Advancing Medical Sciences through Research and Collaboration

RESEARCH CONFERENCE EVENT & ABSTRACT BOOK

FIRST INTERNATIONAL RESEARCH CONFERENCE 2025
HITEC-IMS TAXILA

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Message from Conference Chairperson, Principal Medical College, HITEC IMS

Prof Maj Gen (R) Hamid Shafiq HI (M)

I am delighted to share that HITEC Institute of Medical Sciences proudly hosted its International Research Conference under the theme "Advancing Medical Sciences Through Research and Collaboration." This event stands as a testament to our collective commitment to fostering a strong research culture and building meaningful academic collaborations both nationally and internationally.

The conference featured insightful contributions from distinguished international speakers from the UK, USA, and Saudi Arabia, who shared their expertise on emerging trends in medical research through virtual sessions. A notable highlight was our collaboration with BMY Health, Canada, which organized a workshop on best practices for Ethical Review Committees, further reinforcing our emphasis on ethical and high-quality research. Additionally, the on-campus SPSS workshop provided participants with practical skills essential for modern research.

The enthusiastic participation of students, faculty, and researchers in oral and poster presentations, both on campus and virtually, reflects our growing academic strength and unwavering commitment to excellence.

As I reflect on this remarkable achievement, I extend my heartfelt gratitude to the organizing committee for their tireless efforts and to the Student Research Society for their enthusiastic support. Together, we have laid a strong foundation for future initiatives that will continue to promote innovation and academic excellence.

It has been an honor to serve HITEC-IMS and witness its growth as a center of learning and research. I am confident that this spirit of inquiry and collaboration will continue to flourish in the years ahead.

Message from Chair Organizing Committee

Prof Dr Wajiha Mah Jabeen

It is with great pride and gratitude that I extend my heartfelt appreciation to all the participants, speakers, collaborators, and organizers of the 1st International Research Conference 2025 at HITEC-IMS. This conference marks a significant milestone in our journey to foster a culture of research, academic excellence, and innovation among medical and dental professionals.

Our goal was to provide a dynamic platform for young researchers, faculty members, and healthcare professionals to engage in meaningful academic exchange, enhance their research skills, and form valuable collaborations. The overwhelming response from national and international participants, insightful lectures by esteemed speakers, and the quality of research presentations truly reflects the collective enthusiasm for advancing scientific knowledge.

I am especially thankful to our international collaborators, distinguished judges, and dedicated organizing team whose efforts turned this vision into a reality. I hope this event serves as a stepping stone for future academic initiatives and continues to inspire excellence in research.

Message from the President, Student Research Society (SRS)

Muhammad Moeed Azwar Bhatti

It brings me immense pride and joy to share that HITEC Institute of Medical Sciences has successfully hosted its 1st International Research Conference — a historic milestone for our institution. Under the guiding theme, "*Advancing Medical Sciences Through Research and Collaboration,*" this event reflects our shared vision of promoting a strong research culture and establishing meaningful academic connections at both national and international levels.

As the President of the Student Research Society, I feel deeply honored to have led a passionate team of students who devoted their time, creativity, and unwavering commitment to making this event a resounding success. The journey was full of learning and growth, and the outcome — witnessing global experts, enthusiastic participants, and cutting-edge research presentations — was truly worth the effort.

I extend my heartfelt gratitude to my entire SRS team. Their dedication, coordination, and tireless efforts made this dream possible. Together, we not only organized a conference — we created a legacy.

Let this be the beginning of a new era in student-led research initiatives at HITEC IMS. I am confident that the momentum we have built will inspire future batches to continue this tradition of excellence, collaboration, and innovation.

The 1st International Research Conference 2025 – HITEC-IMS

The 1st International Research Conference 2025 at HITEC-IMS was organized at 27th May, 2025 to promote a culture of research, innovation, and academic collaboration. The event featured:

- **Engaging lectures** delivered by distinguished international speakers

- **Workshops** that enriched participant skills, including:
  * An on-campus pre-conference and main day SPSS workshop titled "Evidence Through Analysis: Hands-On SPSS Workshop for Emerging Researchers"
  * An online post-conference workshop in collaboration with BMY-Health Canada, titled "Best Practices for Ethical Review Committees"

- **Research competitions,** which included:
  * Oral presentations
  * Poster presentations
  * E-presentations for national & international participants

All sessions were designed to enhance research skills and encourage knowledge sharing. The conference was attended by a diverse group of participants, primarily undergraduate and postgraduate medical students, as well as faculty members and healthcare professionals from multiple disciplines.

Opening Ceremony

The 1st International Research Conference 2025 at HITEC-IMS commenced with great zeal and solemnity. The ceremony began with the Recitation of the Holy Quran followed by the National Anthem, setting a respectful and patriotic tone. Prof. Dr. Wajiha Mah Jabeen, Chair of the Organizing Committee, delivered the opening remarks, warmly welcoming the audience and outlining the vision behind the conference. The Welcome Address was then presented by Prof. Maj Gen (R) Hamid Shafiq HI (M), Principal HITEC-IMS and Conference Chairperson, who emphasized the importance of fostering research culture among students and faculty alike.

The highlight of the ceremony was the Keynote Address by the Chief Guest, Maj. Gen. (R) Prof. Dr. Muhammad Aslam, a highly distinguished academician and researcher with over four decades of teaching and research experience in physiology. He has held numerous prestigious positions including Vice-Chancellor of multiple medical universities, Dean at NUST, Principal of Army Medical College and Shifa College of Medicine, and Advisor for Postgraduate Education and Research. He is an HEC-approved PhD supervisor, has authored over 100 research papers, and has played a vital role in organizing more than 70 national and international conferences. Dr. Aslam is also known for his leadership in scientific publishing as the Chief Editor of the Pakistan Journal of Physiology and past roles in PAME and EMAME. His address was both inspiring and thought-provoking, setting the tone for a conference centered on excellence in research and academic integrity.

GALLERY

Arrival of Chief Guest

Opening Ceremony

International Speakers' Lecture Session

Dr. Asma Naseer Cheema

In her insightful session titled "Mastering Systematic Reviews & Meta-analysis", Dr. Asma Naseer Cheema, Research Associate at the University of Pittsburgh, provided a comprehensive overview of the systematic review process and the essential steps of conducting meta-analyses. Her expertise and clarity on the topic were highly appreciated. The session remained interactive, with participants engaging actively through questions, making it a valuable learning experience for all.

Dr. Ali Faisal

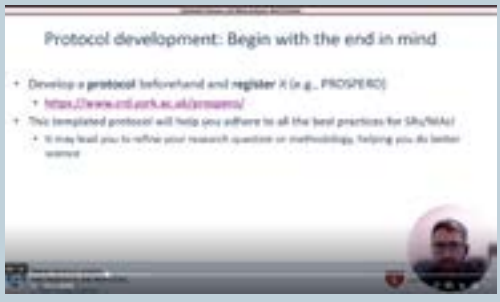
Dr. Ali Faisal, Associate Director and Global AI Product Development Lead at Coca-Cola Europacific Partners, London, delivered an engaging lecture on "How Artificial Intelligence Can Help in Patient Deterioration Prediction". Drawing from his vast experience in advanced machine learning and bioinformatics, Dr. Ali highlighted AI's growing role in predictive healthcare. The audience showed great interest, asking insightful questions that made the session both dynamic and thought-provoking.

Prof. Abdul Samad Khan

In his thought-provoking talk on "Dental Research in Pakistan: Prospects, Challenges, and Recommendations", Prof. Abdul Samad Khan, Professor of Dental Biomaterials at Imam Abdulrahman Bin Faisal University, Dammam, emphasized the current state and future potential of dental research in Pakistan. His balanced perspective, practical suggestions, and deep understanding of the field sparked meaningful dialogue and enthusiastic participation from the attendees.

Dr. Majid Shafiq

Dr. Majid Shafiq, Medical Director at Harvard's Mass General Brigham Hospital System, USA, presented a highly practical and informative lecture titled "Conducting Impactful Systematic Reviews and Meta-analyses: Best Practices". He guided the audience through evidence-based methodologies to improve the quality and impact of their research. The session stood out for its clarity and practical relevance.



Participating Institutions

The 1st Annual Research Conference witnessed an impressive turnout and vibrant participation. A total of more than 200 participants from 25 medical and dental colleges across the country and abroad joined the event. The conference featured 84 oral and poster presentations, reflecting the growing enthusiasm and scholarly engagement of young researchers. The wide institutional representation reflected the national and global enthusiasm for promoting medical and dental research. This diversity not only enriched the academic exchange but also fostered meaningful interdisciplinary collaborations among young researchers and seasoned academicians.

Names of participating Institutions are:

- Al Nafees Medical College
- Ayub Medical College Abbottabad
- Bahria University College of Medicine, Islamabad
- Bakhtawar Ameen Memorial and Tertiary Care Hospital, Multan
- Central Park Teaching Hospital, Lahore
- D.G. Khan Medical College, Dera Ghazi Khan
- Fazaia Medical College
- Foundation University Medical College, FUIC
- Gujranwala Medical College Teaching Hospital Gujra
- HITEC-IMS Medical & Dental College
- Institute of Nursing, Wah Medical College, Wah Cantt
- Islamabad Medical and Dental College
- Islamic International Dental College
- Khyber Medical College, Peshawar
- Multan Medical and Dental College, Multan
- National University of Sciences & Technology (NUST)
- Pak-Emirates Military Hospital
- Peshawar Medical College (PMC), Peshawar
- POF Hospital Wah Cantt
- Rawalpindi Medical University
- Queen Elizabeth University Hospital, Birmingham, NHS Foundation Trust, UK
- The University of Lahore
- Wah Medical College
- Watim Medical and Dental College

Research Presentation Competition

A central highlight of the conference was the research presentation competition, which included oral, poster, and e-presentation sessions. A large number of participants from various institutions enthusiastically presented their research work, reflecting the growing interest in scientific inquiry among young scholars. Each session was evaluated by a panel of esteemed internal and external judges, ensuring a fair and rigorous assessment process. Winners from each category were awarded certificates and token prizes in recognition of their excellence. Additionally, all participants were awarded e-certificates to acknowledge their valuable contributions and active engagement in the conference.

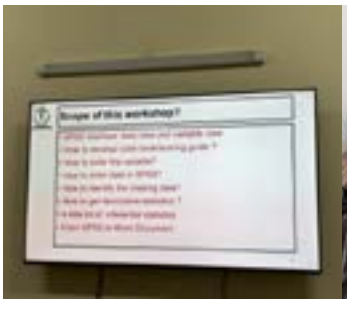
E and Oral presentations

Poster Presentations

Conference Workshop

Hands-On SPSS Workshop for Emerging Researchers

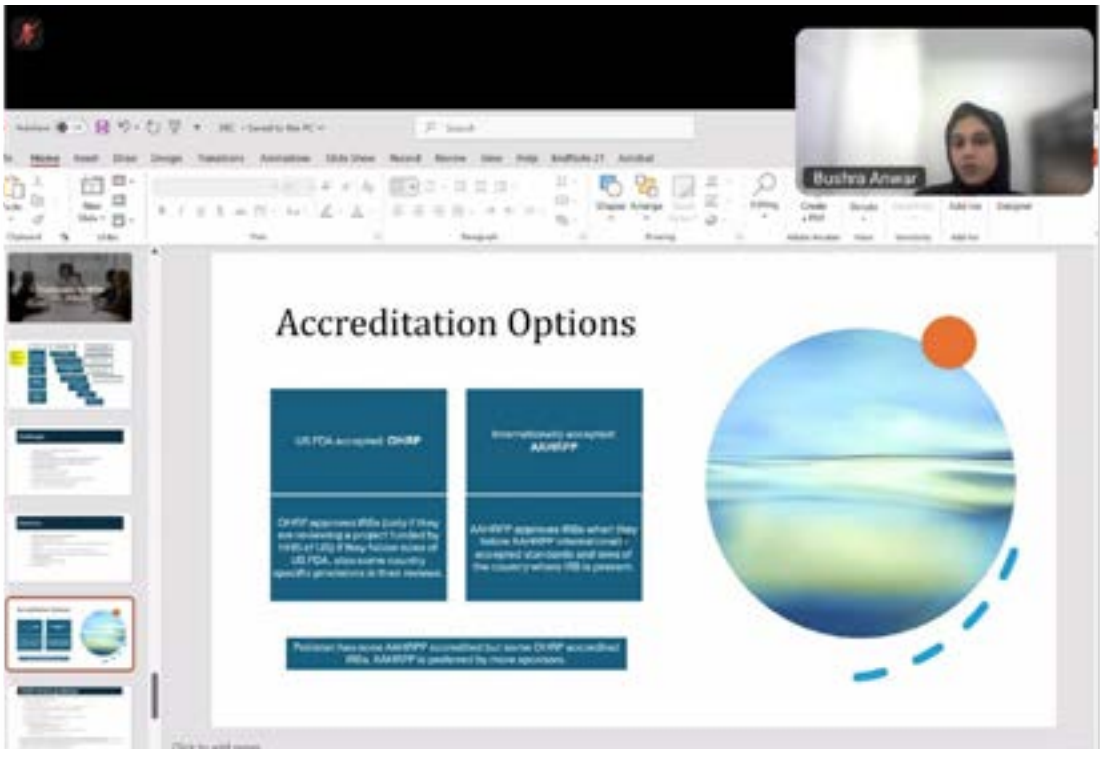
The workshop titled "Evidence Through Analysis: Hands-On SPSS Workshop for Emerging Researchers" was conducted both as a pre-conference session and on the main day of the conference. Designed to build practical skills in statistical data analysis, the workshop attracted a large number of enthusiastic participants, including undergraduate students, postgraduate trainees, and faculty members. Through interactive sessions and guided exercises, attendees gained hands-on experience in using SPSS for research data entry and analysis, making it one of the most engaging and impactful components of the conference.



Post conference Workshop

Best practices for ethical review committees

A post-conference workshop titled “Best Practices for Ethical Review Committees” was successfully conducted in collaboration with BMY Health Canada. The session was facilitated by Dr. Bushra Anwar, Director of BMY Health, who shared valuable insights into international standards and ethical frameworks for Institutional Review Boards (IRBs). The workshop focused on enhancing the capacity of IRB members and researchers in conducting ethical reviews aligned with global best practices. Participants found the session highly informative and relevant, especially in the context of strengthening research governance within institutions.



Gallery

REVIEWS

Laiba
Final Year,
Fazaia Medical College

"Honoured to represent my group and college here.A trüly enriching experience, loved the Al-based learning and all the interactions!"

Saeed
MBBS,
Wah Medical College

“The overall experience, faculty and students were great.”

Abdul Rehman Sarfaraz- MBBS
Wah Medical College

“The environment was very productive and the judges were very helpful.”

Saarym Ashraf
MBBS
HITEC-IMS

“It was a heck of an experience especially being a solo presenter.”

Abdullah Imtiaz
MBBS
Wah Medical College

“I am honored to represent my poster at this prestigious institution.”

Ayesha Nazeer
MBBS
Wah Medical College

“It feels really nice to come here at HITEC-IMS and the event was so well organized.”

POSTER PRESENTATIONS

ABSTRACTS

VERBAL PRESENTATIONS

ABSTRACTS

VP1 Evaluate the KAP of healthcare professionals regarding AI tools for research and diagnostic practices
VP2 Comparison of antibiotic resistance patterns among commonly isolated gram-negative rods over three years in a tertiary care hospital Rawalpindi
VP3 Exploring the anti-aging role of endogenous IL-15
VP4 Bridging innovation and instruction: Faculty readiness for AI in medical education
VP5 A comparative analysis of dietary habits and nutritional knowledge among medical and non-medical undergraduate students of Islamabad and Rawalpindi: A cross-sectional study
VP6 The association between anemia, iron deficiency anemia and active *Helicobacter pylori* infection among dyspeptic patients
VP7 Silent suffering: unveiling the stress effects of social rejection on intersex community of Pakistan
VP8 Digital twin applications in AI-driven medical research: A meta-research synthesis
VP9 Antibiotic stewardship in gastroenteritis: Optimizing antibiotic use in acute management in the ER-clinical audit of awareness and practices
VP10 Neutrophil-to-lymphocyte ratio in COPD exacerbators presenting to emergency: A marker of disease severity and poor outcomes
VP11 The association between chronotype (morningness/ eveningness) and learning approach and their effects on academic achievement of medical and dental students at HITEC-IMS, Taxila.
VP12 Understanding the imposter syndrome in medical students: A cross-sectional study on prevalence, contributing factors, and intensity across academic years at Foundation university
VP13 Prevalence of nomophobia in students of MBBS at HITEC-IMS and its association with academic performance & various factors.
VP14 Evaluating the level of knowledge, attitude and willingness towards thalassemia pre-marital screening among adults
VP15 Antimicrobial resistance patterns of *Serratia marcescens* in FFH Rawalpindi: A cross-sectional study
VP16 Outcomes of in-hospital and out-of-hospital cardiac arrest resuscitations in an emergency department in Pakistan: A comparative analysis with AHA benchmarks
VP17 Heat in the city: Assessing the effects of global heat increase and localized heatwave impacts
VP18 Descriptive analysis of youtube videos as a source of information on ADHD
VP19 Sociocultural practices and the healthcare-seeking behavior of mothers regarding the health of their newborn: A qualitative study
VP20 Determining the accuracy of artificial intelligence app (Medgic) in diagnosing dermatological lesions: A comparative study
VP21 Awareness and attitude towards breast cancer & mammography among female medical students in twin cities of Pakistan: A cross-sectional study
VP22 Early detection of diabetic retinopathy to prevent irreversible visual loss amongst the patients visiting the diabetes centre, Barakahu.
VP23 non-rapid eye movement parasomnias and their impact on academic performance in medical university students: A cross-sectional study
VP24 Assessment of mental health and mental health literacy among medical Students of HITEC-IMS Taxila

ONLINE PRESENTATIONS

ABSTRACTS

OVP1 Confidence and knowledge in emergency management among medical studentss and house officers in Pakistan: Is the WHO BEC course the answer?
OVP2 Assessment of relation of atychiphobia (fear of failure) with stress and certain demographic factors among undergraduate medical students of Rawalpindi medical university: A cross sectional study
OVP3 Perception of socialization in inter-professsional practice among healthcare professionals at a tertiary healthcare facility
OVP4 Effective use of tranexamic acid in refractory chronic urticaria with angioedema: A case report
OVP5 Extensive multifocal extranodal diffuse large B-cell lymphoma involving parotid, breast, gastrointestinal tract, and dorsal spine: A case report
OVP6 Climate change and the dental profession: Gaps in awareness, education and sustainable practice
OVP7 Prioritizing gut microbial SNPs linked to immunotherapy outcomes in NSCLC patients by integrative bioinformatics analysis
OVP8 The effect of chewing time on satiety & glucagon like peptide 1
OVP9 Synthesis, characterization and evaluation of the antifungal properties of tissue conditioner incorporate with essential oils-loaded chitosan nanoparticles
OVP10 *Staphylococcus aureus* & evolution of resistance against antimicrobials: Trend over the past five years
OVP11 Clinical audit of CT brain scan utilization in trauma patients

POSTER PRESENTATION ABSRACTS

PP 1

Practice of parents regarding sunlight exposure of their infants	
Authors	Zoha Rehman, Amara Anees
Affiliation	Wah Medical College

Abstract

Objective: To determine the parental practices regarding sunlight exposure of their infants

Methods: A cross-sectional study was carried out at POF Hospital, Wah Cantt from November 2023–February 2024. A sample of 100 parents was collected using convenient sampling. Parents (either father or mother) having infants whose age is between 1 month and 6 months were included in the study. Parents who are doctors or have severely ill infants were excluded. A questionnaire was formulated after an extensive literature search. It consists of two parts. The first part is about the demographic information, and the second part is about the practices of sunlight exposure, in which parents will be asked about the frequency, timing, duration, and reasons behind exposing their infants to sunlight as well as any reasons for avoiding it. After taking the informed consent, the questionnaire was filled out by the researchers themselves. Data were analyzed using SPSS version 21.

Results: The research results indicated that 73% of parents expose their infants to sunlight, with 69% doing so daily. Mornings were the preferred time for sunlight exposure, chosen by 70% of parents due to the milder intensity of sunlight. 59% and 65% of the parents had knowledge that the sunlight is important for bone health and vitamin D production. Skin darkening (31%) and busy schedules (21%) were significant reasons for not exposing infants to sunlight.

Conclusion: Overall, our study indicated good response to knowledge and awareness of sunlight exposure. Parents have a good understanding of the medical benefits of sunlight. However, parents need to break cultural stereotypes associated with sunlight exposure. Furthermore, sun protection and its use must be promoted among infants as well.

Keywords: sunlight, vitamin D, infants, morning.

PP 2

Association between oral health and frailty in elderly people	
Authors	Maryam Khan, Zunaira Bibi
Affiliation	Wah Medical College

Abstract

Background: The interplay between oral health and frailty has gained significant attention in the healthcare community, particularly concerning the well-being of the elderly population. With the rising concerns over health issues and fragility in old age, ensuring optimal oral health has become a crucial aspect of promoting a healthier lifestyle for senior citizens.

Objective: To find out the association between oral health and frailty in elderly people

Methods: The research design employed a cross-sectional approach. The research was conducted at POF Hospital in Wah Cantt from July 2023 to June 2024. The sampling technique employed was convenient sampling, and the sample size was 382. The Groningen Frailty Index (GFI), consisting of 15 items, was used to assess frailty, and oral health was assessed by the Oral Health Assessment Tool (OHAT), consisting of 8-items. Data was analyzed using SPSS version 23. Frequencies (%) were calculated for descriptive variables. A chi-square test was used to find out the association of variables at $p < 0.05$.

Results: Out of 382 elderly individuals, 200 were males and 182 were females, with an average age of 65 years. The prevalence of frailty was 68.19% and pre-frailty 31.9%. 35.6% of people had good oral health, 50.8% required monitoring, and 13.6% had poor oral health. Poor oral health was found significantly more among frail people (p-value 0.000).

Conclusion: The study conclusively demonstrates a significant relationship between oral health and frailty among the elderly, emphasizing the need for specialized interventions.

Keywords: groningen frailty index (GFI), oral health assessment tool (OHAT), frailty, oral health, elderly.

PP 3

Preventing dengue outbreaks in Pakistan: Integrating climate-driven predictive models and evidence-based policy interventions	
Authors	Sibgha Aslam, Wafa Omer
Affiliation	Bahria University College of Medicine

Abstract

Every region of the world is experiencing the tremors of climate change. Climate variables and erratic weather patterns, such as fluctuation in temperature and rainfall, are anticipated to impact pathogenic vector transmission, elevate the prevalence of disease, and prolong the transmission period. Climate change has a significant influence on the intensity and spread of dengue mosquito-borne disease outbreaks. Since 1992, dengue fever has been regarded as one of the most prominent emerging infections in Pakistan. The well-known dengue vector is the mosquito. The most catastrophic dengue epidemics occurred in Pakistan in 2011, 2017, and 2019. A dengue outbreak was documented in the Malakand region of KP in 2014. In 2016, there were also reports of dengue in Punjab, KP, and Sindh. . Four months of minimum temperature prior to outbreaks have been identified as a key factor for dengue occurrence. By the end of this century, Pakistan's annual mean temperature is predicted to increase by 3°C–6°C. Average annual rainfall will shift poleward, and there will be more precipitation in the upcoming years. Due to this, there are increased expectations of rivers flooding and the melting of glaciers. Aedes mosquitoes, the primary vectors of dengue, are highly sensitive to climate changes like warming, altered rainfall patterns, and raised humidity. Based on regional climatic data and epidemiological records, we are able to forecast future outbreaks and investigate trends through prediction CMIP5 models. We predict that as global warming advances, dengue's geographic range will expand, making new places vulnerable to outbreaks and endemic areas experiencing increasing rates of transmission. In addition, urbanization, public health infrastructure, and socioeconomic factors all have a significant impact on how Pakistan responds to dengue. The local authorities of Pakistan need to take adaptation, enhanced surveillance, vector control measures, and mitigation actions to tackle climate changes that are reshaping the dengue landscape in Pakistan.

Keywords: dengue, epidemic, Aedes, mosquito, vector control.

PP 4

Impact of childhood trauma on academic performance in undergraduate medical students of Rawalpindi: A cross-sectional study	
Authors	Zainab Yahya
Affiliation	Bahria University College of Medicine

Abstract

Background: Childhood trauma—including experiences of emotional neglect, family problems, poor parenting, and academic pressure— has been linked to long-term psychological consequences. For medical students, such trauma can impair concentration, motivation, and coping abilities, ultimately affecting academic performance and overall well-being. Due to cultural stigma and limited mental health awareness, unresolved childhood trauma often goes unrecognized in low- income countries like Pakistan, leaving undergraduate students to struggle in silence. Despite its impact, this issue remains underexplored within medical education.

Objective: To determine the percentage of undergraduate medical students experiencing academic difficulties linked to key social behavioral aspects resulting from childhood trauma.

Methods: A cross-sectional survey will be conducted among undergraduate medical students of Rawalpindi aged 18–25 years. Data will be collected using a validated Childhood Trauma Questionnaire (CTQ). Participants will be selected through cluster random sampling. Descriptive statistics, including percentages, will be used for data analysis. The association will be assessed using the chi-square test.

Results: It is expected that students with a history of childhood trauma will show more signs of emotional distress, social withdrawal, and academic difficulties compared to those without such experiences.

Conclusion: These findings aim to highlight the hidden psychological struggles of medical students and emphasize the need for improved mental health support within academic institutions.

Keywords: childhood trauma, medical students, social withdrawal, academic performance, emotional instability.

PP 5

Starting from scratch - The first batch experience at a new medical institution: A qualitative inquiry	
Authors	Madiha Imdad, Maryam Amjad
Affiliation	Bahria University College of Medicine

Abstract

Background: The transition into medical educations is a crucial time for a student's development, requiring them to navigate their journey independently while facing heightened psychological, social, and academic pressures.

Objective: To explore first-year medical students' lived experiences, challenges, and coping strategies at a newly established medical institution.

Methods: The study adopts a qualitative research approach through semi-structured interviews using open-ended questions. The study employs a purposive sampling strategy to conduct interviews with 20 students and 6 to 10 faculty members, in line with expert recommendations suggesting a minimum of 15 interviews for similar qualitative research inquiries. Interviews will be conducted via face-to-face, telephone, and online platforms, with informed consent. Thematic analysis will be used to identify recurring patterns and draw insights into student adjustment and faculty support mechanisms.

Results: The expected outcomes of ongoing data collection include a better understanding of the dynamics affecting pioneer students in a new medical college.

Conclusion: The study will enhance academic literature on early-stage medical schools by providing insights and recommendations for improving student support, onboarding processes, and fostering a supportive environment.

Keywords: institutional culture, student experiences, student resilience, qualitative research, thematic analysis.

PP 6

Wealth is not a remedy: Why money cannot buy happiness?	
Authors	Humna Fatima
Affiliation	Bahria University College of Medicine

Abstract

In a world where success is often measured by wealth, the assumption that money leads to happiness remains widespread. However, research increasingly challenges this notion, revealing that rising incomes do not necessarily lead to greater life satisfaction. This study examines the deeper relationship between money, purpose, and well-being, using a qualitative approach that includes psychological studies, expert opinions, surveys, and real-life case studies.

While money undeniably plays a vital role in meeting basic needs and providing a sense of security, its influence on long-term happiness is limited. Beyond a certain threshold, additional income shows diminishing returns in enhancing emotional well-being. What emerges as more impactful are factors such as a sense of purpose, fulfilling relationships, personal growth, and inner contentment. These elements contribute to a more stable and lasting form of happiness that is less dependent on external circumstances.

By analyzing patterns in human behavior and emotional health, the study underscores that happiness is a mindset shaped by how individuals live, connect, and find meaning in their experiences. The pursuit of material success, while not inherently negative, often overshadows the quieter, more enduring sources of joy found in love, community, and purposeful living.

This research invites a rethinking of societal values, urging a shift from wealth-centered definitions of success to those that prioritize mental well-being, meaningful engagement, and personal fulfillment. It concludes that in the quest for happiness, money may open doors, but it is purpose and connection that ultimately lead us through them.

Keywords: money, happiness, human behavior.

PP 7

Procrastination and its influence on stress and academic performance in medical students of Pakistan: A cross-sectional study	
Authors	Sobabah
Affiliation	Bahria University College of Medicine

Abstract

Background: Procrastination is a behavioral tendency characterized by the intentional delay of tasks, often leading to increased stress and reduced performance.

Objective: To assess the prevalence of procrastination in studies and its impact on academic performance and stress levels among medical students of Pakistan.

Methods: A cross-sectional study will be conducted among medical students using a structured, self-admired questionnaire. Data will be collected anonymously, and responses will be analyzed to explore correlations between procrastination tendencies, academic outcomes, and stress indicators. The sample technique involves the total percentage and frequency of medical students in our region facing this issue. For my research I have got reference from several national and international articles that has helped me making my survey more precise. In this survey the students will also be asked the reasons of their procrastination (according to their gender and routine differences) and the implication of solutions to their daily routine. The final result will be further analyzed and will be verified by the research guidance team of my medical college.

Results: It is expected that a significant proportion of medical students will report high levels of procrastination, which will be associated with lower academic performance and higher perceived stress levels. The findings may also reveal a positive correlation between procrastination habits and academic stress, indicating that procrastination contributes negatively to students' academic and psychological well-being.

Conclusion: Procrastination is an impactful issue among medical students, with significant negative effects on both, academic performance and psychological well-being, underscoring the need for proactive strategies within medical institutions to address this challenge.

Keywords: procrastination, stress, academic performance.

PP 8

Efficacy of oral folinic acid supplementation in children with Autism Spectrum-Disorder: A systematic review	
Authors	Insha Habib, Umar Farooq
Affiliation	Al Nafees Medical College

Abstract

Background: Emerging evidence claims to suggest that folinic acid, a bioactive form of folate, may help improve communication and behavior in children with ASD.

Objective: To determine the efficacy of oral folinic acid supplementation in children with ASD.

Methods: A comprehensive search was conducted across major scientific databases including PUBMED, COCHRANE and Embase, to identify studies examining the impact of folinic acid on communication and behavioral symptoms in children with ASD. Our systematic review was conducted following the PRISMA and registered with PROSPERO (CRD42024603694). Studies were selected based on their assessment of primary outcomes like Global ADOS score, improvement in verbal communication, mean change in Inappropriate Speech Subscale score, Autism Severity and Reciprocal Social Interaction. The secondary outcomes were hyperactivity, irritability, repetitive behaviors, and social withdrawal. Extracted data were synthesized to evaluate the comparative effects of folinic acid versus placebo.

Results: A total of 256 articles were screened out, of which 4 original studies (double-blind randomized control trials) with the population exposed with folinic acid from 2mg/kg/day to 5mg/day were included. Review of the 4 studies indicated that folinic acid significantly improved mean Global ADOS score by -2.78 points (p=0.02), mean inappropriate speech score by 1.714 points (p=0.045) and mean verbal communication score by 7.3 points (p=0.02). In secondary outcomes, children receiving folinic acid showed notable improvements in hyperactivity, irritability, reduction in repetitive behaviors, and improvement in daily living skills, with no substantial impact observed on lethargy or social withdrawal. Treatment with folinic acid was well-tolerated, with no significant treatment related adverse effects compared to placebo.

Conclusion: Folinic acid shows promise as an additional therapy for children with ASD, with observed benefits in specific communication and behavioral domains.

Keywords: folinic acid, ASD, children.

PP 9

Electrochemical corrosion and bacterial adhesion study of two osteosynthetic maxillofacial bone Plates	
Authors	Rabia Anwar, Amna Khalid
Affiliation	National University of Science and Technology

Abstract

Objective: To evaluate the novel locally manufactured osteosynthetic titanium bone mini plates used for mandibular fracture fixation, and to compare it with an international brand to have an alternative to expensive plates.

Methods: The study was conducted at the National University of Science and Technology. Local and German brands of osteosynthetic titanium bone mini plates were studied electrochemically through Tafel extrapolation curves using Gamry® electrochemical framework in modified simulated body fluid prepared with pH 7.4 at 37 °C. For bacterial adhesion, a Staphylococcus aureus bacterial culture of 50 µl was used with an OD600 of 1.0 corresponding to approximately 1.79×109 cells ml-1. Data was analyzed using SPSS 20.

Results: The corrosion resistance behavior of local and German plates was not significantly different ($p > 0.05$), but in the case of bacterial adhesion, the local plates showed significantly low adhesion compared to the imported material ($p < 0.05$). Overall, the biocompatible properties of local plates met international brand qualities.

Conclusion: Electrochemical corrosion and bacterial adhesion of local osteosynthetic maxillofacial bone plates matched the quality of an international brand.

Keywords: biocompatible, corrosion, simulated body fluids, osteosynthetic plates.

PP 10

Congenital insensitivity to pain and anhirosis with orthopaedic and self-injury complications in a 5-year-old boy: A case report	
Authors	Abdullah Imtiaz, Ayesha Nazeer
Affiliation	Wah Medical College

Abstract

Introduction: Congenital Insensitivity to Pain with Anhidrosis (CIPA) is a rare autosomal recessive disorder caused by mutations in the NTRK1 gene, resulting in the inability to perceive pain and temperature, along with anhidrosis. Affected individuals suffer from self-inflicted injuries, recurrent fevers, and orthopedic fractures due to their inability to recognize pain. Early diagnosis and a multidisciplinary approach are crucial to improving patient outcomes and quality of life.

Objective: To, (1) Present a case of CIPA in a 5-year-old boy, detailing his clinical features and complications. (2) Emphasize the significance of genetic testing, early recognition, and multidisciplinary management in CIPA.

Methods: A 5-year-old male, born of a consanguineous marriage, presented with recurrent fevers, self-mutilation, and orthopedic injuries. Clinical examination revealed multiple ulcers, missing digits, corneal ulcers, and poor wound healing. Genetic testing confirmed NTRK1 mutations, leading to a definitive diagnosis. Laboratory investigations showed mild anemia and electrolyte imbalances. A multidisciplinary management plan was implemented, including orthopedic stabilization, infection control, and parental counseling on injury prevention and thermoregulation.

Results: The child exhibited recurrent fractures, poor wound healing, and self-inflicted injuries. A hip spica cast was applied for a femur fracture, and preventive strategies such as protective gear and behavioral counseling were introduced. Despite these interventions, the patient remains at high risk for complications.

Conclusion: CIPA requires early recognition, genetic confirmation, and comprehensive management. A multidisciplinary approach is essential in minimizing complications and improving outcomes. Further research on gene therapy holds potential for future treatment.

Keywords: congenital insensitivity to pain and anhidrosis, NTRK1 mutation, orthopedic complications, self-mutilation, genetic diagnosis, multidisciplinary management.

PP 11

The silent struggle: Overthinking and its effects on medical students life quality	
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Affiliation	Wah Medical College

Abstract

Background: Medical students often face intense academic pressure, leading to overthinking, which can negatively impact their mental health and well-being.

Objective: To explore the relationship between overthinking, stress, and mental health outcomes in medical students and to identify potential coping strategies to promote well-being.

Methods: An online questionnaire was sent to medical students through their social groups. The questions were related to overthinking, what triggers overthinking in their academic life, how much do they overthink about their academic performance and what affects it has on their mental well-being, and their coping strategies. The results were collected, and the survey data was analyzed statistically, revealing a significant prevalence of overthinking among medical students.

Results: Out of all the responses received, 26.5% of students almost always experience overthinking, 35.3% often experience overthinking, 32.4% sometimes experience overthinking, and 5.9% rarely experience overthinking. Academic pressure triggers overthinking for 64.7% of the students, fear of failure triggers overthinking for 91.2%, and comparison with peers' triggers overthinking for 29.4%, and there was a significant percentage for whom fear of disappointing their parents triggered overthinking. Almost all of them experienced anxiety, depression, sleep disturbances, and eating disorders. All of them shared their coping strategies, which include talking to friends and family (64.7%), exercise (20.6%), mindfulness (47.1%), and 20.6% shared other coping strategies, including painting, etc.

Conclusion: By promoting mental well-being, medical students can develop targeted support to help medical students manage overthinking. This can ultimately lead to better prepared, more resilient future medical professionals.

Keywords: overthinking, medical education, student well-being, mental health, burnout prevention.

PP 12

Exploring atychiphobia and its associated factors among medical students	
Authors	Aiman Rubab, Izn Ahmed
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Abstract

Objective: To assess the level of Atychiphobia among medical students and to examine how these levels vary according to factors such as gender, clinical exposure, study hours, and voluntary will to pursue a career in medicine.

Methods: Study design: cross-sectional; study setting: Wah Medical College Wah Cantt; study duration: six months (January-June 2024); sampling: 264 medical students selected via convenient sampling technique; data collection tool: A structured questionnaire containing two sections: sociodemographic questions and the Performance Failure Appraisal Inventory (PFAI). Data were analyzed using SPSS version 23. Descriptive statistics were used to present findings, including percentages, means, and standard deviations. Independent sample t-tests were used to compare general FoF means across sociodemographic factors, with a significance level set at $p< 0.05$.

Results: 56% of the students were female, 28% of the participants belonged to 2nd year MBBS, and 87.7% of the students chose the medical field voluntarily. The mean general FoF score among the participants was -0.69+0.87. The mean for fear of experiencing shame and embarrassment was highest among the participants (-0.54 = 1.02). The p-values for chi-squares tests applied for associations of sociodemographic with Atychiphobia were greater than 0.05.

Conclusion: This study found that the overall fear of failure (FoF) among medical students at Wah Medical College is low. Among all the components, fear of experiencing shame and embarrassment was highest among the participants. Students who chose the medical field voluntarily reported lower FoF, indicating intrinsic motivation as a protective factor.

Keywords: academic performance, atychiphobia, fear of failure, medical student, resilience, psychological well-being.

PP 13

Multisite neural tube defects: Management of a complex case and review of theories on neural tube closure	
Authors	Aamina Sher, Ubaid Ullah
Affiliation	Khyber Medical College

Abstract

Background: Neural tube defects (NTDs) result from incomplete neural fold fusion during early embryonic development and can occur at various stages (gastrulation, primary, and secondary neurulation). While rare, NTDs at multiple sites require clinical and imaging assessments for management. The "Zipper closure" and "Multisite closure" theories explain these defects, though some anomalies remain unexplained, calling for more research.

Case Presentation: A two-month-old female presented with two NTDs: occipital meningoencephalocele and lumbar myelomeningocele. Both defects were successfully treated surgically, leading to positive neurological outcomes.

Conclusion: This case supports the multisite closure theory of NTDs and emphasizes the importance of early surgical intervention to prevent complications.

Keywords: neural tube defects, occipital meningoencephalocele, myelomeningocele.

PP 14

A cross-sectional study on artificial intelligence readiness among the medical students of Wah medical college	
Authors	Sidra Sultan, Bakhtawar
Affiliation	Wah Medical College

Abstract

Objective: To assess the level of AI readiness in the students of Wah Medical College and the influence of various sociodemographic factors on it.

Methods: A quantitative cross-sectional study was conducted among medical students of Wah Medical College for three months. A total of 354 students were included, excluding research volunteers, using the convenient sampling technique. The Medical Artificial Intelligence Readiness Scale for Medical Students (MAIRS-MS) was employed to evaluate the readiness of medical students for integrating AI into their practice. The independent variables included the sociodemographic factors. The MAIRS-MS score was considered a dependent variable. Data was analyzed using SPSS version 26. One-way ANOVA and T tests were employed for comparison of mean scores.

Results: The survey comprised 354 complete responses. The participation of males was 37.3% and females was 62.7%. Most of the responses were from the clinical side (71.4%), and the remaining 28.6% were from the preclinical side. The total mean score of AI readiness was 72.39 ± 16.9. The mean score of subdomains of AI readiness was 25.18 ± 6.79, 27.05 ± 6.69, 10.07 ± 2.75, and 10.076 ± 2.73 for cognitive, ability, vision, and ethical domains, respectively. The results showed evident association between the sociodemographic factors, i.e., gender ($p = 0.00$), year of education ($p = 0.03$), academic performance ($p = 0.03$), computer knowledge ($p = 0.00$), social media usage ($p = 0.00$), familiarity with AI ($p = 0.00$), AI usage frequency ($p = 0.00$), prior training in AI and ethical use ($p = 0.00$), and AI readiness among the students.

Conclusion: The study concluded the overall readiness of students of Wah Medical College towards AI usage. Integrating AI into medical curricula is crucial for equipping future medical professionals to engage with AI in healthcare.

Keywords: artificial intelligence, medical artificial intelligence, medical students, AI -readiness, vision.

PP 15

Spinal surgical robotics: A review of current capabilities and potential impact	
Authors	Huzaila Hayat, Minahil Usman
Affiliation	Wah Medical College

Abstract

Introduction: Each year, more than 4.83 million spine surgeries are performed worldwide, with pedicle screw placement for spinal fusion being one of the most commonly used procedures. However, these techniques had several disadvantages, including low precision, high surgical risks, significant radiation exposure, and limited accessibility. Robotic technology in spine surgery offers a promising advancement in enhancing surgical precision, improving navigation capabilities, and optimizing patient outcomes while minimizing complications.

Objective: To explore the role of robotics in spine surgery, compare it to conventional free-hand techniques, evaluate its impact on radiation exposure and intraoperative blood loss.

Methods: This review comprises 12 articles that summarized the performance metrics of 8 robotic models. The studies that aimed to describe the safety and accuracy levels of robotics in spine surgery were included.

Results: A total of 842 patients participated in these studies that had implantation of pedicle screws at various levels. The average accuracy of robot-assisted models and free-hand fluoroscopy-assisted techniques is 95.8% and 90.2%, respectively. The average radiation dose in robot-assisted and free-hand techniques was 21.7 ±11.5 μsv and 70.5 ±42.0 μsv respectively. Moreover, a significant reduction in intraoperative blood loss is noticed.

Conclusion: Spine surgery has evolved with the innovations in robotics, and greater accuracy and safety levels can be observed in pedicle screw placement. These advancements have led to a reduction in radiation exposure and intraoperative blood loss. However, a sharp learning curve is seen, and a lack of external validation is also noticed. We can enhance quality by integrating AI and augmented reality and long-term follow-up of patients to improve surgical procedures.

Keywords: computer-assisted navigation, pedicle screw placement, robotic surgery, spine surgery.

PP 16

Prevalence of dental caries in different blood groups among the students of dental college HITEC-IMS	
Authors	Maryam Zia, Umme Hani
Affiliation	HITEC Insitute of Medical Sciences

Abstract

Background: Dental caries remains one of the most common global health issues, with a complex multifactorial etiology including genetic predisposition. The relationship between ABO blood group systems and dental caries has been hypothesized to suggest a potential genetic basis in dental health.

Objective: To investigate the association between ABO blood groups and the prevalence of dental caries among undergraduate students of the Dental College HITEC-IMS using the DMFT index.

Methods: A cross-sectional study was conducted among 90 first-year and second-year BDS students. Blood groups were determined through agglutination testing, while dental caries status was evaluated using the WHO-endorsed Decayed, Missing, and Filled Teeth (DMFT) index. Statistical analysis was performed using SPSS Version 22.0.

Results: Analysis revealed a higher prevalence of dental caries among students with blood group B, followed by groups O, A, and AB. Although variations were observed among different groups, statistical significance was not achieved, suggesting a weak association between blood type and dental caries susceptibility.

Conclusion: While certain blood groups showed a trend toward higher caries prevalence, the relationship between ABO blood group systems and dental caries among HITEC-IMS students was not statistically significant. Further large-scale, multicenter studies are recommended to better elucidate this association.

Keywords: dental caries, ABO blood group system, DMFT index.

PP 17

Exploring the controversial link between artificial sweeteners and cancer risk: A narative review	
Authors	Hafsa Niazi, Nadia Nahal
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Abstract

Introduction: Aspartame is a widely consumed non-sugar sweetening agent used in more than ninety different countries. However, there is a controversy related to its possible carcinogenic and genotoxic effects.

Objective: To review literature regarding the potential carcinogenic effects of aspartame, and to assess the strength of evidence supporting a link to cancer.

Methods: A review of 32 articles on aspartame was conducted, focusing on its potential carcinogenic and genotoxic effects on human health. This research, covering systematic reviews, meta-analyses, and original studies from 2013 to 2023, was sourced from the PubMed database and emphasized key topics such as "aspartame," "carcinogenesis,".

Results: Some animal studies suggest the genotoxic/carcinogenic potential of aspartame. Most human studies show no significant association with cancer. In vitro and animal studies show inconsistent DNA damage results. Common assays (Ames, micronucleus, comet) were largely negative. High-dose rodent studies show some tumor links. No clear cancer risk in humans. Molecular changes have been observed in experimental models, but no confirmed mechanism in humans. FDA, EFSA, WHO: Aspartame is safe within the ADI.

Conclusion: Despite extensive research, the evidence remains inconclusive regarding aspartame's genotoxic & carcinogenic effects. Further research is needed to ascertain the safety of aspartame consumption.

Keywords: aspartame, carcinogenic, genotoxic.

PP 18

Awareness among undergraduate medical students regarding the role of artificial intelligence	
Authors	Abdullah Saeed, Rizwan Rafique
Affiliation	Wah Medical College

Abstract

Objective: To assess the awareness among undergraduate medical students regarding the role of Artificial Intelligence (AI) in healthcare.

Methods: A cross-sectional study was conducted at Wah Medical College, over five months (November 2024 to March 2025). The study included all (550) undergraduate medical students, excluding first-year MBBS students. Data was collected using a structured questionnaire including variables such as academic year, gender, prior knowledge of AI, perceptions of AI's impact on healthcare, and willingness to adopt AI in clinical practice. Descriptive statistics were used to summarize the data using SPSS v-2023. Responses were categorized on a 5-point Likert scale, with scores interpreted as extremely positive (4.1–5), positive (3.1–4), moderate (2.1–3), negative (1.1–2), and strongly negative (0–1).

Results: Out of 550 students, 440 responded within the given time (response rate 80%), of which 60% were female and 40% male. Most students (88%) were familiar with AI in general. Extremely positive response was obtained regarding the diagnostic role of AI in future healthcare and increasing dependence on technology. Students positively recognized AI's applications in radiology, surgery, pathology, drug development, and patient management. However, concerns were raised about data privacy, ethical dilemmas, and job replacement fears. About 45.5% believed medical professionals should be held accountable for AI-related errors, and 76% supported integrating AI education into the medical curriculum. 68% students were willing to use AI in future clinical practice.

Conclusion: Although there was a positive awareness of AI's role in healthcare, concerns about ethical, privacy, and job-related implications still exist. Integrating AI into the medical curriculum is crucial to prepare future healthcare professionals for AI-driven healthcare systems.

Keywords: artificial intelligence, healthcare, medical education, undergraduate students, awareness.

PP 19

Frequency of self-medication and its associated factors among medical students of a private medical institute	
Authors	Qurrat-ul-Ain, Rida Khalid
Affiliation	Wah Medical College

Abstract

Background: Self-medication is the use of drugs to treat self-diagnosed physical ailments or symptoms without consulting a healthcare professional. It plays a great role in daily live and common in health care system and around the globe especially in the developing countries. Due to their expertise, medical students are also predicted to practice it more frequently.

Objective: To assess the frequency of self-medication practices among medical students and to determine association of self-medication practice with gender, residence, working status of mothers and year of education among medical students.

Methods: A cross-sectional study was carried out among 140 MBBS students of Wah Medical College. Information was gathered from respondents using a questionnaire. Data was summarized with descriptive statistics and Chi square test was applied to assess the association of self-medication with gender, working status of mother, year of MBBS and residence of students.

Results: Overall, 140 students approached and out of them 107 (76%) students were practicing self-medication. Antibiotics were most often utilized (55%) followed by Analgesics (39%). Most frequent complaints for which medication was taken by themselves were headache (43%) followed by Fever (39%). The commonest source of information for self-medication was previous prescription (50%) and the main reason for taking self-medication was that the students thought that they did not need to visit the doctor (46%). Moreover, no association was established between gender, working status, year of education and gender with self-medication.

Conclusion: Self-medication practice was quite high among medical students There was no association of gender, working status, year of education and gender with self-medication practice among students.

Key words: self-medication, medical students, antibiotics, cross-sectional study.

PP 20

Relationship between use of fitness trackers, physical activity and self-perception of physical health among medical students of a private medical college	
Authors	Aamara Mazhar, Faiqa Mumtaz
Affiliation	Wah Medical College

Abstract

Objective: The study aimed to assess the prevalence of fitness tracker usage among medical college students, evaluate their physical activity levels, examine self-perceived health among users, and compare activity levels between users and non-users.

Methods: A cross-sectional study with a random sampling technique was carried out, on a sample size of 376 MBBS students in their 2nd to 5th year. Data were collected via a questionnaire investigating the patterns of fitness tracker use, the features accessed, motivations, their influence on fitness goals, workout duration, and self-perception. Confidentiality was maintained. Statistical analysis was conducted using IBM SPSS version 23.

Results: The study found that 148 (42.3%) students used a fitness tracker, while 202 (57.7%) did not rely on one. Of the 350 participants, 9.4% had minimal physical activity, 43% exhibited moderate activity, and 78.3% were categorized as active. Regarding usage frequency, 20 (13.5%) used it rarely, 18 (12.2%) weekly, 24 (16.2%) twice per week, 64 (43.2%) once a day, and 22 (14.9%) multiple times a day. With a p-value of 0.000 deduced by the chi-square test, a statistically significant association was seen between fitness tracker usage and physical activity levels, with tracker users engaging in more physical activity. Self-perception analysis showed a mean of 3.5475 (SD=0.99302), reflecting an overall positive effect on physical health perception.

Conclusion: The study suggests fitness tracker users have higher physical activity levels and also exhibit better self-perception of health thus overall promoting the health.

Keywords: body image, exercise, fitness trackers, physical fitness, self-concept, wearable electronic devices

PP 21

Knowledge and awareness of breast cancer among non-medical female staff of Wah medical college and POF hospital Wah cantt	
Authors	Aneeza Hameed, Shifa Fatima
Affiliation	Wah Medical College

Abstract

Introduction: Breast Cancer is the most common cancer found in females worldwide. In Pakistan, every nine women suffer and about 90,000 women develop breast cancer each year, out of which 40,000 die every year. It can be detected through early screening self-examination. Females should be well aware of the early signs, symptoms and risk factors. Early diagnosis and adequate treatment ensure a better prognosis.

Objective: To assess the level of knowledge about breast cancer among female non-medical staff of Wah Medical College and POF Hospital.

Methods: The total enrolled non-medical female staff in both WMC and POF Hospital was 81 and all of them were included in our research. A cross-sectional study was conducted at Wah Medical College and POF Hospital from December 2024 to March 2025. A self-constructed questionnaire was used to interview participants. IMB SPSS 23 was used for data analysis and Pie charts, Bar charts, and tables present the analyzed data.

Results: Out of our sample size of 81, 16.9% had good knowledge, 71.6% demonstrated average knowledge, and 12.3% showed poor knowledge about breast cancer.

Conclusion: 71.6% of our participants demonstrated average knowledge, 16.9% revealed good knowledge, and 12.3% showed poor knowledge. This is due to the regular awareness sessions being conducted at both the institutes.

Keywords: awareness, knowledge, non-medical staff, breast cancer.

PP 22

The role of neurosteroids in catamenial epilepsy	
Authors	Areej Khalid
Affiliation	HITEC Institute of Medical Sciences

Abstract

Objective: This review looks into the potential role of neurosteroids in the pharmaceutical treatment of catamenial epilepsy, a form of epilepsy characterized by an increase in seizures during different phases of the menstrual cycle. In the perimenstrual phase, the sharp drop in progesterone is succeeded by a decrease in neurosteroid levels and hence an increase in seizure frequency. In such sensitive phases synthetic neurosteroids such as ganaxolone, an analog of allopregnanolone, may demonstrate efficacy in enhancing seizure control. Its safety profile appears favorable, with only mild side effects. However, more comprehensive studies are required to confirm its long-term safety and potency in comparison with traditional antiepileptic drugs (AEDs).

Keywords: neurosteroids, epilepsy, antiepileptic drugs (AEDs).

PP 23

Undergraduate medical students of HITEC-IMS Taxila readiness to embrace medical artificial intelligence: A cross-sectional study	
Authors	Abu Huraira, Rameen Asim
Affiliation	HITEC Institute of Medical Sciences

Abstract

Introduction: Medical students' inclination towards AI in the medical field increases the probability of successful AI adoption and its value in the medical field.

Objective: To, (1) Evaluate undergraduate medical student's readiness to work with medical AI technology (2) Determine the association of medical artificial intelligence readiness with demographic variables.3. To determine the perceptions of medical students about risks of Artificial intelligence in health.

Methods: A cross-sectional study was conducted from November 2024–January 2025 at HITEC-IMS. Data was collected from 113 medical students using convenience sampling. First-year students were excluded due to unavailability. Data was collected using a questionnaire comprising demographic details, perceptions of AI-related risks, and the validated Medical Artificial Intelligence Readiness Scale for Medical Students (MAIRS-MS). SPSS version 26 was used for analysis.

Results: This study included 113 medical students, with 64 (56.6%) females and 49 (43.4%) males. The mean age was 21.44 years (SD = 1.64). Most students were familiar with AI in medicine, though 10 (8.8%) had never heard of it. A majority (75.2%) had never attended any AI-related course. The mean scores for cognition, ability, vision, and ethics in Medical Artificial Intelligence Readiness (MAIR) were above the median at 25, 28, 10, and 10, respectively. The mean MAIR score was 75.24 (SD = 16.84). ANOVA showed significant differences in mean scores across MBBS classes (p = 0.018). AI training experience was significantly associated with vision (p = 0.018) and ethics (p = 0.016).

Conclusion: Medical students demonstrated a generally encouraging readiness for AI in medicine highlighting the importance of training in addressing the vision and ethics domains.

Key words: artificial intelligence, medical students, medical artificial intelligence readiness (MAIR).

PP 24

Effect of childhood practices on executive skills of medical students	
Authors	Khadija Tahira, Hafiza Amna Zahra
Affiliation	Wah Medical College

Abstract

Objective: To assess the effect of childhood experiences on the development of executive skills in medical students.

Methods: A cross-sectional study at Wah Medical College, Pakistan, examined the relationship between Childhood practices and executive skills in medical students over three months. Using convenience sampling, 317 students were enrolled. Data were collected through a structured questionnaire, including demographics and a validated executive skills assessment tool (Cronbach's alpha = 0.91). Independent variables included childhood socioeconomic status, parenting style, social interaction, trauma, and caregiver support, while the dependent variable was the executive skills score. We used IBM SPSS Statistics 26 to analyze the data, and for the comparison of mean scores, we used one-way ANOVA and t-tests.

Results: A total of 317 participants (mean age: 22 years; 63.1% male) were included. Most had a moderate socioeconomic background (76.3%), attended private schools (73.8%), and lived in non-boarding school residences (89.3%). Childhood trauma was reported by 27.4%. Overall, the executive skills dysfunction was significantly associated with socioeconomic status (p=0.01), family structure (p =0.02), and childhood trauma (p=0.04). The parenting style most affects executive skills, emotional and behavioural regulation.

Conclusion: Childhood experiences like socioeconomic status, family structure, parenting styles, and trauma impact executive skill dysfunction in medical students. Recognizing these influences is crucial for fostering cognitive resilience and competence in future healthcare leaders.

Keywords: childhood trauma, family structure, gender, social interaction, socioeconomic status.

PP 25

Efficacy and acceptability of online learning platforms	
Authors	Aneeqa Ahmad, Aimen Noor
Affiliation	Wah Medical College

Abstract

Background: In the midst of the ever-changing field of medical education, this research delves into the perceptions of medical students regarding virtual learning environments. By exploring their experiences, challenges, and preferences, this study aims to shed light on the efficacy and acceptability of online learning platforms in medical curricula.

Objective: To ascertain medical students' perception towards online learning.

Methods: A Cross-sectional Study was conducted at Wah Medical College with a time period of 6 months (Nov 2023-May 2024). All six hundred students enrolled at WMC were included in the sample. Data was obtained through Google Forms while SPSS Version 23 was utilized to evaluate the percentage of contented and discontented students in regards to online learning. Bar charts and chi-square tests were employed for data assessment.

Results: Out of 540 participants, 60.5% preferred virtual learning only when necessary due to uncontrollable circumstances such as COVID-19 or law enforcement issues. Over 55% reported difficulties practicing practical skills, with more than 58% preferring traditional in-person instruction when given a choice between both methods. Of all participants, 16.7% expressed being very satisfied, followed by 22.2% somewhat satisfied, then 31.1% neither dissatisfied nor satisfied; finally concluding with roughly one-third (29.8%) expressing some degree of dissatisfaction towards their experience with remote instruction. Females displayed higher satisfaction rates (40.4%) compared to their male counterparts (36.6%), which showed statistical significance (p-value=0.001).

Conclusion: This study indicates that undergraduate medical students expressed moderate satisfaction with existing remote teaching-learning programs caused by pandemic conditions.

Keywords: satisfaction, medical students, virtual learning environment, practical skills.

PP 26

Future of organ transplant clone: 3D printing	
Authors	Armish Waseem, Ali Rana
Affiliation	Bahria University College of Medicine

Abstract

Introduction: The chronic shortage of organ donors globally is an ongoing obstacle in contemporary medicine, which makes the imperative for alternative methods pressing. Three-dimensional (3D) bioprinting is an emerging technique with the capability of creating individualized tissues and organs from biomaterials, living cells, and bioactive materials.

Objective: To present the core concepts of 3D bioprinting, the recent advancements in biomaterials and bio-fabrication methods, and their clinical applications in regenerative medicine. Major milestones include the engineering of functional tissues like skin, bone, liver, and cardiac tissue, drug testing, cancer studies, and organ-on-a-chip models.

Methods: The review discusses the promise of reducing healthcare costs, minimizing organ rejection, and enabling personalized medicine with bioprinting. Moreover, challenges of vascularization, ethical implications, and regulatory hurdles are also included. The focus is also placed on the development of the Indian 3D bioprinting industry.

Conclusion: With the ongoing development of the technique, it can potentially revolutionize organ transplantation and improve outcomes globally.

Keywords: 3D bio-printing, organ transplant, biomaterials.

PP 27

Microgravity-induced osteopenic challenges and countermeasures for long-duration spaceflight	
Authors	Ishall Akbar
Affiliation	Bahria University College of Medicine

Abstract

Introduction: Prolonged exposure to microgravity (μg) during spaceflight accelerates bone loss, with astronauts losing 1–2% of bone mass monthly, particularly in weight-bearing regions.

Methods: This systematic review synthesizes findings from 37 studies (482 screened via PubMed and Scopus) to elucidate μg-induced skeletal deconditioning and evaluate countermeasures. Despite exercise regimens on treadmills and resistive devices, bone resorption consistently outpaces formation under μg. Pharmacological interventions—bisphosphonates, RANKL antibodies, proteasome inhibitors, pancaspase inhibitors, and IL6 monoclonal antibodies—effectively suppress osteoclast activity and enhance osteoblast function. Novel biologics demonstrate additional osteoprotective potential, including recombinant irisin, cellfreefatextracts,cyclicmechanicalstretchconditioned BMSC exosomes, and strontiumdoped hydroxyapatite nanoparticles. Groundbased μg simulators have mirrored inflight bone remodeling patterns and revealed key molecular pathways, yet discrepancies persist regarding non-weight-bearing skeletal sites and postflight recovery dynamics.

Conclusion: Bridging these knowledge gaps will inform the design of targeted prophylactic and therapeutic strategies to preserve skeletal integrity in space and on Earth.

Key words: Skeletal deconditioning, RANKL antibodies, inflight bone remodeling patterns, BMSC exosomes.

PP 28

SWOT analytical of the MDCAT exam in Pakistan: Challenges and recommendations	
Authors	Amal Waheed, Abdul Fasi
Affiliation	Bahria University College of Medicine

Abstract

Introduction : The Medical and Dental College Admission Test (MDCAT) in Pakistan serves as a crucial gateway for students aspiring to enter medical and dental colleges.

Methods: However, a critical analysis reveals both strengths and weaknesses in its current structure. The exam ensures uniformity in admissions and focuses on core subjects like biology, chemistry, and physics, which helps assess foundational knowledge. However, concerns persist regarding its alignment with international standards, such as A-Levels, and the restriction on calculator use, which may hinder analytical problem-solving skills. Additionally, the slow revision of the syllabus raises questions about its relevance to modern medical education. Opportunities for improvement include aligning the MDCAT syllabus with global benchmarks, integrating technology (such as permitting calculators), and enhancing question evaluation through stakeholder feedback. Conversely, threats include reduced international competitiveness for Pakistani students and resistance to change from certain stakeholders. Recommendations include regular syllabus updates, technological integration, post-exam question analysis, and inclusive policy discussions with educators and policymakers.

Conclusion: By addressing these challenges, the MDCAT can evolve into a more effective and globally competitive assessment, better preparing future medical professionals for both local and international standards.

Keywords: MDCAT, A-levels, stakeholder feedback.

PP 29

Evaluation of post-surgical radiographic outcomes in adolescent idiopathic scoliosis	
Authors	Abdullah Danish, Mohammad Danial
Affiliation	Peshwar Medical College

Abstract

Background: Scoliosis is a lateral curvature of the spine (Cobb angle >10°). Treatment includes observation, bracing, and surgery, with surgical correction (posterior or anterior instrumentation) recommended for Cobb angles >40°.

Objective: To evaluate the effectiveness of posterior spinal instrumentation and fusion by rod pedicle screws with bone graft in correcting the deformity by measuring the Cobb's angle in AIS by radiography.

Methods: A descriptive case series was conducted from January 2022 to June 2023 at Hayatabad Medical Complex Peshawar. A total number of 37 patients were enrolled. Patients over 10 years with AIS and progressive curvature >40° requiring posterior surgical correction were included. The surgical intervention procedures were categorized based on the Lenke classification. Pre- and post-surgical Cobb's angles were measured on radiographs. The data was analyzed using SPSS 25.

Results: Study included 37 patients (20 females and 17 males) with mean age 18.5 ± 5.9 years. According to Lenke classification L1- 23 patients, L2- 7 patients, L3- 2 patients, L4- 1 patient, L5- 3 patients, L6- 1 patient. Mean duration of surgery was 5.6 ± 1.15 hours. Mean blood loss was 767.5ml ± 404ml. The mean pre-operative Cobb's angle was $56.8^0 \pm 6.3^0$. The mean post-operative Cobb's angle correction was $14.8^0 \pm 4.4^0$. The mean total correction of Cobb's angle was $41.7^0 \pm 4^0$.

Conclusion: The significant reduction in the Cobb's angle post operatively underscores the procedure efficacy of posterior spinal instrumentation and fusion using rods, pedicle screws and autologous bone graft.

Keywords: cobb's angle, adolescent idiopathic scoliosis

PP 30

Knowledge, awareness, and perception of artificial intelligence among gastroenterologists across various hospital settings	
Authors	Arooj Fatima, Mehmood Iqbal
Affiliation	Bakhtawar Ameen Medical and Dental College, Multan

Abstract

Objective: To, (1) Understand how AI is transforming the productivity of clinical gastroenterologists. (2) assess gastroenterologists' understanding of AI technologies and their uses in gastroenterology, With an emphasis on diagnostics, treatment, and predictive analytics. (3) Explores their perception of AI's impact on clinical practice and identifies barriers to its application in hospital settings.

Methods: Gastroenterologists employed by various hospitals in Multan, both public and private, participated in a cross-sectional survey through convenient sampling. A number of questions in the conduct surveys are intended to gauge their familiarity with AI technology. A sample size of 132 participants is considered. An online survey comprising both multiple-choice and open-ended questions is being used to gather data, and a Likert scale is applied for getting the descriptive analysis. Duration can't be predicted as the practice is still in process.

Results: In terms of awareness of AI, 42.4% reported being moderately familiar with AI in healthcare, while 34.8% claimed to be moderately aware of its use in gastroenterology. There was, however, little formal training in AI, with 36.4% reporting never having received training and only 2.3% receiving it frequently. Attitudes towards AI were predominantly positive, with 53.8% reporting somewhat positive and 13.6% very positive views. About 43.9% agreeing that AI aids in enhancing accuracy in diagnosis and 46.2% stating it helps in lessening the burden of work. Responses concerning willingness to integrate AI tools were mixed, with 32.6% moderately willing and 7.6% not willing at all.

Conclusion: With more study and advancement, AI has the potential to completely transform gastroenterology.

Keywords: artificial intelligence, cross-sectional study, convenient sampling, dilemmas, gastroenterology knowledge, perception, and training.

PP 31

Correlation between prognosis of high-grade gliomas in adult patients and tumor location	
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Affiliation	Peshawar Medical College

Abstract

Background: High-grade GBM is the most common intra-axial brain tumor in adults over 20, with grades 3 and 4 being highly malignant. It invades brain tissue but rarely spreads beyond the CNS. The WHO classifies it into IDH mutant and the more aggressive IDH wild-type.

Objective: To identify the common locations of GBM in adult patients and its correlation with the survival rate of adult patients with GBM.

Methods: A descriptive case series study was conducted at the department of neurosurgery, Hayatabad Medical Complex, Peshawar from January 2021 to January 2023. The study included 110 patients aged 20 years and above diagnosed with high-grade GBM. All patients had radiological and histopathological evaluations, followed by surgery, radiotherapy, and chemotherapy. Survival rates were analyzed based on tumor location. Data was analyzed using SPSS 25.

Results: Among 110 patients, 57% were male and 43% female with a mean age of 55 ± 13.6 years. 17% of people were 20-40 years old, 43% were 41-60 years old, and 40% of people were 61 years old or above. Peripheral tumors were present in 74% of patients, while 25.5% had central tumors. Survival of patients with peripheral tumors till 6 months was 87.8%, and till 12 months was 43.9%. In central tumors, survival till 6 months was 39.7%, and till 12 months was 3.6%.

Conclusion: Tumor location and IDH mutation status significantly influence the prognosis of high-grade GBM. Personalized treatment approaches, integrating advanced surgical techniques and innovative therapies, are essential to improve clinical outcomes for GBM patients.

Keywords: glioblastoma multiforme, karnofsky performance status.

PP 32

A survey-based analysis of healthcare professionals' perspectives on the clinical integration of AI-driven health applications in Pakistan	
Authors	Arshaman Hussain, Usama Akbar
Affiliation	Wah Medical College

Abstract

Objective: To assess healthcare professionals' awareness and usage of AI-driven health applications, explore their perceptions of benefits and limitations, and identify barriers and facilitators to clinical adoption in Pakistan.

Methods: A cross-sectional survey was conducted among 200 healthcare professionals, medical students, and AI conference attendees from POF Hospital and WMC in Pakistan, selected via purposive sampling. Data were collected using a standardized questionnaire based on the Technology Acceptance Model (TAM), assessing demographics, AI usage, perceived usefulness, ease of use, and barriers/facilitators. Descriptive and inferential statistics were analyzed using SPSS.

Results: Most participants were aged 31–40 (58.9%), female (71.4%), and held undergraduate degrees (81.1%), with 57% from medicine and 31.1% from nursing. AI usage was moderate, with 58.3% of medical professionals and 63.3% of nurses reporting adoption. Perceived usefulness scored 3.64 (SD = 1.25), ease of use 3.05 (SD = 1.01), and technology familiarity 2.61 (SD = 0.74), indicating basic to intermediate digital literacy. Major barriers included data security concerns (86.0%), time constraints (33.7%), and lack of training (30.0%), while facilitators were accessibility (65.1%), trust in apps (60.3%), and reliability (55.7%).

Conclusion: Pakistani healthcare professionals show moderate AI adoption with positive perceptions of its usefulness but face significant barriers like data security concerns and limited training. Enhancing digital literacy, strengthening data privacy frameworks, and integrating AI education into medical curricula are critical to advancing AI-driven health integration in Pakistan.

Keywords: artificial intelligence, AI-driven health applications, healthcare professionals, clinical integration, Pakistan, data security, digital literacy, Technology Acceptance Model (TAM).

PP 33

Brain-computer interface: Scope, methods, and clinical significance	
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Affiliation	HITEC Institute of Medical Sciences

Abstract

Introduction: Brain-computer interfaces provide a means of communication that bypasses the peripheral nervous system, offering new possibilities for people with motor neuron disabilities. Current BCI systems collect brain signals using EEG and process these to generate control signals for various assistive technologies.

Objective: To, (1) Explore the development and usage of BCI technology. (2) Analyze methods and materials used in modern BCI systems. (3) Evaluate the effectiveness of BCIs in improving language and motor functions. (4) Assess the usability of BCI systems in real-time scenarios.

Methods: The study utilized EEG signals from participants during BCI training sessions involving motor imagery and language tasks. Twenty-nine subjects, including stroke patients and healthy adults, were analyzed for ERD, DAR, and BSI metrics pre- and post-intervention. Motor-evoked potentials were measured to evaluate neuro-muscular responses.

Results: The BCI system demonstrated promising decoding direction accuracy of up to 89.6% in binary classification tasks. Significant improvements in cortical excitability and motor function were observed. Real-time BCI usability for tasks like typing, driving, and rehabilitation showed notable practical potential.

Conclusion: BCI technology presents a significant advancement in assistive communication and neurorehabilitation. Its capacity for real-time interaction and independence from traditional input methods positions it as a valuable tool in medical and research settings.

Keywords: brain-computer interface (BCI), EEG, neurofeedback, motor imagery, rehabilitation, signal processing, ERPs, biocybernetics.

PP 34

Effect of parenting style on the mental health of medical students	
Authors	Misbah Yousaf, Nishwa Ali
Affiliation	Wah Medical College

Abstract

Objective: To ascertain the impact of parenting style on the distress level of students.

Methods: Using the WHO sample size calculator, taking $\alpha = 0.05$ and population prevalence 0.67, the sample size calculated is 339. A standard questionnaire (Kessler Psychological Distress Scale) was distributed among the students of Wah Medical College after taking informed consent. A Cross-sectional study design and Convenience sampling technique was used and study was conducted at Wah Medical College. Using SPSS version 23, Cross-tabulation was done between KPDS and parenting style, KPDS and gender, and gender and parenting styles with significant association. The chi-square test was used to find the association of variables with statistical significance set at $p< 0.05$. Frequencies were calculated for descriptive variables like Parenting Style, Gender, Occupation of Parents.

Results: The study showed the prevalence of authoritative parenting as 84.4%, authoritarian as 9.4%, and permissive as 6.2%. Mental health score (KPDS) indicates that 35.5% of participants are in the severe KPDS category while 32% are well adjusted. Authoritative parenting was linked to better mental health, whereas permissive parenting showed a higher association with severe KPDS scores. More females experienced authoritative parenting (87.6%) than males (76.8%). Proportionally more males fall in the severe KPDS category than females, concluding that males are more affected by adverse parenting styles.

Conclusion: In conclusion, parents must practice the authoritative parenting style, understanding the emotional needs of their children. Awareness programs should be run in communities for parents to help them cope with the challenges of parenting. Counseling centers should be established in schools and universities to assess the mental well-being of students and reduce their distress.

Keywords: parenting, distress, KPDS, authoritative parenting, permissive parenting.

PP 35

Ethical awareness and curriculum demand: Dental students perspectives on AI integration	
Authors	Umme Aiman, Hadia Tariq
Affiliation	Islamic International Dental College

Abstract

Background: As artificial intelligence (AI) increasingly shapes dental practice, its adoption in dental education remains inconsistent.

Objective: To analyze dental students' perceptions of AI in education, focusing on ethical concerns, awareness, and their relationship to curriculum integration support.

Methods: A cross-sectional survey was administered to 2nd- to 4th-year dental students. The questionnaire evaluated AI awareness (Q1), perceived clinical importance (Q2, Q4, Q6, Q7), curriculum integration approaches (Q3, Q5, Q9), ethical concerns (Q8), and faculty preparedness (Q10). Data were analyzed using median scores and frequency distributions, with comparisons conducted across academic years.

Results: Overall AI awareness remained stable (median = 3); however, fourth-year students rated AI's diagnostic relevance higher (median = 3.5 compared to 3 in earlier years), and a larger proportion (54–61%) perceived significant benefits in efficiency and personalized care versus junior peers (38–50%). While support for AI curriculum integration was consistent (median = 3), fourth-year students favored more extensive integration (42.9% vs. 37.2% in the third year) and mandatory training (median = 3.5). Faculty preparedness was rated lower by fourth-year students (median = 2 compared to 3 among earlier years), and ethical concerns, though moderate overall (median = 3), were most pronounced in third-year students (37.2% moderately concerned). Statistically significant correlations were observed between ethical concerns and support for training ($\rho = 0.26$, $p = 0.004$) and between AI awareness and ethical concerns ($\rho = 0.31$, $p < 0.001$).

Conclusion: The findings advocate for a phased integration of AI into dental curricula, emphasizing clinical applicability, comprehensive faculty development, and enhanced AI ethics education.

Keywords: dental AI, curriculum integration, faculty preparedness, clinical education, ethical considerations.

PP 36

From pixels to prognosis – Artifical intelligence in breast cancer diagnosis: A review	
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Affiliation	Wah Medical College

Abstract

Introduction: Breast cancer is one of the leading causes of mortality among women. Recent advances in artificial intelligence (AI) have enabled the use of radiological image-based medical decisionmaking applications, offering promising solutions to this diagnostic challenge resulting in better prognosis and faster treatment.

Objective: To, (1) Provide a comprehensive overview of the diagnosis of breast cancer and analyze the specificity, sensitivity, and accuracy of various AI models for this purpose. (2) Examine the potential implementation of these tools to assist radiologists in hospital settings.

Methods: Several databases were searched for studies incorporating AI models for breast cancer screening. Performance metrics were evaluated.

Results: The review includes 10 studies that comprise 47 AI models. Ultrasound images largely composed the data set. Machine learning models "Random Forest" and "Decision Tree" were found to be prevalent in the studies (n=6; 60%). The studies showed results as average AUC, specificity, and sensitivity were 86.13%, 82.38%, and 91.34%, respectively.

Conclusion: Breast cancer diagnosis has been integrated with AI, which has transformed diagnostic processes and optimized healthcare resources. AI diagnostic tools are sensitive and accurate in image analysis, especially mammography and MRI, and would help radiologists in quicker diagnosis and screening. Despite the advances, limitations of data authenticity, unavailability of adequate technology, and lack of external validations in hospital settings are there.

Keywords: breast cancer, computer-aided diagnosis, machine learning, mammography.

PP 37

Evaluating the inclusion of AI in undergraduate dentistry	
Authors	Rameen Manahyl, Amina Shafique
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Abstract

Background: Artificial Intelligence (AI) is increasingly integral to healthcare, enhancing diagnostics, treatment planning, and patient management. However, dental education still lacks formal AI training despite its relevance.

Objective: To assess the perceptions, awareness, and interest of undergraduate dental students toward integrating AI training into their curriculum.

Methods: A cross-sectional survey was conducted in March 2025 among undergraduate dental students. The survey received a total of 312 responses, 84% of participants expressing support for AI integration into their studies, over 80% agreed on the importance of incorporating AI into dental education, highlighting a significant interest and recognition of its potential benefits among future dental professionals.

Conclusion: There is a clear demand for structured AI education in dental schools. While student awareness is increasing, practical exposure is minimal. Curriculum reform, faculty development, and interdisciplinary collaboration are essential to bridge this educational gap.

Recommendations: Integration of AI modules into the curriculum, training of faculty, and collaboration with AI and healthcare experts for interdisciplinary teaching.

Keywords: artificial intelligence, undergraduate dental students, inter-disciplinary collaboration.

PP 38

Sociodemographic profile of cancer patients	
Authors	Saad bin Waqas, Zuena Khalid
Affiliation	Wah Medical College

Abstract

Introduction: Cancer is a life-threatening condition involving abnormal cell growth with the potential to invade or spread to other parts of the body. In 2015 to 2019, the ratio of Cancer patients in Pakistan was 45.13% in Punjab, 26.83% in Sindh, 16.46% in KPK, and 3.52% in Balochistan. Sociodemographic factors may define health-seeking behaviour. The knowledge of these factors could be pivotal in building alternative strategies for the prevention of disease progression.

Objective: To find out the sociodemographic profile of cancer patients.

Methods: A cross-sectional study was conducted at POF hospital, Wah Cantt, from November 2024 to May 2025. According to the WHO Calculator, a sample size of 149 was calculated with (p-value) p = 45%, and alpha value: 0.08. A Non-random, consecutive sampling technique was used. A closed-ended questionnaire of the sociodemographic profile of cancer patients was filled out by asking questions to patients after taking informed consent. The variables were age, educational status, marital status, occupation, financial status, residence, and treatment. SPSS v.23 was used to calculate frequencies and proportions. Data presentation is in the form of tables and graphs.

Results: Out of these 168 participants, 9.5% were illiterate, 22.6% had primary education, 32.1% had secondary education, 25% were bachelors, and 10.7% were postgraduates. 43.5% had comorbidities, and 56.5% did not have any comorbidities. 17.3% were smokers, 62.5% were non-smokers, and 20.2% were ex-smokers.

Conclusion: The study highlighted differences in education, comorbidities, cancer stages, treatment types and smoking status, stressing on need for targeted healthcare interventions

Keywords: sociodemographic profile, comorbidities, cancer.

PP 39

Impact of sleep and stress levels on Body Mass Index (BMI)	
Authors	Aizaz ur Rahman
Affiliation	Watim Medical College

Abstract

Background: Inadequate sleep and high stress levels have been very common in an individual's Life, especially of medical students, due to the high pressure of exams and personal life, few of previous studies have suggested that both Inadequate sleep and high stress levels might influence Body mass index (BMI). This research further wide spreads and explores their correlation with Body mass index (BMI).

Objective: To investigate the impact of sleep, stress levels on Body mass index (BMI) and its combined effects.

Methods: The study utilized a structured perceived stress questionnaire from studies conducted in the past. This questionnaire was electronically distributed internationally through social media platforms, primarily to medical students. A perceived stress scale (PSS) and Pittsburgh Sleep Quality Index (PSQI) from recent studies was used to evaluate the results obtained.

Results: There were 72 responses given to the questionnaire, of which 68 were students, 39 of them were females and 33 of them were male, 68 of them were between 18-25, 16 of them were underweight, 37 were normal weight, 19 were overweight, 2 were obese, individuals suffering from PTSD, Insomnia, and Diabetes were 1 each.

Conclusion: High stress levels and lack of sleep can both cause negative effects on Body mass Index; however, to accurately determine if the BMI increases or decreases is still unknown.

Keywords: body mass index, perceived stress scale, pittsburgh sleep quality Index, stress levels.

PP 40

Challenging diagnosis of chronic Myelomonocytic Leukemia (CMML) in a patient with Takayasu arteritis: Case Report	
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Affiliation	Foundation University Medical College, Islamabad

Abstract

Introduction: Takayasu Arteritis (TA) and Chronic Myelomonocytic Leukemia (CMML) are two rare conditions that, when they occur together, pose a significant diagnostic obstacle.

Case Report: This case report spotlights a 44-year-old male with no prior medical history who developed bilateral neck pain, a high-grade fever, weight loss, and splenomegaly, raising suspicion for Takayasu arteritis. Imaging modalities revealed features of large vessel arteritis, and substantial investigations excluded infectious and autoimmune causes. Despite negative cultures and autoimmune tests, the patient's condition continued to deteriorate. A peripheral blood smear suggested acute leukemia, leading to a bone marrow biopsy, which confirmed CMML. The diagnosis of CMML was further supported by flow cytometry and immunohistochemistry. The patient was treated with Azacitidine, Decitabine, and Hydroxyurea with a plan for a bone marrow transplant in the future. The case is interesting as the association of Takayasu Arteritis and CMML is rare and involves complex, overlapping pathophysiological mechanisms. While CMML and myelodysplastic diseases can present with vasculitis, large vessel involvement remains uncommon.

Conclusion: This report emphasizes considering hematological malignancies in differential diagnoses of vascular inflammatory diseases, particularly in unorthodox cases. It also highlights the importance of an extensive diagnostic workup to accurately diagnose rare occurrences.

Keywords: myelomonocytic leukemia, takayasu arteritis, diagnostic challenges.

PP 41

Usage of virtual mobile applications among medical students	
Authors	Zaryab Nadeem, Muhammad Taha Ishaq
Affiliation	Wah Medical College

Abstract

Objective: To assess the prevalence and patterns of medical application usage among medical students, to determine its usefulness in their performance, to assess the barriers in its usage, and to determine the relationship between the number of medical applications used and their impact on the performance of the students.

Methods: A cross-sectional study was conducted from October 2024 to Feb 2025 in Wah Medical College. The sample size of the study was calculated to be 310, taken from 2nd-year MBBS students to 5th-year MBBS students via simple random technique. The data was collected through a structured questionnaire. The software used for data analysis was SPSS version 23.

Results: The number of students who used 1-2 apps routinely was 176 (57%), 3-5 apps was 32 (10%), and who did not use any apps was 102 (33%). The most frequently used category of medical applications was video lectures/YouTube 36 (36%) and 3D Atlas anatomy, which is 32 (32%). The students using medical applications for regular studies were 102 (49%), and those using them for understanding disease processes were 93 (44.7%). The mean score value for the impact of the use of medical apps in improving performance is 3.9. The number of students who faced barriers to medical app usage due to the cost of the apps was 104 (50.0%), due to limited awareness was 99 (47.6%), and due to lack of motivation and insufficient technical skills was 48 (23.1%). The p-value for the relationship between the number of medical applications used and performance impact is 0.989.

Conclusion: The majority of the undergraduate medical students use applications for their study primarily for regular study and understanding of disease processes. The students perceived an overall positive impact of the use of medical applications on their performance.

Keywords: e-learning, educational technology, medical students, mobile applications.

PP 42

Maternal perception of neonatal illness - Key indicators, enabling factors and barriers regarding health care seeking behavior: A qualitative study	
Authors	Sudais Anwar
Affiliation	Peshawar Medical College

Abstract

Background: Neonatal age carries the highest risk of mortality in a child. Maternal knowledge about the neonate's health is the most critical factor for reducing neonatal mortality and morbidity.

Objective: 1. Explore mothers' perceptions and interpretations of neonatal illness and symptoms. 2. Identify the most common symptoms that mothers perceive as an indicator of neonatal illness warranting prompt health care advice. 3. Explore factors shaping mothers' perceptions and decisions about neonatal illness, including enablers, influential people, and healthcare barriers.

Methods: We conductedaqualitativephenomenological study among mothers of neonates in Peshawar's tertiary healthcare hospitals from July 2024 to January 2025. In-depth interviews were taken from 20 mothers. Thematic analysis was done using Braun and Clarke's approach.

Results: 20 mothers participated in the study, having a mean age of 27 ± 7.8 years. 65% of the neonates were male having mean age of 16 ± 10.7 days. Thematic analysis generated 6 main themes and 3 sub-themes, i.e., 1. Mother's reliance on observable physical and behavioral cues to assess neonatal health, 2. Barriers encountered in seeking neonatal healthcare, 3. Primary healthcare advisors of the mother and her attitude towards them, 4. Experience with children influencing the quality of neonatal care, 5. Trust in healthcare providers, 6. Role of Digital Media and Public Awareness Campaigns in Improving Neonatal Healthcare Seeking.

Conclusion: Mothers are key decision-makers in neonatal health, influenced by trust, family, experiences, and access to care. Educating them to recognize illness signs is crucial for reducing neonatal mortality.

Keywords: neonate, maternal perception, barriers.

PP 43

Prevalence of Gastro-Esophageal Reflux Disease (GERD) and its associated risk factors among medical students of HITEC-IMS: A cross-sectional study	
Authors	Narjis Zahra
Affiliation	HITEC Institute of Medical Sciences

Abstract

Introduction: GERD is caused by transient relaxation of the gastroesophageal junction, leading to reflux of gastric contents and symptoms like heartburn, regurgitation, chest pain, and cough. Globally, its prevalence is 13.98%, with extremes from Turkey (22.4%) to China (4.16%). Among medical students, the burden ranges from 14.4% in India to 25.9% in Saudi Arabia. Risk factors include age, gender, obesity, dietary habits, family history, smoking, alcohol, NSAID use, and late-night eating. Despite its impact, data from Pakistan is limited.

Methods: This cross-sectional study included MBBS students (1st to final year) at HITEC-IMS selected via simple random sampling. Sample size was estimated using OpenEpi (95% CI), with 6–7 GERDQ-based questionnaires distributed per class through Google Forms. Data were analyzed using SPSS v28.

Results: GERD prevalence was 25.09%, higher among females (68.1%) and predominantly seen in 4th-year students aged 21–22 years ($p<0.05$). Significant associations were found with family history (65.2%, p=0.001), post-meal activity (78.3%, p=0.001)—notably brisk walking (63%, p=0.001), frequent fast/spicy food intake (47.8%, p=0.04), skipping breakfast (66.7%, p=0.03), nighttime snacking (60.9%, p=0.02), and NSAID use >2 days/week (87%, p=0.001). Beverage consumption showed no significant association ($p > 0.05$).

Conclusion: GERD significantly affects students' academic performance and daily functioning. Lifestyle modifications and risk factor avoidance are essential preventive strategies.

Keywords: GERD, risk factors, medical students, prevalence, GERDQ.

PP 44

Awareness, knowledge, attitude and skills of telemedicine among healthcare professionals of Taxila and Wah cantt	
Authors	Saarim Ashraf
Affiliation	HITEC Institute of Medical Sciences

Abstract

Introduction: Telemedicine improves Healthcare access, especially in remote areas. Success depends on users' understanding, the required skills for implementation, and a working environment conducive to the adoption of new technology.

Objective: To assess the awareness, knowledge, attitude, and skills of telemedicine among health care professionals of Taxila and Wah Cantt.

Methods: A cross-sectional survey was conducted at Public and Private Hospitals of Taxila and Wah Cantt from December 2023 to April 2024. The sample size calculated by the WHO sample size calculator was 120, but data was collected from 159 doctors selected by convenience sampling. Data was collected by a pre-validated self-administered questionnaire, AKAS. Analysis was done by SPSS version 26. Mean, standard deviation, frequency, and percentages were employed to summarize demographic characteristics, awareness, knowledge, attitude, and skill levels. The mean score with standard deviation was calculated for all the sections of AKAS.

Results: 68(42.8%) were males and 91(57.2%) were females.103(64.8%) participants were MBBS and 56(35.2. %) participants were having post graduates.116(63%) were doing the clinical practice, 114(71.1%) were doing job in private setup .52(51.6%) were clinicians.115(72.3%) were having mediocre knowledge of computer and only 24(15.1%) were advanced learner of computer skills. Only 27(17.0%) have received formal training in telemedicine. Mean scores of AKAS with standard deviation were (16.69+4.74), (7.70+2.13), (33.10+6.90), and (22.62+9.15). 93(58.5%) were having good awareness,109(68.8%) were having adequate knowledge,152(95.6%) were having positive attitude and 57(35.8%) were having good skill of telemedicine. Clinical practice showed a significant association with awareness, knowledge, attitude, and skill.

Conclusion: In order to promote and support the implementation of the e-health system in Pakistan, it is required to improve the skills of the doctors.

Keywords: telemedicine, knowledge, attitude, health professionals, e-health

PP 45

Parental knowledge, attitude and perceived challenges for timely infant immunization: An EPI center based cross-sectional survey	
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Affiliation	HITEC Institute of Medical Sciences

Abstract

Background: Timely immunization of infants is essential to prevent vaccine-preventable diseases. This study aimed to assess the knowledge and attitude about infant immunization, identify the challenges to timely immunization, and determine the effect of challenges affecting the knowledge and attitude toward infant immunization of parents reporting to EPI centers of HIT hospital and BHU Usman Khatthar Taxila.

Methods: A cross-sectional survey was conducted in Taxila on 292 parents of infants reporting to EPI centers via a structured proforma based on the validated questionnaire, in addition to the data regarding demographic characteristics, knowledge, attitudes, and perceived challenges toward immunization. SPSS version 26.0 was used for statistical analysis. A chi-square test was employed.

Results: The study population comprised predominantly of mothers (69.9%), with the majority aged between 25 and 30 years (46.2%). Educational backgrounds varied, with 26.7% having intermediate education and 5.8% being illiterate. Most respondents were female (70.2%), resided in urban areas (72.6%), and had 2-3 children (45.2%). Income levels ranged between 30,000 to 65,000 PKR per month (69.9%). Only 38.0% of parents demonstrated good knowledge about immunization and exhibited a favorable attitude towards it. The most prevalent challenge affecting the knowledge and attitude was a lack of awareness (53%) and misconceptions about immunization.

Conclusion: The study highlights the need for targeted educational initiatives to improve parental knowledge and attitudes towards infant immunization. Healthcare professionals should be trained to convey the benefits of immunization, leading to the enhancement of immunization rates.

Keywords: immunization, parents, knowledge, attitude, EPI centers, barriers, challenges

PP 46

Factors affecting mental health among dental students in Islamic International dental college	
Authors	Khansa Nasir, Azka Qamar
Affiliation	Islamic International Dental College

Abstract

Background: Dental education is highly stressful, combining rigorous academics, clinical demands, and patient-care pressures, leading to elevated burnout and mental health risks. Studies show stress levels escalate across academic years, with female students particularly vulnerable due to workload and sociocultural factors. However, year-wise gender disparities in mental health remain understudied.

Objective: To assess the prevalence and nature of mental health issues among dental students at the Islamic International Dental College (IIDC), with a focus on gender differences and variations across academic levels.

Methods: A structured questionnaire was administered to dental students at IIDC, Riphah International University. The target population consisted of 225 students. Using convenience sampling, a total of 127 participants were recruited.

Results: Our study revealed significant gender-based disparities in burnout and mental health outcomes among dental students. Quantitative analysis demonstrated that female students exhibited markedly higher levels of study-related burnout compared to their male counterparts ($p < 0.05$). These gender differences in both burnout prevalence and academic stress impact were statistically significant at the 95% confidence level.

Conclusion: This study assessed mental health challenges among dental students at IIDC, with a focus on gender and academic-stage differences. The results demonstrated significant disparities, with female students exhibiting markedly higher burnout levels ($p < 0.05$) and greater susceptibility to academic workload-related mental health deterioration compared to male counterparts.

Keywords: mental health, dental students, burnout, stress

PP 47

Association of gingival tissue biotypes of maxillary central incisors with different age groups, gender and tooth morphology	
Authors	Fatima Hafeez, Amna Azam
Affiliation	HITEC Institute of Medical Sciences

Abstract

Background: Gingival biotype is one of the primary determinants of dental treatment outcome and affects the prognosis of different treatment modalities, particularly in the high esthetic zone.

Objective: To evaluate the association of different gingival biotypes of central incisors (maxillary) relative to age, gender, and different morphological forms of maxillary central incisors.

Methods: The study design was cross-sectional and conducted in Hitec-Ims Dental College, Taxila, in the Prosthodontics Department from December 2022 to February 2023. 500 patients visiting the prosthodontic outdoor of Hitec-Ims Dental College, participated in the study. Three parameters were measured on the two maxillary central incisors. These include gingival thickness using the probe transparency method, crown width/ length ratio to evaluate the tooth form by using a digital Vernier caliper, and papillary height using a probe, with chi sqaure applied on SPSS 26.0 to find association.

Results: The mean age of the patients was 28.3±1.02. Out of 500 enrolled patients, 50.2% patients had a thicker biotype while 49.8% had a thin biotype; 56% had a square tooth form while 44 % had a rectangular tooth shape. Regarding papillary height, 54.8% of subjects had papillary height ≤3mm while 45.2% had >3mm papillary height. The interrelationship of the parameters was that the thick biotype was associated with the young age group and males having square tooth forms and papillary height > 3mm. In contrast, the thin biotype of the gingiva is associated with the older group and female gender, having rectangular tooth forms and papillary height ≤ 3mm.

Conclusion: Thick gingival biotype was most prevalent among males, while thinner biotype was frequent among female subjects. Regarding age groups, young patients have a thick gingival biotype while older people have a thin biotype.

Keywords: gingival biotype, maxillary central incisors, tooth morphology.

PP 48

Impact of leafy vegetable-associated bacteria on human gut microbiota and intestinal health	
Authors	Zain Zafar, Zohaib Ahmad
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Abstract

The ingestion of contaminated leafy vegetables poses a potential threat to human intestinal health due to the presence of pathogenic bacteria capable of surviving gastrointestinal transit and colonizing the gut. This study investigates the survival and colonization potential of bacterial pathogens isolated from commonly consumed leafy vegetables, including mint, coriander, cabbage, lettuce, and spinach. Vegetables were collected from various markets in Rawalpindi, and bacterial isolates were identified using standard microbiological methods and 16S rRNA gene sequencing. Pathogens such as Klebsiella, Bacillus, Streptococcus, Staphylococcus, Escherichia, Enterobacter, Pseudomonas, Micrococcus, and Salmonella were isolated. Simulated gastrointestinal models were employed to evaluate the acid and bile tolerance of these isolates, followed by adhesion assays using cultured intestinal epithelial cells to assess their colonization potential. Results revealed that Escherichia, Klebsiella, and Bacillus exhibited the highest survival rates under simulated gastric conditions and demonstrated moderate to strong adhesion to intestinal cells. These findings suggest that certain vegetable-associated bacteria may pose a risk of transient or persistent gut colonization, particularly in immunocompromised individuals. The study underscores the importance of proper washing and handling of raw vegetables to minimize the risk of gastrointestinal infections and microbiota disruption.

Keywords: gut microbiota, leafy vegetables, pathogenic bacteria, gastrointestinal colonization, 16S rRNA sequencing.

PP 49

Association of maternal age and hemoglobin level with Apgar score of newborns	
Authors	Muntaha Farooq, Asma Shamim
Affiliation	Islamabad Medical and Dental College

Abstract

Objective: To determine the association of Apgar score with maternal age and hemoglobin.Methods A cross-sectional study was conducted on mothers (n = 306) delivering live, full-term, singleton babies by spontaneous vertex delivery. Women who suffered stillbirths had babies of unknown gestational age or showed co-morbidities were excluded. SPSS version 26 was used for data analysis. Mean + standard deviation, and percentages were calculated. Cross-tabulation and logistic regression were done to see the association between dependent and independent variables. A p-value of <0.05 was statistically significant.

Results: The ages of women ranged from 20 to 40 years (mean = 25 +1.9). The number of patients aged 24 years with Hb <7 g/dl was 6 (37.5%). Out of all, 90 (29.4%) patients had Hb > 11 g/dl, and their ages were 30 years, which was significant (p = 0.000). Apgar score for the neonates showed that 258 (84.3%) had an Apgar score >7 while 48 (15.7%) had a score < 7. Babies of mothers whose age was 26 years had an Apgar score < 7 (25%) (p = 0.001). Neonatal birth weight of <2kg was observed in infants born to young mothers of 26 years of age (20%) (p = 0.001), and a weight >3.5kg was recorded in 20 infants (6.5%). The younger mothers had lower Hb, and their babies had low Apgar scores <7 at the time of birth (p = 0.001).

Conclusion: Women of younger age and lower hemoglobin levels give birth to infants with low Apgar scores and birth weight. Low birth weight in neonates is significantly associated with a low five-minute Apgar score.

Keywords: maternal age, hemoglobin, apgar scores, newborn.

VERBAL PRESENTATION ABSTRACTS

VP 1

Evaluate the KAP of healthcare professionals regarding AI tools for research and diagnostic practices	
Authors	Asma Shamim, Muntaha Farooq
Affiliation	Islamabad Medical and Dental College

Abstract

Background: To evaluate the KAP of healthcare professionals in Pakistan, specifically MBBS students, focusing on how they employ AI tools for research and diagnostic practices, and to identify the hurdles and facilitators affecting AI use.

Methods: A cross-sectional online survey was carried out spanning from July to December 2024. The population covered MBBS students enrolled in different medical colleges in Islamabad. A convenience sampling technique was employed, and 277 participants responded to a five-part questionnaire addressing demographics, AI knowledge, attitudes, practices, and assumed barriers. Scores covering knowledge were computed and summed in positive confirmation; attitudes and practices were calculated on 5-point Likert scales. Data gathered from 227 participants was analyzed employing chi-square tests.

Results: 83% of participants reported regular use of AI tools, with no significant correlation found between AI usage and variables including age ($p = 0.847$), gender ($p = 0.498$), residence ($p = 0.253$), or year of study ($p = 0.879$). However, gender-specific trends were observed in platform preferences: male students more frequently used ChatGPT (91.4% vs. 75.8%) and time-saving applications (45.7% vs. 15.2%), while use of AI by females was more often for idea generation (30.3% vs. 28.6%) and search related to literature (21.2% vs. 5.7%). Male respondents reported a higher level of trust and accuracy of AI tools. Primary barriers identified included ethical and privacy concerns, the absence of formal training, and a lack of clear educational guidelines.

Conclusion: It is essential to implement structured AI curricula, establish solid ethical guidelines and enforce regulatory policies to support equitable adoption of AI in healthcare research and practice.

Keywords: artificial intelligence, KAP, healthcare professional.

VP 2

Comparison of antibiotic resistance pattern among commonly isolated gram-negative rods over three years in a tertiary care hospital Rawalpindi	
Authors	Moahmmed Jahanger, Wafa Omer
Affiliation	Bahria University College of Medicine

Abstract

Introduction: To compare the antibiotic resistance pattern among commonly isolated Gram-negative rods in the tertiary care hospital, Rawalpindi.

Methods: The study included 4486 positive examples of Gram-negative rods.

Results: The percentage of E. coli dropped from 35% in 2021 to 30.90% in 2022 and 34.80% in 2023. Klebsiella spp percentage was 16.2% in 2021, rose to 40.90% in 2022, and then increased to 42.50% in 2023. Pseudomonas spp's percentage also first dropped, going from 29.13% in 2021 to 21.47% in 2022 and again rising to 49.40% in 2023. Proteus spp increased from 4.10%, 41.9%, and 53.0% of the total in 2021, 2022, and 2023. The results demonstrate a range of patterns in the evolution of resistance to distinct drugs and bacterial species. Crucially, resistance to Escherichia coli and Klebsiella spp. decreased in response to frontline antibiotics such as Ciprofloxacin, Meropenem, and Ceftriaxone, with percentages of 60%, 57%, and 28% for E. coli and 30.60%, 27.70%, and 17% for Klebsiella spp., respectively, suggesting potential efficacy against these pathogens. Nonetheless, concerning trends surfaced, particularly with regard to Penicillins like Amoxicillin, which demonstrated a marked rise in resistance levels, with percentages hitting 87.20% in 2023. Moreover, resistance to aminoglycosides like Fosfomycin and Amikacin in Pseudomonas species decreased significantly in 2023, with percentages of 37.50% and 14.50%, respectively; yet resistance to Ciprofloxacin dramatically increased to 50.60%.

Conclusion: These data show the shifting nature of antibiotic resistance is and how vital it is to use antibiotics selectively and with constant surveillance in order to successfully control the spread of resistant bacterial diseases.

Keywords: gram negative rods, AMR, antibiotics resistance pattern.

VP 3

Exploring the anti-aging role of endogenous IL-15	
Authors	Nasar Abbas Shamsi
Affiliation	Foundation University School of Health Sciences

Abstract

Background: Telomere shortening is regarded as a hallmark of cellular aging. It is accelerated by conditions involving oxidative stress and inflammation. Interleukin-15, an immune modulating agent, has been demonstrated to have anti-aging properties. However, involvement of this exercise-induced cytokine in the preservation of telomeres is not well explored. This study investigates the role of exercise-induced interleukin-15 to counteract telomere shortening, thereby slowing down cellular aging.

Objective: To, (1) Measure serum levels of endogenously released IL-15, (2) Quantitatively measure the telomere length in leukocytes, (3) Compare IL-15 and telomere length in the control and exercise groups.

Methods: This 18-month experimental study (April 2023 to October 2024) was carried out at Foundation University Islamabad using twenty BALB/c mice obtained from the National Institute of Health Islamabad. Animals were divided into two groups (control and exercise, n = 10). The exercise group underwent endurance exercise (swimming) for 10 weeks (30 minutes/day). The serum interleukin-15 levels were measured using ELISA and the telomere length using qPCR in both groups after 10 weeks. The two groups were statistically compared using an independent t-test.

Results: The serum interleukin levels were significantly elevated in the exercise group (70.36 ± 7.93 pg/ml) as compared to the control group (54.39 ± 7.54 pg/ml, $p < 0.05$). Relative telomere length was also found to be preserved in the exercise group (mean: 4095.00 ± 550.61 base pairs) compared to the control group (mean: 3412.50 ± 187.58 base pairs, $p < 0.05$).

Conclusion: This study highlights the potential anti-aging role of interleukin-15. The statistically significant increase in serum interleukin-15 levels in response to endurance exercise resulted in telomere preservation that could probably slow down the rate of cellular aging.

Keywords: telomere, aging, myokines, interleukin-15, endurance exercise.

VP 4

Bridging innovation and instruction: Faculty readiness for AI in medical education	
Authors	Nayyab Zehra, Muhamad Arsalan
Affiliation	Bahria University College of Medicine

Abstract

Objective: To explore faculty perspectives, readiness, and challenges in integrating Artificial Intelligence (AI) technologies into undergraduate medical education, along with identifying institutional support and training needs to enhance AI adoption.

Methods: This cross-sectional mixed-method study will be conducted among faculty members teaching undergraduate medical students at the Bahria University College of Medicine, Islamabad. Data collection involved a validated open-access MAILS questionnaire assessing knowledge, attitudes, and perceived readiness, along with semi-structured qualitative questions to explore faculty experiences and challenges. Institutional policies related to AI integration were also reviewed. Quantitative data was analyzed using descriptive statistics (frequencies and percentages), while qualitative data from interviews was subjected to thematic analysis to extract key themes.

Results: The majority of faculty demonstrated moderate awareness of AI applications in medical education, with most expressing willingness to adopt AI-enhanced teaching methods. Perceived benefits included personalized learning, enhanced student engagement, and improved assessment methods. The university supports AI integration through faculty workshops and partnerships with technology providers. Pilot projects and access to AI tools have been introduced in select courses. However, the majority of faculty reported the lack of structured AI training programs, ongoing technical support, and formal policies on data privacy and ethical use. While faculty showed overall positive attitudes toward AI, concerns about increased workload, limited confidence, and the need for clearer institutional guidelines were evident.

Conclusion: Addressing faculty concerns and enhancing capacity building are critical to optimizing AI's role in improving teaching and learning outcomes.

Keywords: artificial intelligence, faculty development, medical education, technology integration, teaching methods.

VP 5

A comparative analysis of dietary habits and nutritional knowledge among medical and non-medical undergraduate students of Islamabad and Rawalpindi: A cross-sectional study	
Authors	Talha Farrukh, Bakhtawar Mohsin
Affiliation	Foundation University of Medical Sciences, Islamabad

Abstract

Introduction: Obesity and cardiovascular diseases have become the leading cause of mortality. Factors affecting dietary habits are crucial for preventing unhealthy dietary habits that lead to these diseases.

Objective: To assess the understanding of nutritional knowledge and its association with dietary practices among university students, and to compare the nutritional knowledge and dietary habits of medical and nonmedical students.

Methods: A quantitative cross-sectional study conducted among undergraduate students. Data were collected through a validated questionnaire by convenience sampling technique. All descriptive and inferential statistical tests were conducted on IBM SPSS 26, and a p-value of <0.05 was considered as statistically significant.

Results: The sample consisted of 382 participants [medical (M) n = 191 and nonmedical (NM) n = 191] with a mean age of 21. For nutritional knowledge, 86 (22.5%) had unsatisfactory knowledge, 234 (61.2%) students had good nutrition knowledge, and 62 (16.2%) had quite good nutrition knowledge. Among the participants, 4 (1.04%) had inadequate eating habits, 282 (73.82%) had good eating habits, and 96 (25.1%) had quite good eating habits. Statistical tests showed no significant correlation between nutritional knowledge and dietary habits ($p > 0.05$). There was a significant difference ($p < 0.001$) in the nutrition knowledge of M and NM students, but the same was not true for eating habits ($p > 0.05$). There was no significant association ($p > 0.05$) between the nutritional knowledge and dietary habits of M and NM on subgroup analysis.

Conclusion: Nutritional knowledge does not affect dietary habits. Being a medical or nonmedical student directly influences nutrition knowledge, but not dietary habits.

Keywords: nutritional knowledge, dietary habits, obesity, medical students.

VP 6

The association between anemia, iron defeiciency anemia and active Helicobacter pylori infection among dyspeptic patients	
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Affiliation	Ayub Medical College

Abstract

Helicobacter pylori (H. pylori) is a gram-negative, spiral-shaped, flagellated, microaerophilic bacterium that selectively colonizes the human stomach. H. pylori is the primary cause of gastritis, which is a risk factor for stomach cancer and plays a significant role in the development of peptic ulcers. The study compared the two diagnostic methods, the stool antigen test and the blood antibody test, for the diagnosis of H. pylori infection. First, the prevalence of H. pylori is examined. To compare diagnostic tests, we determined the sensitivity and specificity, considering stool antigen as a gold standard. The estimated prevalence of H. pylori in the tested population was 31.48%. The blood antibody test demonstrated 100% sensitivity and 81.08% specificity. Patients infected with H. pylori experienced symptoms such as abdominal pain and bloating. Patients drinking tap water instead of boiled water and using outdoor toilets are more likely to get H. pylori infection, suggesting transmission through contaminated water.

Keywords: Helicobacter pylori, prevalence, sensitivity, specificity, stool antigen test, blood antibody test.

VP 7

Silent suffering: Unveiling the stress effects of social rejection on intersex community in Pakistan	
Authors	Laaiba Akbar, Irssa Noor
Affiliation	Fazaia Medical College

Abstract

Background: To clarify the mental health challenges faced by the intersex in Islamabad and to assess frequency of discrimination, rejection, victimization, and negative expectations and their association with perceived stress.

Methods: In this analytical cross-sectional study, data were collected from 56 transgender individuals in Islamabad using snowball sampling after approval from IRB-FMC and obtaining individual consent from participants. Pre-validated instruments, i.e., the Gender Minority Stress and Resilience Measure and the Perceived Stress Scale, were administered in an Urdu-validated format to assess discrimination, victimization, social rejection, negative expectations, and perceived stress. Chi-square and t-test were used to assess the association between qualitative and quantitative variables, respectively.

Results: Analysis of our data indicates that 7.4% of participants experienced low stress, 70.4% experienced moderate stress, and 22.2% experienced high stress levels. The frequency of discrimination was 85.2%, while both rejection and victimization were reported at 85.2% and 74.1%, respectively. Additionally, the frequency of negative expectations was found to be 96.3%. Among these variables, victimization demonstrated a significant relationship with perceived stress, as indicated by a Chi-square test yielding a p-value of 0.02. Additionally, negative expectations were found to be significantly associated with perceived stress, with a p-value of 0.003 in the chi-square test.

Conclusion: Victimization and negative expectations contribute to perceived stress. Societal behavior significantly impacts stress levels in Pakistan's intersex community. Evidence-based policies must promote inclusivity in healthcare to better support marginalized communities.

Keywords: transgender, perceived stress, discrimination, rejection, negative expectations, victimization.

VP 8

Digital twin applications in AI-driven medical research: A meta-research synthesis	
Authors	Umme Aiman, Khansa Nasir
Affiliation	Islamic International Dental College

Abstract

Introduction: To map existing applications of digital twins in medical and dental healthcare, particularly those leveraging AI, to analyze publication trends and identify research gaps; and to assess the methodological quality and bias in this emerging field.

Methods: A systematic review was conducted following PRISMA guidelines. The study focused on digital twin applications in dentistry, general medical diagnosis, biomedical engineering, and dental education technology. Multiple databases were searched for studies published between 2021 and 2024. Data on study design, AI integration, clinical application, and study limitations were extracted. Narrative synthesis and descriptive trend analysis were performed.

Results: Eleven studies met the inclusion criteria. The primary applications included surgical and treatment planning, medical device design, patient-specific simulation, and diagnostic support. Publication trends showed an increase from 2023 to 2024. However, methodological quality varied, with most studies being case reports (34.7%) or technical feasibility studies (30.3%) with small sample sizes. The main limitations included a lack of clinical validation and concerns over data privacy.

Conclusion: Digital twin applications in healthcare are rapidly expanding, with dentistry being an early adopter. However, existing evidence base remains limited in terms of methodological rigor and validation. Future research should prioritize large-scale clinical trials to assess efficacy and safety. Additionally, frameworks must address interoperability, bias, and ethical concerns to fully leverage AI-driven digital twins in personalized medicine.

Keywords: artificial intelligence, digital twin, healthcare, machine learning, medical simulation, predictive analytics.

VP 9

Antibiotic stewardship in gastroenteritis - Optimizing antibiotic use in acute management in the ER: A clinical audit of awareness and practices	
Authors	Arham Rahim, Mehmood Iqbal
Affiliation	Multan Medical and Dental College

Abstract

Objective: To critically assess and improve antibiotic prescribing patterns for acute gastroenteritis in the emergency department. Key goals included evaluating current adherence to clinical guidelines, raising awareness about rational antibiotic use, and reducing unnecessary prescriptions of ciprofloxacin and metronidazole.

Methods: A two-phase audit was conducted. In the initial cycle (PDSA Cycle 1), baseline data were gathered using a structured questionnaire to identify current practices. This was followed by the implementation of targeted interventions, including awareness seminars, distribution of NICE guideline-based flyers, and interactive training sessions for clinical staff. Post-intervention data (PDSA Cycle 2) were collected to evaluate the impact of the awareness campaign. The audit revealed notable improvements in guideline compliance and a significant decline in inappropriate antibiotic prescriptions.

Results: Based on these findings, further recommendations were made to integrate continuous education and regular audits into routine practice to sustain and build upon these improvements.

Conclusions: This PDSA-based clinical audit effectively identified gaps in practice, promoted safer prescribing behaviors, and enhanced guideline adherence. The cycle-based approach proved practical and impactful in fostering antibiotic stewardship in emergency settings.

Keywords: antibiotic stewardship, PDSA cycle, clinical audit, gastroenteritis, emergency medicine, rational antibiotic use, guideline adherence.

VP 10

Neutrophil-to-lymphocyte ratio in COPD excerbation presenting to emergency: A marker of disease seveerity and poor outcomes	
Authors	Mahad Qureshi
Affiliation	Pak-Emirates Military Hospital

Abstract

Objective: To determine the predictive value of neutrophil-to-lymphocyte ratio in COPD exacerbation as a marker of disease severity and poor outcomes.

Methods: The prospective study includes 150 patients with severe acute exacerbations of chronic obstructive pulmonary disease. Convenience sampling was performed. Patients were divided into 3 groups based upon the value of the neutrophil to lymphocyte ratio, with 50 patients in each group. Neutrophil-to-lymphocyte ratio in group A was 0-4, for group B 4.1-8, and for group C 8.1-12. Patients were evaluated for hospital admissions, need for mechanical ventilation, and rate of mortality.

Results: Mean age in 3 groups was 77.1±6.2 and 75.33±5.9 years, 74.31+4.9. Out of 150 patients, Group A had 4 (8%) hospital admissions and 1 (2%) mortality, Group B had 15 (30%) hospital admissions and 5 (10%) mortality, and Group C had 30 (60%) hospital admissions and 10 (20%) mortality. A higher neutrophil-to-lymphocyte ratio is a marker for severity and poor outcomes.

Conclusion: Higher NLR was linked to disease severity and associated with poor outcomes in COPD exacerbations. As a result, the NLR's utility in COPD patients should be investigated further in clinical settings in the future. If a COPD exacerbation has an NLR of 3.5–4.0, the patient may be considered eligible for outpatient follow-up without hospitalization. If the NLR is 7.5-8.0, we propose ward hospitalization; if the NLR is 11.0-14, we recommend ICU admissions.

Keywords: AECOPD, lymphocytes, NLR.

VP 11

The association between chronotype (morningness/ eveningness) & learning approach and their effects on academic achievement of medical and dental students at HITEC-IMS Taxila	
Authors	Haris Akram, Muntaha Nasir
Affiliation	HITEC Institute of Medical Sciences

Abstract

Introduction: Medical students are influenced by their circadian typology (morning, evening, and intermediate types), with learning approaches—surface, deep, and strategic—also impacting outcomes.

Objective: To assess the relation between chronotype and learning approaches and their individual and interactive impact on academic achievement.

Methods: A descriptive cross-sectional study was done among the medical and dental students of HITEC-IMS, and 227 were participants selected via stratified random sampling. The questionnaire consisted of the Morningness-Eveningness Questionnaire (MEQ) and the Revised Study Process Questionnaire (R-SPQ-2F). SPSS software was used for data analysis. Chi-square test of significance, independent T-tests, two-way ANOVA, and multivariate regression analysis were used.

Results: The results revealed a positive correlation between chronotype and learning approaches ($p = 0.004$). Learning approach seemed to have a significant effect on academic achievement ($p < 0.001$ for independent T-tests, $p < 0.001$ for ANOVA, $p < 0.001$ for multivariate regression), whereas chronotype had a less effect on academic achievement ($p = 0.007$ for independent T-tests, $p = 0.239$ for ANOVA, $p = 0.096$ for multivariate regression). The interactive effects of chronotype and learning approach were non-significant ($p = 0.583$), and the combined model via multivariate regression analysis predicted less than 15% of the variance in academic achievement ($R2 = 0.124$).

Conclusion: Learning approach significantly affects academic achievement, and the combined model explained 12.4% of the variance in academic achievement, suggesting tailored educational strategies may enhance outcomes.

Keywords: chronotype, circadian typology, learning approach, academic achievement.

VP 12

Understanding the imposter syndrome in medical students: A cross-sectional study on prevalence, contributing factors, and intensity across acadmic years at Foundation university	
Authors	Owais Mazhar, Awais Akhter
Affiliation	Foundation University Medical College

Abstract

Background: Impostor syndrome involves persistent self-doubt and feelings of inadequacy among high achievers despite objective success. While extensively studied globally, impostor syndrome is underexplored in Pakistan, with few investigations into its prevalence and risk factors.

Objective: To, (1) Assess the prevalence of impostor syndrome among medical students. (2) Identify factors contributing to impostor syndrome. (3) Compare the intensity of impostor syndrome across different academic years.

Methods: This quantitative cross-sectional survey assessed impostor syndrome among 256 medical and dental students from Foundation University Medical College, from June 2024 to August 2024. Stratified random sampling was used to select participants, who completed the Clance Impostor Syndrome Scale via Google Docs. Data were analyzed with SPSS version 27, using descriptive statistics and inferential tests such as the chi-square test, with a significance threshold of $p<0.05$.

Results: A total of 256 (100%) responses were recorded for the questionnaire, of which 83 (32.4%) were male and 163 (67.6%) were female. The study discovered that 21 (8.1%), 121 (47.3%), 90 (35.2%), and 24 (9.4%) medical students, respectively, experienced few (8.1%), moderate (47.3%), frequent (35.2%), and intense (9.4%) impostor feelings. By applying the chi square test, it was discovered that characteristics such as gender ($p<0.001$), birth order ($p=0.008$), and volunteer work ($p=0.003$), as well as academic factors such as advisor's attitude ($p<0.001$) and comparison with peer performance and grades ($p<0.001$), demonstrated the highest significant associations with the severity of impostor syndrome.

Conclusion: The findings highlight an urgent need for targeted interventions and support systems to address the causes and improve the academic experience for students grappling with these feelings.

Keywords: imposter syndrome, imposter phenomenon, medical students.

VP 13

Prevalence of nomophobia in students of MBBS at HITEC-IMS and its association with academic performance & various factors	
Authors	Shunwaiz Sultan, Hania Naeem
Affiliation	HITEC Institute of Medical Sciences

Abstract

Background: Nomophobia, the abbreviation for no-mobile-phobia, is the discomfort, anxiety, nervousness, or anguish caused by being out of contact with a mobile phone and is a growing concern among students, usually in medical institutions.

Objective: To measure the prevalence of nomophobia, its associated factors, and its impact on the academic performance of medical undergraduates at HITEC-IMS, Taxila.

Methods: A cross-sectional study was conducted at HITEC-IMS among 200 students (50 in each year) from the 2nd to 5th year, during November 2024 and January 2025. A two-part structured questionnaire was used to assess the severity and prevalence of nomophobia. It includes a sociodemographic portion. The other portion included the Nomophobia Questionnaire (NMO-Q) of 20 questions. Data analysis was done on SPSS v27, and chi-square test and correlation test were applied.

Results: Out of the total students, 120 (60%) were female and 80 (40%) were male. However, 37 (18.50%) reported mild levels, 116 (58.00%) reported moderate levels, and 47 (23.50%) reported severe levels of nomophobia. Gender ($p = 0.82$), socioeconomic status ($p = 0.72$), and living status ($p = 0.28$) showed no significant correlation with nomophobia severity. Students in the earlier years reported a high prevalence, demonstrating a significant association ($p < 0.01$). A weak correlation was found between screen time and levels of nomophobia ($p = 0.02$). However, no significant relationship was found with sleep duration ($p = 0.44$).

Conclusion: The prevalence rate of nomophobia is high among medical undergraduates at HITEC-IMS, Taxila and systematic health education programs should be designed, focusing on the harmful health effects of excessive mobile phone use and measures to prevent this disorder.

Keywords: nomophobia, undergraduates, students, mobile phones.

VP 14

Evaluating the level of knowledge, attitude and wilingness towards thalassemia premarital screening among adults	
Authors	Fayeq Ali, Mohammad Danial
Affiliation	Peshawar Medical College

Abstract

Background: Thalassemia is a genetic disorder that affects the body's ability to produce hemoglobin. Premarital carrier screening involves the identification of defective genes responsible for genetic diseases.

Objective: To evaluate the awareness and attitude of the general population of Peshawar regarding the premarital carrier screening for thalassemia.

Methods: A cross-sectional study was conducted among the general population (above the age of 20) of Peshawar from June 2023 to January 2024. The sample size was 438, and simple random sampling was used. A closed-ended questionnaire was used, having a 3-point Likert scale ranging from "Agree-Disagree-Don't Know." The questionnaire was distributed both online and in person. Statistical analysis was done using SPSS version 25.

Results: The findings showed that out of 438 people, 294 (67.1%) people had sufficient knowledge about thalassemia, while 144 (32.9%) did not. 250 (57.1%) people had awareness about thalassemia premarital screening, while 188 (42.9%) people had no idea. According to 290 (66.2%) people, premarital screening plays a role in preventing thalassemia, while 148 (33.8%) people were unaware of this. Only 59 (13.5%) people actually underwent premarital screening, while an alarming 379 (86.5%) people did not undergo premarital screening. 151 (34.5%) people knew about the law that premarital screening is mandatory before marriage; however, 287 (65.5%) people did not know.

Conclusion: Even though people had knowledge of thalassemia and understood the significance of premarital screening, only a minority opted to undergo the screening process.

Keywords: premarital screening, knowledge, thalassemia, awareness.

VP 15

Antimicrobial resistance patterns of Serratia marcescens in FFH Rawalpindi: A cross-sectional study	
Authors	Huzaifa Qasim, Ahmed Faraz
Affiliation	Foundation University Medical College, Islamabad

Abstract

Introduction: Serratia marcescens is a formidable opportunistic pathogen with intrinsic resistance to multiple antibiotics, posing significant challenges in clinical management. Its ability to acquire additional resistance mechanisms, including carbapenemases and efflux pumps, has led to increasing treatment failures worldwide.

Objective: To assess emerging resistance trends in S. marcescens isolates, evaluate antimicrobial susceptibility profiles, and identify high-risk departments to inform infection control strategies.

Methods: In the 7-year surveillance study (2017–2023) at Fauji Foundation Hospital (FFH), Rawalpindi, a total of 108 non-duplicate S. marcescens isolates were collected from various clinical specimens, including pus (47.2%), blood (20.4%), and respiratory samples (16.7%). Antimicrobial susceptibility testing was performed using disk diffusion and interpreted per CLSI guidelines. Data were analyzed for resistance patterns across departments (medicine, surgery, ICU, gynecology) and age groups.

Results: High resistance was observed to ampicillin (94.2%), amoxicillin-clavulanate (97.3%), and cephalosporins (ceftazidime: 58.2%; ceftriaxone: 57.8%). Carbapenem resistance was notable (imipenem: 24.1%; meropenem: 21.7%), while tigecycline retained efficacy (94.7% susceptibility). Aminoglycoside resistance varied (amikacin: 23.2%; gentamicin: 49.1%). The ICU and Medicine departments contributed the highest isolates (21.3% and 39.8%, respectively), with pus cultures being the predominant source (47.2%). A surge in isolates was noted in 2022–2023 (74.1%), suggesting rising incidence or improved detection.

Conclusion: Alarming resistance rates in S. marcescens, particularly to β-lactams and carbapenems, underscores the need for robust antimicrobial stewardship and infection control measures. Vigilance against emerging resistance is critical to mitigating treatment failures.

Keywords: Serratia marscescens, antimicrobial resistance, antimicrobial stewardship.

VP 16

Outcomes of in-hospital and out-of-hospital cardiac arrest resuscitations in and emergency department in Pakistan: A comparative analysis with AHA benchmarks	
Authors	Ayesha Saeed, Turab Fatima
Affiliation	POF Hospital, Wah Cantt

Abstract

Objective: To assess survival outcomes in cardiac arrest cases at POF Hospital Wah Cantt and compare these with American Heart Association (AHA) data and outcomes reported in developed countries.

Methods: A retrospective audit of 54 cardiac arrest resuscitations (age >12 years) was conducted from January to September 2022. Data included demographics, initial cardiac rhythm, return of spontaneous circulation (ROSC), survival to admission, survival to discharge, and rates of bystander CPR. One case was excluded due to incomplete records.

Results

Metric	An Emergency Department in Pakistan /Developing country (2022)	AHA/Developed Countries (Typical Range)
Survival to Admission	28%	30–40%
Survival to Discharge (Overall)	11.3%	OHCA: ~10%-25%
Shockable Rhythm Proportion	11%	20–30%
ROSC in Shockable Rhythms	50%	>40%
Bystander CPR (OHCA)	3%	40–60%

Additional Findings: 79% of patients had non-shockable rhythms (ROSC: 26%); Mean patient age was 58,16.4 years; Male-to-female ratio: 1.94:1; Comorbidities included Diabetes (32%), Hypertension (30%), and IHD (24%); Only 17% require invasive ventilation post-ROSC

Conclusions: The study demonstrates that survival outcomes can be reasonably comparable to international standards with skilled emergency department teams. However, public education, EMS enhancement, and adherence to international documentation standards (e.g., Utstein guidelines) are urgently needed. A re-audit with an expanded dataset is recommended to monitor improvements and long-term neurological outcomes.

Keywords: cardiac resuscitation, emergency, AHA benchmarks

VP 17

Heat in the city: Assessing the effects of global heat increase and localized heat wave impacts	
Authors	Taimoor Sikandar, Maryam Sohail
Affiliation	D.G Khan Medical College

Abstract

Introduction: In the climbing global temperatures, heatwaves are emerging as one of the most severe and under-addressed preventable consequences.

Objective: To, (1) Explore the dynamics, health impacts, and mitigation strategies associated with rising heat and use of climatological data and public health records to formulate adaptive measures. (2) Analyze specific heatwave event trends in frequency, intensity, and duration along with their human, environmental, and infrastructural toll, highlighting vulnerable populations and the increased risk of urban heat islands.

Methods: A meta-analysis was done using PubMed, The Lancet, Google Scholar, and WHO databases for keywords heatwaves and health impacts, urban heat islands, environmental risks, and vulnerable populations. We reviewed cross-sectional studies and randomized controlled trials. The WHO and Climate Change Portal Knowledge were used to collect climatological data for Pakistan.

Results: The findings emphasize the use of interdisciplinary approaches. Early warning systems, targeted policies, community preparedness, education, and urban greening along with heat-health action plans can reduce heat-associated morbidity and mortality.

Conclusion: Intensified rise in global temperatures and heatwaves pose severe health risks due to the inadequate preparedness and response systems, especially in the low-income setting. There is an urgent need to adapt interdisciplinary and localized approaches to reduce heatstroke-related hospitalization. Targeted education with evidence-based explanations of vulnerable communities can reduce heat-related death and disability burden.

Keywords: heatwave vulnerability, urban heat island effect, climate change, disaster risk reduction, adaptive capacity, resilience, and preparedness.

VP 18

Descriptive analysis of YouTube videos as a source of information on ADHD	
Authors	Abdul Moiz, Adeena Maryam
Affiliation	Ayub Medical College

Abstract

Objective: To identify and describe the sources, formats, and content of widely viewed YouTube videos on ADHD, as well as to assess the quality of these videos.

Methods: This cross-sectional study analyzed ADHD-related content on YouTube in June 2024 using the terms "attention deficit hyperactivity disorder," "attention deficit disorder," and "ADHD." Searches were done in incognito mode to avoid biases. The study focused on English-language videos from this period, excluding duplicates, advertisements, vlogs, and non-authentic content. A total of 150 videos were reviewed based on their format, content, and source. Data extraction involved detailed analysis of video attributes, while the DISCERN tool was used for quality assessment to ensure reliable and informative content.

Results: Collectively, these videos were watched over 230 million times. Most videos (34) were uploaded by public accounts of celebrities. The most commonly viewed format was professional talks (29.6%), followed by animations (23.9%) and podcasts (10.49%). The most frequent content was ADHD awareness (46 videos), followed by ADHD treatment (35 videos). The quality of ADHD videos has consistently improved over the last 5 years, with the DISCERN score increasing from 2.84 in 2019 to 3.7 in 2024 (p=0.043).

Conclusions: The ADHD videos on YouTube come from diverse sources and use various formats, covering multiple aspects of the disorder. Their quality is generally good and has improved over the years.

Keywords: ADHD, YouTube, video analysis, ADHD awareness.

VP 19

Sociocultural practices and the healthcare-seeking behavior of mothers regarding the health of their newborn: A qualitative study	
Authors	Mohammad Danial
Affiliation	Peshawar Medical College

Abstract

Background: Mothers' healthcare decisions for their newborns are deeply rooted in sociocultural practices. These influences shape their perceptions, choices, and access to medical care.

Objective: To, (1) To identify the common sociocultural practices of mothers concerning newborn healthcare. (2) Explore the factors that shape maternal perceptions of these practices and investigate the community's contribution to their development. (3) Explore the impact of sociocultural practices and perceptions on maternal decision-making regarding healthcare-seeking for their newborns.

Methods: A qualitative phenomenological study was conducted among mothers of neonates in Peshawar's tertiary healthcare hospitals from July 2024 to January 2025. In-depth interviews were taken from 20 mothers. Thematic analysis was done using Braun and Clarke's approach.

Results: The study included 20 mothers (mean age 25 ± 4.7 years) and 65% male neonates (mean age 17 ± 9.6 days). Thematic analysis generated 7 main themes and 5 sub-themes, i.e., 1. Traditional healthcare practices and beliefs about their perceived benefits, 2. Influence of social factors on traditional practices, healthcare-seeking behavior, and decision-making; 3. Decision-making and health-seeking strategies; 4. Influence of digital media on traditional practices and self-education, 5. Maternal characteristics, attributes, and economic factors, 6. Impact of spiritual healing and religious practices on healthcare 7. Trust in Healthcare Systems

Conclusion: This study underscores the significance of sociocultural practices, revealing a combination of modern healthcare and traditional approaches in maternal decision-making. Key factors influencing mothers' healthcare-seeking behavior include external and familial influences, religious beliefs, personal experiences, and accessibility to healthcare services.

Keywords: sociocultural practices, healthcare-seeking behavior, newborn healthcare.

VP 20

Determining the accuracy of artificial intelligence App (Medgic) in diagnosing dermatological lesions: A comparative study	
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Abstract

Background: Recent advancements in artificial intelligence (AI) have introduced highly accurate diagnostic tools for dermatological conditions, improving access to healthcare and reducing clinic overcrowding. This study evaluates the diagnostic accuracy of the Medgic AI app for skin lesions, aiming to enhance early diagnosis and patient care.

Methods: An analytical study was conducted in the Dermatology Outpatient Departments (OPD) of PAF Hospital Units I and II, Islamabad, from February to September 2024. A sample of 100 participants was recruited using non-probability purposive sampling. After informed consent, images of participants' skin lesions were captured and processed by the AI app. The app-generated diagnoses were compared with those of a classified dermatologist.

Results: The AI app demonstrated an overall diagnostic accuracy of 72%. It achieved 100% accuracy in diagnosing acne vulgaris, warts, and nevi. A statistically significant p-value of <0.001 was obtained using a binomial test. However, limitations such as the app's inability to diagnose hair and nail disorders and privacy concerns regarding lesions in sensitive areas affected participation.

Conclusion: The Medgic AI app shows promising potential for diagnosing skin lesions and could reduce clinic burdens and improve access to dermatological care. Despite limitations, including privacy concerns and app restrictions on hair and nail diagnoses, the findings suggest AI's role in future clinical practice. Further multicentre research is necessary to enhance AI algorithms and address a variety of cases.

Keywords: artificial intelligence (AI), Medgic AI app, diagnostic accuracy, dermatological lesions, comparative study.

VP 21

Awareness and attitude towards breast cancer & mammography among female medical students in twin citites of Pakistan: A cross-sectional study	
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Abstract

Introduction: Breast cancer is the most frequently arising malignant tumor in women, whose risk can be reduced with early screening by mammography.

Objective: To assess the knowledge and attitude towards breast cancer and mammography among the female medical students of the twin cities of Pakistan.

Methods: A qualitative, cross-sectional study was conducted over a period of six months among the female medical students of three private and three government medical colleges in the twin cities of Pakistan. Data collection was mediated through an adapted questionnaire, containing questions about the knowledge, signs, and symptoms of breast cancer and the importance of mammography. Descriptive and inferential statistical analysis was done using SPSS 26, with $p<0.05$ considered statistically significant.

Results: The study included 341 female medical students with an age range of 18 to 25 years (mean age 20.71±1.539). 92.4% (n = 315) of the participants recognized the history of breast cancer in first degree relatives as a risk factor. 78% (n = 266) of the participants considered the use of oral contraceptives in women to pose a risk of breast cancer. 85% (n = 290) of the participants considered inward pulling off the nipple as a sign of breast cancer. Only 33.4% (n = 114) of the participants considered over 40 years of age as the best time to go for mammography. A chi-square test revealed a significant difference in the responses from the students of clinical and preclinical years over the best time to go for mammography ($p<0.001$).

Conclusion: Our study reveals optimal knowledge about breast cancer among female medical students while underscoring the importance of continued education on mammography. Emphasis on risk factors should be laid to make students of preclinical years more aware of the disease.

Keywords: breast cancer, mammography, awareness, attitude, medical students.

VP 22

Early detection of diabetic retinopathy to prevent irreversible visual loss amongst the patients visiting the diabetes centre, Barakahu	
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Affiliation	Fazaia Medical College

Abstract

Background: Diabetic retinopathy is the most commonly occurring complication of diabetes mellitus and remains a leading cause of visual loss globally.

Objective: To, (1) Provide a screening strategy for timely screening, (2) Assess knowledge regarding risks and early signs, (3) Develop a focused awareness campaign, (4) Assess patients' pre-post knowledge after intervention.

Methods: The study was conducted at The Diabetic Centre Barakahu. The population was the diabetic patients visiting The Diabetic Centre, Barakahu. It was an analytical cross-sectional study. The sampling technique was purposive sampling. The sample size was calculated to be 100 by using the WHO sample size calculator.

Results: Diabetic patients visiting The Diabetes Centre Barakahu were assessed for their knowledge (pre- and post-interventional) regarding the significance of early screening of diabetic retinopathy to prevent vision loss using a questionnaire (DKQ-24). A paired sample t test was applied to the data we collected. The p-value was significant ($p < 0.01$). The chi square test showed a significant value of ($p < 0.01$). ANOVA was also applied, which gave a significant result of $p = 0.048$.

Conclusion: Our study showed a positive association between early screening and detection of diabetic retinopathy among diabetic patients. It enhanced the patients' knowledge about this disease and showed the importance of early screening to prevent the irreversible visual loss.

Keywords: retinal disease, disease category, diabetes mellitus.

VP 23

Non-rapid eye movement parasomnias and their impact on academic performance in medical university students: A cross-sectional study	
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Abstract

Introduction: Parasomnias are disruptive motor episodes during sleep transitions, classified into rapid eye movement (REM) and non-rapid eye movement (NREM) types. NREM parasomnias (arousal disorders) include confusional arousals, sleepwalking, and sleep terrors.

Methods: A quantitative cross-sectional study was carried out with validated questionnaires. Rao software was used to determine sample size with a 95% confidence interval and a 5% margin of error. The study included both male and female MBBS students at Foundation University School of Health Sciences. All descriptive and inferential statistical tests, including the Pearson chi-square test, t-test, and ANOVA test, were applied using SPSS 26, and a p-value of < 0.05 was considered statistically significant.

Results: The PSQI (Pittsburgh Sleep Quality Index) score of participants ranged from 0 to 15 with a mean PSQI score of 6.74 6.74±3.15 (a PSQI score of ≥ 5 is indicative of poor sleep quality). On assessing the prevalence of NREM parasomnias, a total of n=84 (48%) had confusional arousals, n=29 (16.6%) had sleepwalking, and n=74 (42.3%) had sleep terror. The results of the ANOVA test indicate no significant association (p=0.387) between academic performance (last exam score) and sleep quality (PSQI score). The t-test suggests a significant association between sleep quality (PSQI score) and the occurrence of confusional arousals (p=0.006), sleepwalking (p=0.03), and sleep terror (p=0.04). The Pearson chi-square test yields a significant association between academic performance (last exam score) and sleepwalking (p=0.037).

Conclusion: The study reveals a notable prevalence of NREM parasomnias among medical students. The study concludes that individuals with poor sleep quality (high PSQI scores) are more likely to experience NREM parasomnias.

Keywords: NREM parasomnias, academic performance, sleep quality, confusional arousals.

VP 24

Assessment of mental health and mental health literacy among medical students of HITEC-IMS Taxila	
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Abstract

Background: Mental Health is an important pillar of well-being with special importance to medical students, with a cogitative need for Mental Health Literacy.

Objective: To assess Mental Health and Mental Health Literacy among medical students in HITEC-IMS with their relation to sociodemographic variables and to determine the correlation between the two.

Methods: A cross-sectional study with 206 participants from MBBS students of HITEC-IMS. A stratified simple random sampling method was used from November 2023 to April 2024. A structured proforma for collecting demographic variables, Mental Health Literacy Scale (MHLS) for assessing MHL, and the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) for evaluating mental health, was used. Jamovi was used for data analysis.

Results: MHL was found to be low (M=106.9 ± 13.8), with a moderate Mental Health (M=44.5 ± 9.5). Females had a higher MHL than Males ($t(192)=3.53$, $p<0.01$). A significant association of MHL exists with regards to accommodation ($t(86.4)=2.38$, $p=0.01$) and Socioeconomic Status ($F(3,25.3)=6.95$, $p=0.01$). With the progress of academic years, there was a tendency for mental health to decline ($F(4,99.1)=2.61$, $p=0.04$). MHL was positively correlated to Mental Health ($r(204)=0.17$, $p=0.01$).

Conclusion: MHL is an important concept, with its relation to Mental Health, highlighting the need for timely interventions necessary for the improvement of MHL, and to achieve meaningful outcomes in the realm of Mental Health.

Keywords: mental health, mental health literacy, medical students, MHLS, WEMWBS.

ONLINE PRESENTATION ABSTRACTS

OVP 1

Confidence and knowledge in emergency management among medical students and house officers in Pakistan: Is WHO BEC course the answer?	
Authors	Izza Nazir
Affiliation	Al-Nafees Medical College

Abstract

Background: To assess baseline knowledge and self-reported confidence in emergency management among medical students and house officers in order to determine the need for implementing the WHO Basic Emergency Care (BEC) course.

Methods: A multicentric cross-sectional study was conducted from June 15, 2023, to June 15, 2024, at Rawalpindi Medical University and its affiliated tertiary care hospitals. A pilot-tested, structured questionnaire based on the WHO BEC course content domains was administered to 300 participants, comprising clinical-year medical students and house officers. The survey collected demographic and educational data and assessed emergency management skills, self-reported confidence (Likert scale-based), and knowledge (15 multiple-choice questions).

Results: Overall, 193 participants (64.3%) demonstrated inadequate knowledge, and 171 (57.0%) reported inadequate confidence. A positive correlation was observed between house job duration and confidence scores ($p = 0.002$). Logistic regression analysis revealed that male participants were twice as likely to have adequate confidence compared to females ($p < 0.001$). House officers significantly demonstrated adequate knowledge compared to medical students ($p < 0.001$). Participants who had completed at least one emergency care course-such as Basic Life Support (BLS) or Advanced Trauma Life Support (ATLS)-were more likely to demonstrate adequate knowledge ($p = 0.019$) and adequate confidence ($p < 0.001$) than those who had not taken any prior courses.

Conclusion: Integrating structured emergency care courses - particularly the WHO BEC course - into undergraduate curricula, ideally before house-job rotations, may reinforce learning, enhance clinical confidence, and facilitate a smoother transition into practice.

Keywords: WHO BEC, emergency management, medical students, house officers.

OVP 2

Assessment of relation of atychiphobia (fear of failure) with stress and certain demographic factors among undergraduate medical students of Rawalpindi medical university: A cross-sectional study	
Authors	Hifza Hameed
Affiliation	Rawalpindi Medical University

Abstract

Objective: This study examines the link between atychiphobia (fear of failure), stress, and demographic factors among medical students at Rawalpindi Medical University. Insights from this research can help educators and mental health professionals develop strategies to support students in managing academic anxiety.

Methdods: A cross-sectional study was conducted at Rawalpindi Medical University among students of first to final year MBBS from May 2024 to November 2024. Total number of students were 254 (146 female, 118 male). Performance failure appraisal inventory questionnaire (PFAI) used for atychiphobia and perceived stress scale questionnaire for stress. PFAI has five domains: FUIO (fear of upsetting important others), FIOLI (fear of important others losing interest), FSE (fear of experiencing shame and embarrassment), FDSE (fear of devaluing one's self-esteem) and FUF (fear of having an uncertain future). Linear regression looked at the association between stress and fear, t-tests investigated domain differences across demographics.

Results: This study finds that females exceed males in FDSE ($p=0.05$), FUF ($p=0.013$), FSE ($p=0.001$), and FUIO ($p=0.04$), with no difference in FIOLI levels. Fear of failure peaks among third-year medical students, those with previous academic failure, and those scoring below 50% in professional exams. High levels of FSE ($p=0.000$), FUF ($p=0.03$), and FUIO ($p=0.03$) correlate with stress among medical students.

Conclusion: Understanding student behavior in university settings often centers on atychiphobia, which varies across demographics like gender, academic progress, professional exam performance, and past setbacks. These factors highlight how fear of failure influences student experiences and outcomes in higher education.

Keywords: atychiphobia, medical students, mental health

OVP 3

Perception of socialization in inter-professional practice among healthcare professionals at a tertiary healthcare facility	
Authors	Rimsha Ejaz, Rubab Zahra
Affiliation	Rawalpindi Medical University

Abstract

Objective: To explore healthcare professionals' perceptions of inter-professional practice in a tertiary setting and to identify training and collaboration gaps to enhance team dynamics, communication, and patient outcomes in specialized healthcare.

Methods: A cross-sectional study was conducted from January to June 2024 on 100 healthcare professionals (from medicine and allied, surgery and allied, gynecology, pediatrics, and basic sciences) working at Rawalpindi Medical University and its allied hospitals after obtaining ethical approval and informed consent. Data was collected through non-random convenience sampling. Participants completed a closed-ended questionnaire featuring the Inter-professional Socialization and Valuing Scale via Google Forms, with clear instructions provided. SPSS v 27 was used for data analysis, applying descriptive statistics.

Results: The study results indicated that participants acknowledged the benefits of inter-professional collaboration (IPC). The highest scores were associated with a strong belief in their "self-perceived ability to work with others." Following closely was a high recognition of the "value in working with others," while the lowest scores reflected their comfort level in collaborating with others. Experience was found to positively influence both comfort and the perceived value of working collaboratively. By harnessing the collective expertise of diverse healthcare professionals, a more cohesive and effective care environment can be created.

Conclusion: Healthcare professionals highly value IPC, particularly in teamwork and communication. Experience improved comfort and perceived value in collaboration, underscoring the importance of cultivating a collaborative mindset. Addressing these gaps through targeted training could enhance team dynamics and improve patient care in specialized settings.

Keywords: inter-professional practice (IPC), healthcare professionals, team dynamics.

OVP 4

Effective use tranexamic acid refractory chronic urticaria with angioedema: A case report	
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Abstract

Chronic spontaneous urticaria (CSU) with angioedema is a complex and often treatment-resistant condition that significantly impacts quality of life. We present the case of a 35-year-old female with a seven-year history of recurrent wheals, pruritus, and episodes of facial and peripheral angioedema. Previous treatments, including second-generation antihistamines, corticosteroids, and leukotriene receptor antagonists, provided only transient relief. Laboratory evaluations revealed fluctuating IgE levels without identifiable allergen triggers.

Following minimal improvement with intramuscular corticosteroids and standard therapy, the patient was administered a combination of intravenous hydrocortisone and tranexamic acid. This was followed by a regimen of oral antihistamines, montelukast, topical tacrolimus, and oral tranexamic acid. At two-week follow-up, she reported a marked reduction in symptoms, particularly angioedema, with improved daily functioning.

Tranexamic acid, an antifibrinolytic agent, inhibits plasmin-mediated bradykinin production, thereby reducing vascular permeability. While well-established in hereditary angioedema, its use in CSU remains underexplored. In this case, tranexamic acid demonstrated significant clinical benefit without adverse effects, supporting its potential role as an adjunctive therapy in select CSU cases refractory to conventional management.

This case highlights the need to expand therapeutic and prophylactic options for CSU with angioedema and suggests that tranexamic acid may offer a safe and effective alternative in refractory presentations particularly when standard antihistamine and corticosteroid therapies are insufficient.

Keywords: chronic spontaneous urticaria (CSU), tranexamic acid, angioedema

OVP 5

Extensive multifocal extranodal diffuse large B-cell lymphoma involving parotid, breast, gastrointestinal tract, and dorsal spine: A case report	
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Affiliation	Multan Medical and Dental College

Abstract

Background: The most prevalent subtype of non-Hodgkin lymphoma is diffuse large B-cell lymphoma (DLBCL), which frequently manifests with extranodal involvement. Although the head and neck, skin, and gastrointestinal tract are common locations, multifocal extranodal presentations spanning several organ systems are still uncommon and might provide difficulties in diagnosis and treatment.

Case Presentation: We report the case of a 61-year-old lady who had bilateral postauricular swellings that started gradually and were subsequently made worse by warmth, erythema, and pain. In addition to systemic symptoms including weariness, anorexia, weight loss, and low-grade fevers, she later reported a growing left breast mass. She eventually had exertional dyspnea and dysphagia. Imaging showed cervical and axillary lymphadenopathy, a left breast mass, bilateral thickening of the parotid glands, and heterogeneously increased uptake in the upper dorsal spine. A biopsy of a stomach polyp obtained through endoscopic ultrasound-guided revealed histological characteristics compatible with DLBCL, while cytological examination of the breast and parotid masses verified B-cell non-Hodgkin lymphoma. The parotid glands, breast, stomach, and upper dorsal spine were all involved in imaging studies. A diagnosis of high-grade DLBCL was supported by immunohistochemistry, which showed CD20 and PAX5 positivity, a Ki-67 index of almost 40%, and negative results for CD10 and CD3. Early clinical improvement was seen by the patient after starting R-CHOP chemotherapy (Rituximab, Cyclophosphamide, Doxorubicin, Vincristine, and Prednisone) treatment.

Conclusion: This case underscores the diverse and infrequent presentation of extra-nodal DLBCL. Early recognition and individualized treatment strategies remain central in optimizing outcomes for patients with complex extranodal disease patterns.

Keywords: diffuse large B-Cell lymphoma, extranodal lymphoma, multifocal involvement, breast lymphoma, parotid gland, gastric lymphoma, R-CHOP chemotherapy

OVP 6

Climate change and the dental profession: Gaps in awareness, education, and sustainable practice	
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Abstract

Background: Climate change is a global issue, with healthcare, including dentistry, contributing to environmental degradation.

Objective: To assess the awareness and perceptions of dental students and practicing dentists regarding the link between dentistry and climate change.

Methods: A cross-sectional survey was conducted using structured questionnaires distributed to dental students, postgraduate trainees, professors, and department heads at Islamic International Dental College, focusing on their perceptions and awareness of dentistry's environmental impact.

Results: Among 142 dental students, 65% saw a link between dentistry and climate change— 78% were female (F) and 22% were male (M). Almost 62% identified single-use plastics, energy consumption, and transportation-related CO2 emissions as significant contributors from dental industry. Notably, 86% of students believed deforestation, fossil fuel burning, and industrial waste were major climate drivers. Additionally, students (20% M, 65%F) supported the inclusion of sustainability in dental education. When asked about the role of dentists in reducing environmental impact, around 63% agreed. A majority (59%) were unaware of eco-friendly dental practices, and 77% received no education on sustainable dentistry in their college. However, 88% expressed a willingness to adopt eco-friendly practices Among dentists (n=49), 53% identified dentistry's significant impact on climate change (31% M, 22% F). 37% reported that their clinics were or were not taking steps to reduce environmental impact, while around 27% were unsure. Furthermore, over 81% of dentists were willing to receive training in sustainable dentistry (25% M, 15% F).

Conclusion: Incorporating environmental education into dental curricula and professional training could promote eco-friendly practices and help mitigate climate change.

Keywords: climate change, sustainable practice, dental students.

OVP 7

Prioritizing gut microbial SNP's linked to immunotherapy outcomes in NSCLC patients by integrative bioinformatics analysis	
Authors	Faheem Raziq
Affiliation	National University of Science and Technology

Abstract

Background: To assess the gut microbial SNPs linkage to immunotherapy outcomes in non-small cell lung cancer (NSCLC) patients by integrative bioinformatics analysis.

Methods: Strain identification from the publicly available metagenomes of 87 NSCLC patients, treated with nivolumab and collected at three different timepoints (T0, T1, and T2), was performed using StrainPhlAn3. Variant calling and annotations were performed using Snippy and associations between microbial genes and genomic variations with treatment responses were evaluated using MaAsLin2. Supervised machine learning models were developed to prioritize single nucleotide polymorphisms (SNP's) predictive of treatment response. Structural bioinformatics approaches were employed using MUpro, I-Mutant 2.0, CASTp and PyMOL to access the functional impact of prioritized SNPs on protein stability and active site interactions.

Results: The findings revealed the presence of strains for several microbial species (e.g., Lachnospira eligens) exclusively in Responders (R) or Non-responders (NR) (e.g., Parabacteroides distasonis). Variant calling and annotations for the identified strains from R and NR patients highlighted variations in genes (e.g., ftsA, lpdA, and nadB) that were significantly associated with the NR status of patients. Among the developed models, Logistic Regression performed best (accuracy>90% and AUC ROC>95%) in prioritizing SNPs in genes that could distinguish R and NR at T0. These SNPs included Ala168Val (lpdA) in Phocaeicola dorei and Tyr233His (lpdA), Leu330Ser (lpdA), and His233Arg (obgE) in Parabacteroides distasonis. Lastly, structural analyses of these prioritized variants in obgE and lpdA revealed their involvement in the substrate binding site and reduction in protein stability.

Conclusion: Metagenomics and machine learning provide a framework for personalized therapies and treatment response.

Keywords: NSCLC, gut microbiome, ICI's, anti-PD-1, microbial strains, genomic variants.

OVP 8

The effect of chewing time on satiety & glucagon like peptide 1	
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Abstract

Background: Chewing time plays a very important role in the process of food intake and digestion. Prolonged chewing promotes a quicker feeling of fullness and promotes the secretion of intestinal hormones. With the rising prevalence of obesity, understanding the various dimensions of satiety and appetite regulation has become significant.

Objective: To assess the association between chewing time of mixed food compositions and its effect on satiety scores and the satiety hormone GLP-1.

Methods: The study included 20 participants, with equal number of males and females (10 each). Participants with a mean BMI of 22.96 ± 1.53 kg/m² and a mean age of 27.15 ± 3.71 years were recruited. Ethical approvals were obtained, and participants provided written informed consent. Following screening, the intervention was conducted over three separate days, each involving normal, increased, and decreased chewing times. Satiety scores and GLP-1 levels were assessed during fasting and at various time intervals post-food ingestion. Satiety scores were recorded using Visual Analog Scale (VAS) and Labeled Magnitude Scale (LMS) every 30 minutes up to 240 minutes, while GLP-1 levels were measured at the 240-minute mark. The findings were presented as means and standard deviations and analyzed with SPSS version 22. Group comparisons were conducted using ANOVA

Results: Satiety scores were significantly higher 30 minutes after food consumption with increased chewing time, compared to normal and decreased chewing times ($p<0.05$i). Nonetheless, no notable differences in GLP-1 levels were detected at any time point.

Conclusion: Increased chewing time was linked to higher satiety scores 30 minutes after eating. Increasing the chewing time does not increase the GLP-1 levels.

Keywords: chewing time, satiety hormones, glucagon like peptide 1 (GLP-1), visual analogue scale (VAS), and labeled magnitude scale (LMS).

OVP 9

Synthesis, characterization, and evaluation of the antifungal properties of tissue conditioner incorporated with essential oils-loaded chitosan nanoparticles	
Authors	Hina Ashraf
Affiliation	Ayub Medical College

Abstract

Objective: To investigate new tissue conditioner (TC) formulations involving chitosan nanoparticles (CSNPs) and essential oils (EO) for their antifungal potential, release kinetics, and hardness.

Methods: CSNPs were synthesized, and the separate solutions of CSNP were prepared with two types of EO, i.e., Oregano oil and Lemongrass. The EO was loaded separately in two concentrations (200 µL and 250 µL). The blank and EO-loaded CSNPs were screened against Candida albicans (C. albicans), and their minimum inhibitory concentration was established. GC Reline™ (GC corporation, USA) TC was considered a control group, whereby the four experimental groups were prepared by mixing CSNPs/EO solutions with TC powder. The antifungal effectiveness (C. albicans) and release kinetics behavior (1–6 h, 24 h, 48 h, and 72 h) was investigated. The Shore A hardness of control and experimental groups was evaluated in dry and wet modes (deionized water and artificial saliva). For statistical analysis, SPSS version 22 was used to do a one-way ANOVA post-hoc Tukey's test.

Results: Compared to the control group, TCs containing blank CSNPs and CSNPs loaded with EO showed 3 and 5 log reductions in C. albicans growth, respectively. A significantly high antifungal effect was observed with TC containing lemongrass essential oil (200 µL). The continuous release of EO was detected for the first 6 hours, whereas completely stopped after 48 hours. Mean hardness values were highest for dry samples and lowest for samples stored in artificial saliva. The statistically significant difference within and between the study groups was observed in mean and cumulative essential oils release and hardness values of TCs over observed time intervals irrespective of storage media.

Conclusion:TCs containing essential-oil-loaded CSNPs seem a promising alternative treatment of denture-induced stomatitis, however, a further biological analysis should be taken.

Keywords: chitosan nanoparticles (CSNPs), tissue conditioner (TC), antifungal effect.

OVP 10

Staphylococcus aureus & evolution of resistance against antimicrobials: Trend over the past five years	
Authors	Uzair Irfan, Omar Ashfaq
Affiliation	Foundation University School of Health Sciences

Abstract

Introduction: Staphylococcus aureus, also known as "golden staph," is a Gram-positive, spherical bacterium belonging to the Bacillota. It is a common component of the body's microbiota, frequently encountered in the upper respiratory tract and on the skin. S. aureus is generally catalase-positive, nitrate-reducing, and a facultative anaerobe.

Objective: To evaluate the antimicrobial sensitivity pattern of Staphylococcus aureus.

Methods: All samples were collected aseptically from various hospital departments/wards and inoculated on blood agar and MacConkey's agar, followed by incubation for 24 hours at 37°C. The results were reported and analyzed using Microsoft Excel.

Results: A total of 1,178 samples of Staphylococcus aureus were isolated. The majority of isolates were from pus cultures (904 samples, 65.1%). Vancomycin was observed to be efficacious against all 1,178 (100%) strains, followed by Linezolid (99.0%), Cloxacillin (98.34%), and Minocycline (96.96%). Ampicillin and Penicillin exhibited no effect on 87% of the S. aureus isolates.

Conclusion: This study evaluated the antimicrobial sensitivity patterns of Staphylococcus aureus over a five-year period, revealing that Vancomycin remains highly effective against all isolated strains. Linezolid, Cloxacillin, and Minocycline also demonstrated strong efficacy. However, a significant proportion of isolates showed high resistance to Ampicillin and Penicillin, underscoring the challenge of treating S. aureus infections with these commonly used antibiotics. The findings highlight the need for targeted antibiotic use and ongoing surveillance to manage the increasing resistance in clinical settings.

Keywords: Staphylococcus aureus, antimicrobial, antimicrobial resistance.

OVP 11

Clinical audit of CT brain scan utilization in trauma patients	
Authors	Ahmed Shuja, Muhammad Zafran
Affiliation	Bahria University College of Medicine

Abstract

Background: The increasing utilization of Computed Tomography (CT) scans for minor traumatic brain injuries (mTBI) in emergency departments raises concerns about adherence to established guidelines, particularly the Canadian CT Head Rule (CCHR). This audit aims to evaluate compliance with CCHR in patients presenting with mild TBI at CPTH, Lahore.

Objective: To assess the degree of adherence to the CCHR guidelines for ordering CT scans in patients with minor head injuries, thereby improving imaging practices and patient outcomes.

Methods: A retrospective audit was conducted by reviewing CT scan proformas for minor head injury cases from August 1, 2024, to October 30, 2024. A total of 49 patients were analyzed against the CCHR criteria to determine compliance levels.

Results: Out of 49 patients, 39 (79.59%) fully met the CCHR criteria for CT scans, while 10 (20.40%) did not, indicating potential overuse. Notably, 9.5% of those who did not meet the criteria had incidental findings that did not necessitate intervention.

Conclusion: The audit reveals that while a significant majority of CT scans for minor head injuries align with CCHR guidelines, there is a notable percentage of unnecessary scans. Enhancing adherence to these guidelines could reduce radiation exposure, optimize resource utilization, and improve patient care. Recommendations for quality improvement include regular training sessions and the implementation of checklists to reinforce guideline adherence.

Keywords: CT head Rule, minor traumatic brain injury, adherence audit.


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