maldives National University

Background: Clinical exposure during healthcare education provides students with opportunities to integrate theoretical knowledge and practical skills and to develop competence for professional practice in real life. The factors that affect clinical education can be broadly classified into curriculum, design, placement opportunities, supervision, assessment, educator preparation, and collaboration between institutions and organizations. There may be considerable variation between the intended structure of the clinical education and its implementation and practice. A comprehensive understanding of how Physiotherapy clinical education is organized and delivered in the Maldives is therefore important for understanding the strength, challenges and opportunities for the improvement of the profession within the country.

The aim of the study is to explore and describe how Physiotherapy clinical education is implemented and experienced in the Maldives, focusing on clinical placements, supervision, assessments, stakeholder roles, and the factors influencing the quality of clinical education.

Methods: A mixed method study will be conducted involving various stakeholders in the clinical education of physiotherapy in the Maldives. Data will be collected from relevant stakeholders, including students, academic staff, clinical educators, supervisors' program, coordinators and appropriate representatives through semi structured interviews, focus groups and questionnaires. The data will be analyzed using descriptive and thematic analysis to identify patterns, similarities, differences, challenges, and factors that

influence the implementation of clinical education in the Maldives.

Results: The study focuses on understanding the current clinical education system for Physiotherapy in the country, experiences, and roles of students and educators, barriers and facilitators to clinical learning and reflective practice.

Conclusion: The study can provide insights into the existing gaps in the theoretical clinical settings and can direct the evidence-based recommendations for organization, delivery, supervision, and assessment improvements for reflective clinical education in the Maldives.

Keywords: physiotherapy, clinical education, healthcare education, placements

TITLE: FROM CLASSROOM TO PRACTICE: COMBINING SCENARIO-BASED LEARNING AND FIELD EXPERTISE IN HEALTH SCIENCES EDUCATION

Author: Zeenath Shakir
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Presenting Author: Zeenath Shakir

Background (including study objectives): Scenario-based learning (SBL) is a widely used approach in higher education to increase student engagement in classroom learning. Health sciences education incorporates experiential and practice-oriented pedagogical approaches; however limited literature has explored the combined use of SBL and field expertise to increase student engagement in classroom learning. The present study was designed to address this gap by inviting relevant guest lecturers who incorporated SBL into their teaching. The study aimed to find out how the guest lectures impacted student engagement and what were the students' experiences towards the guest lectures who used SBL as a teaching pedagogy

Methods: The study utilised an action research design consisting of two cycles where student feedback was collected after the first cycle to improve the delivery of guest lectures in the second cycle. Purposive sampling was used to select eight students enrolled in the subject, 'Family and Domestic Violence' from the Advanced Certificate in Social Services Work course as this subject consisted of several topics where guest lecturer experiences are crucial for classroom learning. Data collection techniques were focus group discussions exploring students' learning experiences and researcher observations of student engagement during guest lectures.

Results: Thematic analysis was used to analyse observation field notes and focus group data where three central themes emerged from the study indicating that guest lectures incorporating SBL enhanced student understanding of the local context of the topic and roles of various service providers, and increased students' interest towards the subject matter and the profession.

Conclusion and Recommendations: The study demonstrated that utilising field experts to use SBL as a teaching pedagogy was an effective way to increase student engagement in the classroom and enhance their interest towards their profession indicating life-long learning.

Keywords (3-5): Scenario-Based Learning, Health Education, Field Expertise

TITLE: TEACHING CLINICAL REASONING IN THE ERA OF ARTIFICIAL INTELLIGENCE: PREPARING MEDICAL STUDENTS TO REASON WITH AND BEYOND AI

Authors: Aminath Huda
Institute: The Maldives National University

Background: Clinical reasoning is a fundamental competency in undergraduate medical education. It is a cognitive process involving the collection and analysis of patient data to determine a diagnosis and plan an

effective treatment. Many times, this process involves intuition, tacit knowledge, and pattern recognition, which are internal and difficult to explain or demonstrate to students. The growing availability of artificial intelligence (AI) offers opportunities to make teaching clinical reasoning easier, while the rapid emergence of generative AI (GenAI) brings challenges alongside these opportunities. This review examines the role of GenAI in teaching clinical reasoning to undergraduate medical students.

Methods: For this narrative review, ChatGPT was used to identify 12 publications addressing clinical reasoning teaching, AI-supported learning, generative AI, and AI-related risks in undergraduate medical education. Identified papers were retrieved via Google Scholar and verified. ChatGPT was also used to summarize the literature and assist with thematic categorization.

Results: Useful educational strategies for teaching clinical reasoning included illness scripts, problem representation, structured reflection, self-explanation, differential diagnosis generation, worked examples, deliberate practice, individualized feedback, and demonstration of tutors' reasoning aloud. Simulated patients, Socratic tutoring, clinical co-reasoning, and automated feedback were identified as useful roles for GenAI in supporting clinical reasoning. However, risks such as automation bias, inappropriate reliance, inaccurate AI outputs, and poor trust calibration were associated with overreliance on AI, which can impair verification and independent judgment.

Conclusion and Recommendations: AI use in clinical decision-making should be formally integrated into the medical curriculum. Students should be trained to develop independent clinical reasoning from available patient data, and to use AI safely and critically — judging when to accept or reject its output based on their own clinical knowledge and skills.

Keywords: Clinical Reasoning, Undergraduate Medical Education, Generative AI, AI-Assisted Literature Review

TITLE: INTEGRATING CLINICAL BIOCHEMISTRY AND ARTIFICIAL INTELLIGENCE INTO CLINICAL REASONING: AN INNOVATIVE APPROACH TO MEDICAL EDUCATION

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Background: Clinical biochemistry is an essential component of medical education and clinical practice. However, students may find it difficult to connect biochemical knowledge with clinical findings and diagnostic decisions. Liver biochemistry provides an important opportunity to develop clinical reasoning because interpretation of alanine aminotransferase (ALT), aspartate aminotransferase (AST), alkaline phosphatase (ALP), bilirubin, albumin and coagulation parameters requires understanding of clinical context and patterns of liver injury.

Methods: After thorough literature review, this educational approach integrates liver biochemistry with clinical reasoning using patient-based cases, small-group discussion, laboratory data interpretation and problem-solving activities. Artificial Intelligence (AI) can further support this approach by generating clinical cases, formative questions, learning activities, and individualized feedback. Students can use AI-generated explanations and interpretations as learning resources while verifying the information against clinical guidelines and established biochemical principles. This encourages students to identify errors, justify their diagnostic reasoning and develop responsible AI-use skills.

Results: The integration of clinical biochemistry and AI can move learning beyond

memorization toward interpretation, critical thinking, and clinical decision-making. It can also provide opportunities for continuous formative assessment and feedback. However, AI should support rather than replace clinical reasoning and educator guidance. Careful attention is required to ensure accuracy, academic integrity, patient privacy, and appropriate human oversight.

Conclusion and Recommendations: Integrating liver biochemistry with clinical reasoning can help medical students better understand the clinical relevance of laboratory findings and improve their diagnostic thinking. The appropriate use of AI can further support learning, feedback, and assessment. Combining these approaches with effective faculty guidance may contribute to innovative, meaningful, and future-oriented medical education.

Keywords: Clinical Biochemistry; Liver Biochemistry; Artificial Intelligence; Clinical Reasoning; Medical Education

TITLE: TEAM-BASED LEARNING AS AN INNOVATIVE STRATEGY FOR LARGE-GROUP MEDICAL TEACHING: A STUDENT FEEDBACK ANALYSIS

Authors: Mehwish Qamar
Institute: The Maldives National University

Background: Teaching large medical classrooms poses a significant challenge to effective learning, as traditional lecture-based methods often limit engagement, critical thinking, and comprehension. Innovative teaching strategies such as Team-Based Learning (TBL) have shown promise in improving learning outcomes, but their feasibility in medium-to-large group medical classrooms required further exploration. This study aimed to implement and evaluate a TBL session in a large undergraduate dental physiology class and assess its impact on student learning and perception.

Methods: A TBL session was conducted for 41 BDS students on the topic of baroreceptor mechanisms in arterial blood pressure regulation. Pre-reading material, including textbook references, a video resource, and lecture slides, was shared three days prior to the session. Students completed a pre-session MCQ assessment, followed by small-group discussions (7 students per group, 45 minutes duration). A post-discussion MCQ was then administered to compare performance before and after group learning. This was followed by instructor-led clarification and application of concepts through a clinical scenario on hypotension. Anonymous student feedback was collected via an open-ended online survey and analyzed thematically using NVivo software.

Results: Post-discussion MCQ scores showed improvement compared to pre-discussion scores, indicating enhanced understanding following group discussion. Of 36 survey respondents, the majority rated the session as "good" or "excellent" (33/36). Thematically, students most frequently identified "better understanding" and "teamwork" as key differences from traditional learning, with group discussion cited as the most valuable component (24/36 responses). A minority reported challenges related to group composition, particularly when grouped with less-participative peers. Most students expressed a preference for weekly implementation of similar TBL sessions.

Conclusion and Recommendations: TBL serves as an effective and acceptable pedagogical alternative to traditional lectures in undergraduate medical and dental education, improving conceptual understanding and collaboration. Institutions should incorporate regular TBL sessions into large-group curricula while implementing peer-accountability metrics to address uneven

participation.

Keywords: Team-Based Learning, Innovation, Medical Education, Large-Group Teaching, Student Engagement

TITLE: FROM REFLECTION TO ACTION: USING STRUCTURED REFLECTIVE WRITING TO DEVELOP COMMUNICATION SKILLS

Author: Punya Laxmi Manandhar
Institute: The Maldives National University

Background: Effective communication is a fundamental competency in medical education and is essential for patient-centered care, therapeutic relationships, health outcomes, teamwork and professionalism. Despite extensive teaching through lectures, simulation, role play and clinical experience, students may have limited opportunities to critically analyze their own communication skill to identify their strengths and areas of improvement. Reflective writing is structured process of critically revisiting and analyzing an experience, including one's thoughts, feelings, actions, and responses, to develop deeper understanding and generate new insights. In medical education, it enables students to transform experiences into meaningful learning and supports personal and professional development. The study aims to explore the role of structured reflective writing in developing communication skills among undergraduate medical students.

Methods: Structured reflective writing was incorporated into communication-skills teaching for undergraduate medical students. Following selected communication-learning experiences, students were guided through a structured reflection process focusing on events, their thoughts and emotions, what went well and the challenges encountered, key learning points and strategies for managing similar situations in future. Reflections were analyzed for evidence of self-awareness, critical analysis, communication behaviors, empathy and action planning. Student's perception of reflective writing as a learning strategy were also explored.

Results: Structured reflection enabled students to recognize their individual communication strengths and areas of improvement. Their reflection demonstrated increased awareness of verbal and non-verbal communication, active listening, empathy, effective questioning, responding to patient concerns and managing challenging interactions. Students were encouraged to progress beyond simple description of experiences by critically analyzing themes on communication behaviors and developing specific strategies for future patient interactions. The reflective process also enhances students understanding their emotions can influence communication and shape their interactions with patients.

Conclusion and recommendations: Structured reflective writing can serve as practical educational strategy to enhance students' awareness and understanding effective communication skills. By linking clinical experience with critical analysis and action planning, it can support students in translating communication related learning in future practice. Implementing structured reflection into communications skills can enhance experimental teaching approaches and contribute to the development of reflective, empathetic and patient centered practices.

Reflective writing enables health professionals and students to learn from their achievements, mistakes, emotions, and challenges by transforming experiences into meaningful learning and opportunities for improvement.

Keywords: Reflective writing, reflection, medical education, communication skill

TITLE: AN INFERENTIAL STATISTICAL APPROACH TO ITEM ANALYSIS OF FORENSIC PATHOLOGY I EXAMINATIONS AT THE MALDIVES NATIONAL UNIVERSITY

Author: Rijen Shrestha
Institute: The Maldives National University

Background: Validation of assessments is a fundamental component of evidence-based medical education. Multi-modal assessments require more rigorous statistical evaluation and item analysis to ensure construct validity and reliability across the assessment components. The Forensic Pathology I module at The Maldives National University is conducted during the 7th semester of the medical education programme. The assessment included continuous assessment (Logbook) accounting for 10% of the final score. Meanwhile, 90% of the score is assessed in the formative examination. This included 30 MCQs and 10 EMQs scored dichotomously (1-correct, 0-incorrect), 2 MEQs (10 marks each) and 6 OSCE stations (5 marks each).

Methods: A cross-sectional psychometric analysis was conducted on the examination scores of 41 Forensic Pathology students. Classical Test Theory (CTT) framework was applied with inferential analyses, including item difficulty (p-value) and discrimination index (D). Similarly, independent samples t-tests compared high-performers (top 27%) with low-performers (bottom 27%). Pearson correlations was used to analyze component inter-relationships and correlations with total examination scores to assess cross-construct consistency and criterion validity. Lastly, one-way ANOVA compared mean performance across assessment modalities with post-hoc pairwise comparisons (Bonferroni correction). Statistical significance was set at α=0.05.

Results: Overall mean performance was 47.68/90 (SD=12.15). One-way ANOVA revealed significant differences between assessment modalities [$F(3,160)=47.82$, $p<0.001$, $\eta^2=0.47$]. MCQs (62.3%) and OSCEs (63.8%) were significantly better than EMQs (51.0%, p=0.012) and MEQs (23.8%, p<0.001). Item discrimination indices ranged from 0.09 to 0.46 (mean=0.32, SD=0.12), with 8 items achieving excellent discrimination ($D\geq0.40$) and 4 items showing poor discrimination ($D<0.20$). Cross-construct consistency analysis demonstrated moderate correlations between MCQ and OSCE (r=0.51, p<0.001) and MCQ and matching (r=0.48, p<0.001), with weaker correlations involving MEQ-OSCE (r=0.38, p=0.014) and MCQ-MEQ (r=0.42, p=0.006).

Conclusion and Recommendations: MCQs and OSCEs were found to have superior discrimination and strongest correlations with overall performance. The weaker correlations with MEQs, suggest they measure a distinct cognitive domain (written clinical reasoning and synthesis) not captured by other formats, supporting the need to include multiple assessment modalities. Critical problematic components with significantly low difficulty and discrimination indices (A11, B7, Stations 3 and 4) will be re-evaluated to enable better question constructs in upcoming examinations. This study will be further institutionalized through the conduct of ongoing psychometric monitoring with larger cohorts to further the development of evidence-based medical education at The Maldives National University.

Keywords (3-5): Item analysis, Medical Education, Assessment Validity, Classical Test Theory, Forensic Pathology

TITLE: INTEGRATING ARTIFICIAL INTELLIGENCE IN TEACHING FORENSIC PATHOLOGY AT THE MALDIVES NATIONAL UNIVERSITY

Author: Rijen Shrestha
Institute: The Maldives National University

Background: Forensic Pathology is an

important component of undergraduate medical education, preparing future physicians to recognize and manage medico-legal issues encountered in clinical practice. Forensic Pathology is taught as structured theoretical and practical training across three modules in the fourth and fifth years of the undergraduate medical programme at the School of Medicine. With the recent advances in Artificial Intelligence (AI), their integration into the curriculum can greatly assist in developing core forensic competencies among undergraduate medical students.

This paper explores the potential integration of artificial intelligence into the Forensic Pathology curriculum, identifying the application and implementation strategy.

Methods: The curriculum for the three Forensic Pathology modules were analyzed for possible opportunities for integration of Artificial Intelligence.

Results: Two primary domains for AI integration were identified – 1) Simulation based learning – virtual autopsy and crime scene reconstruction using 3D imaging and virtual reality technologies. This can supplement the limited exposure to autopsies; 2) Feedback – AI can be used to provide detailed feedback on students' clinical reasoning, helping reinforce core concepts.

While promising, there are important limitations to consider in using AI for teaching Forensic Pathology, including high costs, faculty oversight as well as issues related to confidentiality of data.

Conclusion and Recommendations: AI can be an extremely important tool to make Forensic Pathology training more immersive and personalized through simulated cases and provide a study companion and guide. However, technology is still evolving and its effectiveness on long-term educational outcomes are still not fully understood. Therefore, its implementation requires careful pedagogical design while ensuring faculty supervision and oversight.

Keywords: Artificial Intelligence, Forensic Pathology, Medical Education, The Maldives National University

POSTER PAPERS

TITLE: ASSESSING EFFECTIVENESS OF RESILIENCE INTERVENTION FOR SUPPORTING AND EMPOWERING STUDENTS' MODULE ON RESILIENCE AND BURNOUT LEVELS OF FIRST-YEAR MEDICAL STUDENTS

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Background: Transitioning into medical school exposes students to academic demands, frequent assessments, and responsibility for self-directed learning. These challenges may increase stress and vulnerability to burnout, particularly during the first year. Resilience can help students adapt to adversity and maintain effective functioning. There is limited evidence of curriculum-integrated strategies to enhance resilience. This study will evaluate the effectiveness of the RISE-MBBS module, an assessment-informed resilience intervention, in supporting resilience and reducing burnout among first-year medical students.

Methods: A quasi-experimental, non-randomized controlled study will be conducted among first-year MBBS students at Foundation University Medical College, Islamabad. Convenience sample of 126 students will be included, with 63 students per group. The intervention group will receive the nine-week RISE-MBBS module alongside the routine curriculum, while the control group will continue the curriculum, including resilience-related learning and mentoring. Resilience will be measured using the Medical Students Resilience Scale (MeRS), and burnout using the Burnout Assessment Tool–Student Version (BAT-S). Data will be collected at baseline, immediately post-intervention, and two-month follow-up. Learner satisfaction, knowledge gain, and resilience-related behavior will also be assessed.

Results: It is expected that students receiving the RISE-MBBS module will demonstrate greater improvement in overall resilience and resilience domains than controls across the three assessment points. The intervention is also expected to reduce core burnout and sustain these improvements at two-month follow-up. Students are anticipated to demonstrate improved knowledge of resilience strategies, positive learner perceptions, and enhanced resilience-related behaviors. Repeated-measures analysis will examine changes over time and differences between groups.

Conclusion and Recommendations: The study is expected to determine whether an assessment-informed resilience module can strengthen resilience and reduce burnout during transition to medical school. Findings may support curriculum integration of resilience-building strategies.

Keywords: Resilience, Burnout, Medical Students, Assessment, Systematic assessment for resilience

TITLE: ENHANCING ASSESSMENT RECOVERY: A MIXED-METHOD STUDY ON SATISFACTION AND PERCEIVED EFFICACY OF MCQ-BASED REMEDIATION FOR UNDERPERFORMING MEDICAL STUDENTS

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Background: Medical students often face academic challenges during the transition to university, necessitating timely, structured remediation. Multiple-choice question (MCQ)-based remediation promotes active learning, identifies knowledge gaps, and supports

struggling students before persistent failure occurs. This mixed-methods study evaluated undergraduate medical students' satisfaction with MCQ-based remediation and explored perceptions of its educational effectiveness, facilitation, delivery, and impact on learning and confidence. The findings aim to inform competency-based, contextually appropriate remediation strategies for resource-constrained medical education settings.

Methods: Following institutional ethical approval and informed consent, this mixed-methods study was conducted among 103 first- and second-year MBBS students at Al-Nafees Medical College, Isra University, Islamabad, who underperformed in end-of-module examinations. Students participated in a structured MCQ-based remediation program incorporating facilitator-led discussions, feedback, and answer rationales. Quantitative data included pre- and post-remediation examination scores, demographics, and validated satisfaction questionnaires, analyzed using descriptive and inferential statistics ($p<0.05$). Qualitative data were collected through two semi-structured focus groups, audio-recorded, transcribed verbatim, and thematically analyzed. Findings from both components were integrated to comprehensively evaluate remediation effectiveness and student perceptions.

Results: Pearson's correlation showed a strong positive association between integrated learning and confidence (IL&C) and perceived MCQ quality and feedback (PQM&F) ($r=0.805$, $p<0.001$). IL&C correlated positively with remediation time ($r=0.251$, $p=0.005$), while PQM&F was modestly associated with remediation time ($r=0.213$, $p=0.016$). Lower pre-remediation scores were linked to greater remediation time ($r=–0.196$, $p=0.024$). Thematic analysis identified four themes: perceived pedagogical efficacy, structural and logistical experience, emotional and psychological journey, and strategic behavior modification. Students valued active recall, feedback, facilitator support, increased confidence, and improved self-testing and examination strategies following structured MCQ-based remediation.

Conclusion and Recommendations: MCQ-based remediation effectively enhances learning, confidence, and metacognitive skills. Future longitudinal and comparative studies should evaluate long-term clinical outcomes and identify optimal remediation strategies across diverse educational settings.

Keywords: PQM&F: Perceived Quality of MCQs & Facilitation, IL&C: Impact on Learning & Cognition

TITLE: CULTURAL HUMILITY IN NEPHROLOGY FELLOWSHIP TRAINING: A QUALITATIVE EXPLORATION OF FELLOWS' EXPERIENCES OF INCLUSION, MENTORSHIP, AND PSYCHOLOGICAL SAFETY

Authors: Batool, Alisha Shoukat, Arshad
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Presenting Author: Batool

Background: Cultural humility is increasingly important in diverse healthcare systems, promoting self-reflection, awareness of bias, and respectful relationships. In nephrology fellowship training, it is closely linked with inclusion, mentorship, and psychological safety, which shape fellows' learning, sense of belonging, and professional development. This study explores fellows' perceptions of these interconnected factors and addresses the limited understanding of how cultural humility influences the overall nephrology fellowship training environment.

Methods: Thirty Nephrology fellows were recruited through purposive sampling. Data were collected through in-depth, semi-structured interviews addressing cultural humility, inclusion, mentorship, psychological safety, and challenges within fellowship

training. Later data was being analyzed using thematic analysis

Results: After qualitative analysis, four major themes emerged: cultural humility, inclusion, mentorship, and psychological safety. Good and healthy communication, supportive mentorship, equal opportunities, and free to ask questions without fear help the fellows to develop confidence, belonging, active participation, and professional identity.

Conclusion and Recommendations: Cultural humility, supported by inclusion, mentorship, and psychological safety, strengthens fellows' confidence, belonging, engagement, and professional identity, while promoting equitable, compassionate nephrology practice through curriculum and faculty development.

Keywords: Cultural humility, Nephrology fellowship, Inclusion, Mentorship, Psychological safety.

TITLE: EFFECTIVENESS OF GOOGLE CLASSROOM–BASED STRUCTURED ASSIGNMENTS ON KNOWLEDGE ACQUISITION AND CLINICAL REASONING AMONG FIFTH-YEAR MEDICAL STUDENTS DURING PEDIATRIC ORTHOPEDICS CLERKSHIP

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Presenting Author: Dhitaya kriangkhaidaj

Background: Technology-enhanced learning has become an important component of contemporary medical education by providing flexibility and self-directed learning. In clinical clerkships, students must integrate theoretical knowledge with clinical reasoning within a limited rotation period. Pediatric Orthopedics, especially pediatric elbow fractures, requires accurate clinical and radiographic assessment to avoid diagnostic errors and inappropriate management. This study aims to evaluate whether structured Google Classroom–based assignments improve knowledge acquisition and clinical reasoning compared with conventional paper-based assignments.

Methods: A cluster randomized controlled study was conducted among fifth-year medical students undertaking a Pediatric Orthopedics clerkship at Vajira Hospital. Sixty-nine students were assigned by clerkship rotation to either a Google Classroom group (n = 34) or a conventional paper-based assignment group (n = 35). Both groups received standard lectures on pediatric elbow fractures and completed structured post-lecture assignments. The intervention differed only in the assignment delivery platform. Knowledge acquisition and clinical reasoning were assessed using a validated 20-item case-based multiple-choice examination administered before and after the clerkship. Data were analyzed using a 2 × 2 mixed-design ANOVA.

Results: Both groups showed significant improvement in knowledge and clinical reasoning following completion of the clerkship. The conventional assignment group improved from a mean pre-test score of 43.71 to 64.57, whereas the Google Classroom group improved from 36.18 to 75.00. Mixed-design ANOVA revealed a significant main effect of time, indicating overall learning improvement across participants ($p<.001$, 95% CI 33.98–43.67). Although no significant difference was found between groups when overall scores were compared, a significant Time × Assignment Method interaction was observed ($p<.001$,95% CI 11.17–24.77). Students who completed structured assignments through Google Classroom achieved significantly greater learning gains.

Conclusion and Recommendations: LMS-supported structured assignments can serve as an effective, accessible, and learner-centered educational approach to strengthen undergraduate clinical learning and support self-directed medical education.

Keywords: Google Classroom, Learning Management System, Medical Education, Pediatric Orthopaedics

TITLE: EXPLORING THE PERCEPTIONS OF MEDICAL STUDENTS ON THE INFLUENCE OF SURGICAL CLERKSHIP EXPERIENCE ON THEIR PROFESSIONAL IDENTITY FORMATION: A MULTI-METHOD

Authors: Kaleem Akhtar
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Background: Professional identity formation (PIF) is increasingly recognized as a fundamental outcome of medical education. Surgical clerkship provides an authentic workplace-based learning environment where students participate in patient care, interact with multidisciplinary healthcare teams, and observe professional role models, all of which contribute to the development of their professional identity.

Methods: A sequential exploratory mixed-methods study was conducted among 100 fourth- and fifth-year MBBS students who had completed their surgical clerkship. Professional identity formation was quantitatively assessed using Tagawa's Professional Identity Scale for Medical Students (PISMS). Descriptive statistics and independent-samples t-tests were performed to compare professional identity scores across academic year and gender. Qualitative data were collected through semi-structured interviews and analyzed using thematic analysis. Quantitative and qualitative findings were integrated during interpretation.

Results: Overall, students demonstrated a favorable level of professional identity formation following surgical clerkship. The mean professional identity scores were comparable between fourth year (41.72 ± 4.57) and fifth year (41.46 ± 5.11) students, with no statistically significant difference ($p = 0.789$). Similarly, no significant gender difference was observed in total professional identity scores ($p = 0.075$). Qualitative findings revealed that surgical clerkship played a pivotal role in professional identity development by facilitating authentic participation in patient care, meaningful interactions with patients and healthcare professionals, mentorship, professional role modelling, reflective learning, teamwork, and increasing clinical responsibility.

Conclusion and Recommendations: Surgical clerkship provides a unique educational environment that promotes professional identity formation through authentic clinical experiences, participation in patient care, reflective practice, and professional socialization.

Keywords: Professional identity formation, surgical clerkship, medical students, professional identity, clinical

TITLE: DIALOGUE REASONING SIMULATION: EVALUATING STRUCTURED DIALOGUE PROMPTING WITH LARGE LANGUAGE MODEL AS AN INSTRUCTIONAL STRATEGY FOR CLINICAL REASONING DEVELOPMENT

Authors: Ahmed Abdullah, Rehan Ahmad Khan, Raheela Yasmin
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Presenting author: Ahmed Abdullah

Background: Large language models (LLMs) are increasingly used in health professions education, yet their educational value depends on how learners interact with them rather than simple access alone. This study evaluates structured dialogue prompting with a large language model as an instructional strategy to support clinical reasoning development compared with unstructured LLM interaction

and traditional written case-based learning among undergraduate medical students. It explores whether structured AI-supported dialogue can enhance reasoning processes under conditions of uncertainty.

Methods: A sequential explanatory mixed-methods study will be conducted among third-year MBBS students at Azra Naheed Medical College, Superior University. Participants will be allocated to three conditions: structured dialogue prompting with an LLM, unstructured LLM interaction, and traditional written clinical vignettes. Infectious disease cases aligned with curriculum objectives will be used. Clinical reasoning outcomes will be assessed using the Script Concordance Test and Clinical Reasoning Task. Learner experiences will be evaluated through a Learner Perception Survey and semi-structured interviews. Quantitative data will be analyzed using comparative statistics, while qualitative data will undergo thematic analysis and integration through a joint display approach.

Results: The study is expected to identify differences in clinical reasoning performance and learner experiences across the three instructional conditions. Structured dialogue prompting with a large language model is anticipated to provide greater support for systematic reasoning, problem representation, comparison of diagnostic alternatives, justification of decisions, and management of uncertainty compared with unstructured LLM interaction and traditional written cases. Qualitative findings are expected to further explain how instructional structure influences learner engagement, cognitive effort, and perceived educational value. Integration of quantitative and qualitative findings will provide insight into how structured AI-supported dialogue may facilitate clinical reasoning development in undergraduate medical education.

Conclusion and Recommendations: This study highlights that AI effectiveness in education may depend on instructional design rather than access alone, informing evidence-based integration of generative AI for clinical reasoning education in health professions.

Keywords: Artificial Intelligence; Large Language Models; Prompt Engineering; Clinical Reasoning; HPE.

TITLE: STUDENTS' PERCEPTIONS ABOUT PROFESSIONAL OPENNESS AND GROUP DYNAMICS IN RAWALPINDI MEDICAL UNIVERSITY'S COMMUNITY AWARENESS PROGRAM: A MIXED-METHODS STUDY

Authors: Omaima Asif, Fozia Fatima, Kashif, Rabia Ashraf, Farzana Fatima, Alina Alvi

Institute: Department of Medical Education, Rawalpindi Medical University, Pakistan

Presenting Author: Omaima Asif

Background: Medical education now emphasizes not only knowledge but also professional openness, reflective practice, communication, and teamwork. Community-based learning (CBL) strengthens these competencies by connecting students with real-world communities and promoting compassion, social responsibility, and collaboration. In Pakistan, Rawalpindi Medical University's Rawalian Community Awareness Program (RCAP) provides such opportunities. However, limited evidence exists regarding its influence on professional openness and group dynamics. This study therefore explores these attitudes among medical students within the Pakistani context.

Methods: A mixed-methods study with a convergent parallel design took place from August to December 2024 among 3rd to 5th year RMU students in RCAP. Researchers collected quantitative data using a structured questionnaire that assessed “Openness to Professional Role” and “Group Dynamics” with five-point Likert scales. They gathered qualitative data through five focus group

discussions. Researchers performed statistical analyses, including t-tests, ANOVA, and regression, using SPSS v27. They thematically analyzed the qualitative data.

Results: Total participants were 354; 53.1% were females and 46.9% were males. Openness and group dynamics had mean scores of 19.0 ± 3.29 and 22.87 ± 3.54, respectively. The differences due to gender or class were not statistically significant ($p > 0.05$); however, the trend was that seniority resulted in greater openness among the students. Through regression analysis, teamwork and feedback were determined to be the most powerful predictors of professional openness. Thematic findings pointed out that community engagement was a major factor in the development of empathy, leadership, and collaboration.

Conclusion and Recommendations: Students from RMU expressed great approval of professional transparency and cooperation, stating that feedback and leadership were the main contributors to professional growth. RCAP is a powerful experiential learning model.

Keywords: Professional openness, group dynamics, perception

TITLE: EXPLORING THE INFLUENCE OF AGENTIC ENGAGEMENT IN AI LEARNING ON THE PROFESSIONAL IDENTITY FORMATION OF UNDERGRADUATE MEDICAL/ DENTAL STUDENTS

Authors: Fatima Sabih, Madiha Sajjad,
Institute: Riphah International University, Pakistan
Presenting author: Fatima Sabih

Background: Artificial intelligence (AI) is increasingly transforming healthcare and health professions education. Existing research has largely focused on students' awareness, perceptions, readiness, and competencies related to AI. However, limited attention has been given to how students proactively engage with AI for learning beyond formal curricular requirements. Furthermore, little is known about how such agentic engagement may shape students' developing professional identities within an increasingly AI-integrated healthcare environment.

Methods: A qualitative exploratory study was conducted within a constructivist-interpretivist paradigm. Undergraduate medical and dental students demonstrating agentic engagement with AI for learning were identified through a screening survey and purposively recruited for semi-structured interviews. Twelve interviews were conducted and audio-recorded, with data collection continuing until saturation was reached. Interviews were transcribed verbatim and analyzed using Braun and Clarke's reflexive thematic analysis. An inductive approach was followed, informed by the study's conceptual framework.

Results: Reflexive thematic analysis generated six interconnected themes: agentic self-directed AI learning; development of critical and responsible AI engagement; emergence of a digitally adaptive professional identity; human-centred professionalism in the age of AI; reflective and analytical professional growth; and AI-driven transformation of learning and professional roles. Participants described proactively seeking and integrating AI into learning, personalizing their educational experiences, and developing critical awareness of AI's capabilities and limitations. Their engagement promoted reflection on professional competence, autonomy, and evolving roles. Despite embracing AI, participants emphasized human values, ethical responsibility, and the enduring importance of human-centered care within AI-supported healthcare.

Conclusion and Recommendations: Agentic AI engagement may support professional identity

formation through critical AI literacy, reflection, and human-centered professionalism. Medical education should intentionally integrate opportunities for agentic, ethical, and reflective AI learning.

Keywords: Artificial learning, medical education, dental education, health professions, qualitative research

TITLE: EXPLORING DENTAL FACULTY'S PERSPECTIVES ON INCORPORATING THE SOCIO-CULTURAL ASPECTS OF EDI (EQUITY, DIVERSITY & INCLUSION) IN UNDERGRADUATE DENTAL CURRICULA

Authors: Hina Ali, Raheela Yasmeen
Institute: Department of Medical Education, Riphah International University, Pakistan
Presenting author: Hina Ali

Background: The incorporation of sociocultural aspects of EDI (Equity, Diversity and Inclusion) in undergraduate dental curricula is essential for preparing graduates to provide equitable care to diverse patient populations. However, dental education in LMICs remains predominantly biomedical, with limited attention to sociocultural competencies. As key curriculum implementers, faculty perspectives remain underexplored. This study explores faculty perceptions, conceptualizations, experiences and navigational approaches to incorporating sociocultural EDI into undergraduate dental curricula to inform undergraduate competencies for inclusive oral care.

Methods: This study will employ an exploratory qualitative design to explore Pakistani dental faculty perspectives on incorporating sociocultural aspects of EDI (Equity, Diversity & Inclusion) into undergraduate dental curricula. Fifteen purposively selected clinical and non-clinical dental faculty members with relevant teaching, CHPE and curriculum experience participated in the study. Data was collected through online, one-to-one semi-structured interviews using an expert-validated and piloted interview guide. All Interview were audio-recorded, transcribed verbatim, coded and analyzed thematically. Ethical approval and informed consent were obtained before data collection. Trustworthiness was ensured through strategies addressing credibility, transferability, dependability, confirmability, reflexivity, and maintenance of comprehensive audit trail.

Results: The study is expected to provide an in-depth understanding of dental faculty perspectives on incorporating sociocultural aspects of EDI (Equity, Diversity and Inclusion) into undergraduate dental curricula. It is anticipated to identify faculty perceptions and understanding of EDI, current curricular practices, and the sociocultural competencies considered important for future dental graduates. The findings may also highlight faculty preparedness and identify factors that facilitate or hinder EDI incorporation, including curricular changes, faculty development, institutional cultural, leadership and policy support. This study is expected to generate contextually relevant recommendations in order to guide curricular reform and strengthen the preparation of dental graduates.

Conclusion and Recommendations: The study is expected to identify opportunities and challenges in incorporating sociocultural EDI into the undergraduate dental curricula. Findings may inform curricula reforms for equitable and culturally responsive oral healthcare.

Keywords: EDI, Equity, Diversity and Inclusion, Sociocultural Theory, Dental Curriculum

TITLE: EXPLORING THE CHALLENGES IN INTEGRATING DIVERSITY, EQUITY, AND INCLUSION (DEI) INTO PHYSIOTHERAPY CURRICULA

Author: Hina Javed
Institute: Department of Medical education, Riphah International University, Pakistan
Presenting Author: Hina Javed

Background: Physiotherapy is a patient-centered health profession that aims to restore, maintain, and optimize movement and function across the lifespan. Physiotherapists serve individuals with acute and chronic conditions in hospitals, rehabilitation centers, community clinics, and home-based settings. In such settings, patient outcomes are shaped not only by biomedical conditions but also by broader social determinants of health such as poverty, gender, education, disability, language barriers, geographical access, and stigma (World Health Organization [WHO], 2008; WHO, 2010).

Methods: A convergent parallel mixed-methods design will be employed. Quantitative data will be collected from approximately 150–200 physiotherapy faculty members using purposive sampling and a structured questionnaire, including the Health Professions Educators DEI Scale. Qualitative data will be obtained through semi-structured interviews with 15–17 purposively selected faculty members meeting the qualitative criteria. Participants will be faculty teaching undergraduate DPT programs in public and private universities across Pakistan. Quantitative data will be analyzed using descriptive statistics in SPSS, while qualitative data will undergo thematic analysis. Findings from both components will be integrated during interpretation to provide a comprehensive understanding of DEI orientation.

Results: It is anticipated that the study will demonstrate relatively high levels of faculty self-awareness and positive attitudes toward Diversity, Equity, and Inclusion (DEI), alongside comparatively lower confidence in integrating DEI into teaching and addressing challenging DEI-related issues. Moderate awareness of institutional DEI initiatives may indicate gaps in organizational support. Qualitative findings are expected to highlight challenges related to faculty preparation, peer and departmental culture, institutional commitment, structural constraints, sociocultural norms, and limited policy support. Integration of findings is expected to suggest that effective DEI implementation requires coordinated interventions at individual, interpersonal, institutional, sociocultural, and policy levels, consistent with Socioecological Model.

Conclusion and Recommendations: DEI readiness is expected to be strong, but implementation may face systemic barriers, requiring faculty development, supportive leadership, curriculum reform, culturally responsive strategies, and strengthened policy frameworks.

Keywords: Diversity; Equity; Inclusion; Physiotherapy Education; Health Professions Education; Convergent Parallel

TITLE: BUILDING AN INTERNATIONAL TEACHING COMMUNITY IN CHEMICAL PATHOLOGY: SIX-YEAR EXPERIENCE OF A NATIONAL EDUCATIONAL INITIATIVE IN PAKISTAN

Authors: Imran Siddiqui, Hafsa Majid, Siddiqua Maniar, Shahid Pervez, Sibtain Ahmed
Institute: Pathology and Laboratory Medicine, The Aga Khan University, Pakistan
Presenting Author: Imran Siddiqui

Background: During the COVID-19 pandemic, the College of Physicians and Surgeons Pakistan (CPSP) and the Pakistan Society of Chemical Pathologists (PSCP) established a

monthly virtual educational series in Chemical Pathology to complement fellowship training and continuing professional development. Since January 2024, each ZOOM webinar has featured one national and one international expert, enabling participants to learn from both local experience and global best practices. This study evaluated the reach, educational impact, and sustainability of this initiative.

Methods: A retrospective mixed-methods programme evaluation was conducted using routinely collected post-webinar feedback from 38 monthly webinars held between 2021 and 2026. Participants included postgraduate trainees, residents, and consultants. Educational quality, perceived learning, and programme recommendation were assessed using a standardized five-point Likert-scale questionnaire. One-sample t-tests compared mean scores against a predefined benchmark score of 4 ("good"), while independent-samples t-tests compared ratings between trainees/residents and consultants. Free-text comments underwent thematic analysis to identify the educational features most valued by participants.

Results: A total of 1,388 evaluations were analyzed. Participants represented 43 unique cities, including 32 in Pakistan and 11 international locations, demonstrating broad geographic reach. The mean overall webinar rating was 4.62 ± 0.59 and the mean educational value score was 4.58 ± 0.67, both significantly exceeding the benchmark ($p<0.001$). Overall, 95.4% of participants rated the webinars as good or excellent, and 99.5% would recommend them to colleagues. Trainees and residents reported slightly higher overall satisfaction than consultants (4.67 ± 0.59 vs. 4.57 ± 0.58; $p=0.002$). Key strengths included case-based discussions, interactivity, clinical relevance, and national and international faculty.

Conclusion and Recommendations: The CPSP–PSCP Educational Series established a sustainable virtual Community of Practice, improving equitable access to Chemical Pathology education, fostering collaboration, and providing a scalable model for postgraduate training in Pakistan

Keywords: Chemical Pathology, webinar, Zoom, CPSP, PSCP

TITLE: EXPLORING FACULTY READINESS TO INTEGRATE PLANETARY HEALTH EDUCATION INTO UNDERGRADUATE MEDICAL CURRICULUM IN DEVELOPING COUNTRIES

Authors: Nida Tariq, Raheela Yasmeen,
Institute: Medical Education, Watim Medical and Dental College, Pakistan
Presenting Author: Nida Tariq

Background: Planetary Health Education (PHE) is recognized as essential in undergraduate medical education because climate change, pollution, biodiversity loss, food insecurity, water scarcity and extreme weather affect human health. International organizations advocate integrating planetary health and sustainable healthcare into health professions curricula, yet implementation remains uneven, especially in low- and middle-income countries. In Pakistan, where climate-related health risks are growing, little is known about faculty understanding of PHE or their readiness to integrate it into curricula.

Methods: A qualitative exploratory study will be conducted across four undergraduate medical institutions in Pakistan. Twenty-four faculty members will participate in four focus group discussions, purposively selected from basic sciences, clinical sciences, community medicine, medical education and related disciplines. Data will be audio-recorded, transcribed, anonymized and analysed using Braun and Clarke's Reflexive Thematic Analysis. The Planetary Health Education Framework will define the educational scope,

while the Organizational Change Beliefs Framework will serve as a sensitizing interpretive lens.

Results: The study is expected to reveal varying levels of faculty awareness and readiness to integrate Planetary Health Education into undergraduate medical curricula. Findings may highlight uncertainty regarding disciplinary responsibility, limited curricular space, inadequate faculty training and institutional constraints as barriers. Participants are also expected to identify opportunities for integrating planetary health through existing courses, clinical examples, community-based learning and assessment. Faculty may recognize the relevance of local climate-related health challenges and the need for contextualized teaching. The study is anticipated to generate insights into perceived readiness, enabling factors and implementation needs that can inform curriculum development and faculty capacity-building initiatives.

Conclusion and Recommendations: The study is expected to identify faculty readiness gaps and opportunities for PHE integration. Findings may support faculty development, curriculum mapping, institutional support, and contextually relevant implementation strategies.

Keywords: Planetary Health Education; faculty readiness; undergraduate medical education; qualitative research

TITLE: EXPLORING THE INFLUENCE OF AGENTIC ENGAGEMENT OF STUDENTS AS PARTNERS ON INSTITUTIONAL GOVERNANCE IN MEDICAL EDUCATION: A QUALITATIVE EXPLORATORY CASE STUDY

Authors: Shazia Qayyum, Raheela Yasmeen, Madiha Sajjad

Institute: Medical Education, Riphah International University, Islamabad, Pakistan

Presenting Author: Shazia Qayyum

Background: Student engagement in institutional governance (IG) is recognized as an indicator of quality in health professions education (HPE) and promoted by the World Federation for Medical Education (WFME) and ASPIRE. Students-as-Partners (SaP) encourages collaboration in curriculum development, policy formulation, programme evaluation (PE), quality assurance (QA), and decision-making. Agentic Student Engagement (ASE) reflects students' contribution to governance. However, evidence on the reciprocal relationship between ASE and IG remains limited, particularly in hierarchical South Asian medical education.

Methods: A qualitative exploratory case study will be conducted at Islamic International Medical College, Riphah International University, guided by Structuration Theory and the governance dimension of AMEE Guide No. 152. Data will be collected through four focus group discussions with undergraduate medical students, faculty members, and institutional leaders selected using purposive maximum variation sampling, alongside analysis of institutional policies, TOR, PE reports, and committee minutes. Focus group data will be analyzed using Braun and Clarke's Reflexive Thematic Analysis, while documents will be analyzed using the READ (Read–Extract–Analyze–Distil) framework. Findings will be integrated through methodological triangulation.

Results: The study is expected to identify patterns in which formal governance structures create opportunities for student participation, while organizational culture, leadership, communication, feedback, and institutional responsiveness shape the extent to which participation becomes agentic and meaningful. Documentary evidence is anticipated to demonstrate how student engagement is embedded within governance processes, including curriculum, assessment,

programme evaluation, and quality assurance. Integration of stakeholder perspectives and documentary evidence is expected to reveal convergence, complementarity and/or divergence, clarifying how governance structures may enable student agency and how agentic engagement may, in turn, contribute to collaborative decision-making, institutional learning, educational improvement, and quality enhancement.

Conclusion and Recommendations: Authentic Students-as-Partners is expected to extend beyond formal representation through enabling governance structures and organizational conditions. Institutions should strengthen leadership, communication, responsive feedback, and meaningful student participation.

Keywords: Agentic Engagement; Institutional Governance; Students-as-Partners; Medical-Education; Organizational Culture

TITLE: THE TRANSFORMATIVE POTENTIAL OF ARTIFICIAL INTELLIGENCE IN MEDICAL EDUCATION: A REVIEW OF BENEFITS AND IMPLICATIONS

Authors: Urjuwan Mohamed, Nihal Ahmed Niyaaz, Shahaa Mohamed Hassan, Ahmed Abdulla, Mohamed Maavy Mujuthaba,

Institute: School of Medicine, The Maldives National University

Background: The advancement of Artificial Intelligence (AI) has presented a fundamental change and had the transformative impact on medical education across the world. As medical education requires a lifelong learning process beginning from undergraduate to specialty training and beyond, generative AI's promising potential could transform the approach to medical education, while offering unprecedented opportunities for students and their medical curriculum. This review paper examines the dual-edged role of artificial intelligence in medical education, exploring both its transformative potential and its associated challenges.

Methods: This research comprised a comprehensive review on articles available in the time period of 2021 to 2025, from reliable databases such as PubMed, Frontiers, PubMed Central, Taylor & Francis, and Google Scholar, and data that met our study objectives were considered in this review.

Results: Based on narrative review of trusted published sources, positive impacts include interactive medical simulations, personalized learning techniques with real time feedback performance tracking and increased diagnostic precision. The challenges involved in incorporating AI in medical education involve ethical concerns, devaluation of the medical profession itself and hindrance of cognitive engagement necessary for deep understanding.

Conclusion and Recommendation: The integration of AI in medical education presents advantages, however, implications must be taken into account. Use of AI in medical education requires regulation via ongoing observation and frequent reevaluation to stay current and relevant.

Keywords: Medical education, Artificial intelligence, AI, Impact

TITLE: THE ROLE OF REFLECTIVE WRITING IN IMPROVING CLINICAL COMPETENCY AMONG HEALTHCARE PROFESSIONALS

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Background: Reflective writing is used in medical education to help students evaluate their previous experiences, identify gaps in

their skills and knowledge, and develop better judgment. The format of writing can range from journal entries and essays to more structured frameworks such as the Gibbs reflective cycle or Baker's four-step model.

This literature review aims to understand how reflective writing contributes to clinical competence among healthcare professionals, particularly through the improvement of core skills such as critical thinking, clinical reasoning, and empathy.

Methodology: A structured literature search was conducted using PubMed and Google Scholar for studies published between 2021 and 2026. Studies were screened based on the predefined inclusion and exclusion criteria. Thirty eligible studies were selected, and the findings were analyzed to identify patterns relating to reflective writing and clinical competence.

Results: The literature review shows that those engaged with guided and structured reflective practices had significantly improved critical thinking skills in both empirical scores and self-rating. Studies demonstrated marked diagnostic accuracy in reflective groups, whereas those that did not engage in reflective practices had higher rates of diagnostic error and overconfidence. Empathy scores also had significant improvements in the reflective groups with enhanced emotional engagement. Overall, reflective groups showed higher clinical competence and judgement across studies employing qualitative mapping and subjective scoring.

Conclusion and Recommendations: These findings reflect the positive impact of guided and structured reflective frameworks in the development of critical thinking skills, empathy, clinical reasoning, and overall clinical competency. Further studies across multiple centers and cohorts are necessary to determine its impact in long-term practice and patient outcomes.

Keywords: “Reflective Writing," “Critical Thinking," "Clinical Reasoning," "Clinical Competence”

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The material submitted for publication may be in the form of an original research (Randomized controlled trial – RCT, Meta-analysis of RCT, Quasi experimental study, Case Control study, Cohort study, Observational Study with statistical support, etc.), a Review Article, a Case Report, Recent Advances, New Techniques, Debates, Book/CDs Review on Clinical/Medical Education, Adverse Drug Reports or a Letter to the Editor. Survey Articles and Studies more than five years old at the time of submission are not accepted for publication in JIIMC. Non- English articles are not accepted for publication in JIIMC.

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LETTERS TO THE EDITOR should normally not exceed 400 words, have no more than 05 references and be signed by all the authors-maximum 3 are allowed. Preference is given to those that take up points made in contributions published recently in a journal. Letters may be published with a response from the author of the article being discussed. Discussions beyond the initial letter and response will not be entertained for publication.

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- When reporting the results of a randomized trial, JIIMC requires a completed CONSORT 2010 checklist and flow diagram as a condition of submission.
  - CONSORT 2010 checklist
  - CONSORT 2010 flow diagram
- Templates for these can be readily accessible here or on the CONSORT website, which also describes several CONSORT checklist extensions for different designs and types of data beyond two group parallel trials
- Authors should ensure that your article, at minimum, reports content addressed by each item of the checklist. Meeting these basic reporting requirements will greatly improve the value of your trial report and may enhance its chances for eventual publication.
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GENERAL ARCHIVAL INSTRUCTIONS

The manuscript should be typed in MS Word. Each manuscript should include a title page (containing email address, cell numbers, institution, and postal address of the corresponding author), abstract, key words, text, acknowledgements (if any), references, tables (each table, complete with title and footnotes) and legends for illustrations and photographs. Each component should begin on a new page. Sub-headings should not be used in any section of the script except in the abstract.

TEXT ORGANIZATION

All manuscripts except Short Communication and Letter to the Editor should be divided into the following sections.

ABSTRACT

Abstracts of original article should be in structured with following sub-headings:

- Objective
- Study Design
- Place & Duration of Study
- Materials & Methods
- Results
- Conclusion

Four elements should be addressed: "why did you start?", "what did you do?", "what did you find?" and "what does it mean? “.” Why did you start?" is addressed in the objective. "What did you do?" constitutes the methodology and could include design, setting, patients or other participants, interventions, and outcome measures. "What did you find?" is the 'results', and "what does it mean?" would constitute the conclusions. Please label each section clearly with the appropriate sub-headings. Structured abstract for an original article, should not be more than 250 words. At least 3 key words should be written at the end of the abstract. Review articles, case reports and others require a short, unstructured abstract. Commentaries do not require an abstract.

INTRODUCTION

Write this section with references as per following instructions:

1. Give background information about the subject matter and the issues your study intends to address. Only strictly pertinent references should be cited, and the subject should not be extensively reviewed.
2. Describe what is known (in the literature) and what is not clear about the subject with reference to relevant literature thus identifying the literature gap.
3. You write the rationale (justification) of your study.
4. Finally, you mention the objective of your study

MATERIALS AND METHODS

Methodology is written in past tense.

Follow this sequence **without headings:**

- Study design
- Place and Duration of Study
- Sample size
- Sampling technique
- Mention about permission of the ethical review board and other ethical issues addressed.
- Inclusion and Exclusion Criteria
- Data collection procedure-
- Type of data: parametric or nonparametric
- Data analysis: including Statistical Software used, and statistical test applied for the calculation of p value and to determine the statistical significance. Exact p-values and 95% confidence interval (CI) limits must be mentioned instead of only stating greater or less than level of significance. All percentages must be accompanied with actual numbers.

RESULTS

These should be presented in logical sequence in the text, tables, and illustrations. All the data in the tables or illustrations should not be repeated in the text; only important observations should be emphasized or summarized. No opinion should be given in this portion of the text.

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This section should include the author's comments on the results. Write in present tense, active voice except for results, which are written in past tense. It should be written in following sequence:

- First, very briefly summarize, Interpret and discuss main results and don't merely repeat the results.
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- Compare your work with other's work.
- Describe limitations of your study.
- Suggest future work if necessary.

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Conclusion should be provided under a separate heading. It should be in congruence with the objective. No recommendations are needed under this heading.

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References must be written in Roman Number and in the Vancouver Style only. References should be numbered in the order in which they are superscripted in the text. At the end of the article, the full list of references should give the names and initials of all authors (unless there are more than six when only the first six should be given followed by et al). The author's names are followed by the title

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Tables and illustrations should be merged within the text of the paper, maximum number of tables and illustrations should not exceed four, and legends to illustrations should be typed on the same sheet. Tables should be simple and should supplement rather than duplicate information in the text; tables repeating information will be omitted. Each table should have a title and be typed in double space without horizontal and vertical lines on an 8 ½" x 11' paper. Tables should be numbered consecutively with Roman numerals in the order they are mentioned in the text. Page number should be in the upper right corner. If abbreviations are used, they should be explained in footnotes and when they first appear in text. When graphs, scattergrams, or histograms are submitted, the numerical data on which they are based should be supplied. All graphs should be made with MS Excel and be sent as a separate Excel file even if merged in the manuscript. For scanned photographs the highest resolution should be used.

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System International (SI) Unit measurements should be used. All drugs must be mentioned in their generic form. The commercial name may however be mentioned within brackets, if necessary.

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- JIIMC Conflict of Interest Performa
- JIIMC CopyRight and Undertaking Agreement
- IRC Certificate
- Bank draft as initial processing fee (Original bank draft send in JIIMC office)

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