



# Office of Allied Health

## Allied Health Conference

**14<sup>th</sup> October 2023**  
**AKU Auditorium**

**Conference Program**  
**Abstract Book**

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**Allied Health Conference - Office of Allied Health**

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## **Welcome to the Conference: "Transforming Healthcare Together: Allied Health Perspectives"**

On behalf of the Organizing Team and The Office of Allied Health at the Medical College, Aga Khan University, we extend a heartfelt welcome to the inaugural **"Transforming Healthcare Together: Allied Health Perspectives" conference**. This conference stands at the nexus of change, collaboration, and commitment to holistic patient care in Pakistan.

Allied Healthcare Professionals have long been the cornerstone of comprehensive healthcare delivery. As the landscape of healthcare undergoes unprecedented transformations, the role of Allied Health Professionals becomes even more essential. Through interconnected care, they ensure patients receive holistic, informed, and compassionate services.

The conference format—HYBRID—reflects our commitment to inclusivity, adaptability, and the ever-evolving nature of healthcare. With an assortment of talks, interactive sessions, scientific posters, and workshops, we aim to offer an engaging and enriching experience for every participant.

We have set forth clear objectives for this event:

- Facilitate the exchange of knowledge and share best practices within the allied health sphere.
- Foster opportunities for professional growth through varied, interactive sessions.
- Inspire collaboration and discussion on pioneering research and innovative approaches.

To ensure an enriching experience, we have an outstanding team at the helm:

- Scientific Committee Chair & Co-Chair: Dr Ayesha Habib & Dr Saleema Gulzar
- Workshop Committee Chair & Co-Chair: Dr Tabassum Zehra & Dr Mansoor Naqvi
- Event Committee Chair & Co-Chair: Zaibunissa Karim & Conference Secretariat
- All committee members

We invite all attendees to be part of this discourse, from seasoned allied health practitioners and researchers to educators, policymakers, and budding students. Together, we can shape the trajectory of healthcare delivery, ensuring it remains patient-centric, innovative, and impactful.

Join the conversation on our digital platforms using #AKUAHPs and #IAHC23. Your insights, experiences, and perspectives are essential to this conference. We look forward to the myriad conversations, insights, and collaborations this event will foster. Together, let us embark on this journey to not just witness, but actively shape, the transformation of healthcare in Pakistan.

Warmest regards,

Robyna Irshad Khan & Shelina Bhamani  
Conference Chair & Co-Chair  
The Office of Allied Health, Medical College, Aga Khan University

October 2023

# 1<sup>st</sup> Allied Health Conference

## *Transforming Healthcare Together: Allied Health Perspectives*

### Conference Program

Time	Activity	Facilitator
08:30 – 09:00 am	Registration	AKU auditorium
09:00 – 09:10 am	National Anthem	All
09:10 – 09:15 am	Welcome Note	<b>Dr Robyna Irshad Khan</b> Associate Dean Allied Health, Aga Khan University (AKU)
09:15 – 09:20 am	Remarks on Zoom	<b>Dr Adil Haider</b> Dean, Medical College, AKU
09:20 – 09:30 am	Comments: The Importance of Higher Education for Allied Health Professionals	<b>Dr Anjum Halai</b> Regional Vice Provost, Professor & Founding Dean FAS, AKU
09:35 – 10:00	Guest of Honor	<b>Azam Jamil</b> Country Head for Siddiqi Hospitality Pvt Ltd. Board of Governors of NAMAL University and the Hashoo School of Hospitality Management. Former Minister of State, Special Assistant to the Prime Minister for Tourism Coordination, Government of Pakistan, and Chairman of the Pakistan Tourism Development Corporation.
10:10 – 10:15	Comments and Token of Appreciation to Mr Azam Jamil Vice Dean Dr Muhammad Tariq, Associate Dean Dr Fazal H Khan & Dr Robyna Irshad Khan	
10:15 – 10:30	Expert Dialogue: Zoom	<b>Miss Tasha Koerner-Bungey</b> Southern Adelaide Local Health Network (SALHN), Adelaide, South
<b>Tea Break &amp; Poster Walk (10:30 – 11:00)</b>		
<b>Audience Engagement (11:00 – 11:05)</b>		
<b>Panel Theme 1 &amp; 2: Research, Clinical Services and Patient Care in Allied Health (11:05 – 11:50)</b>		
Panel Chair: Dr Naveed Babar Panel Moderator: Dr. Saleema Gulzar Panellists: <ul style="list-style-type: none"> <li>- Dr Tazeen Ali, Interim Dean School of Nursing, AKU</li> <li>- Dr Mairaj Shah, Chief Operating Officer, AKUH</li> <li>- Ms Amina Lakhani, Administrator, Department of Nursing Education Services, AKUH</li> <li>- Dr Huma Naz, Director Outpatient, AKUH</li> <li>- Ms Laila Khymani, Director, Outreach Medical Services</li> </ul> Audience Q & A Comments by the Panel Chair Plaque distribution to the panellists by the Panel Chair		

Plaque to the Panel Chair (Dr Asim Belgaumi & Dr Saleema Gulzar)				
<b>Oral Presentations</b> <b>(11:45 – 01:15)</b>				
11:30: 11:40	Moderator: Mashhooda Irfan & Saba Azeem <ul style="list-style-type: none"> <li>- Invite Chair &amp; Co Chairs and give their Introduction</li> <li>- Chair                   Dr Sumaira Farooqi</li> <li>- Co-Chair               Dr Mansoor Naqvi</li> </ul>			
11:40 – 12:40	#	Title	Category	Full Name
	1	Paving the way for Palliative care: A comprehensive model of interdisciplinary practice in Pakistan	Interdisciplinary Collaboration	Aisha Ambreen
	2	Interdisciplinary Coordination and Collaboration	Interdisciplinary Collaboration	Aashique Ali Soomro
	3	Evidence-Based Approach to Reduce Central Line Associated Blood Stream Infections (CLABSI) in Cardiac Intensive Care Unit	Evidence-based Practice	Misbah Dilawar
	4	Development of Oats-Wheat Composite Flour Cookies Enriched with Nigella Sativa (Kalonji) and Its Effect on Hyperlipidemia	Evidence-based Practice	Hajra Saleem
	5	Legacy to Leadership – ASHP IPPR Biggest Pharmacy Residency in the world	Trends in Education	Faqeeha Shakeel
	6	Outcomes of Non-Surgical Periodontal Therapy on the Periodontal Status among Electronic Cigarette Smokers, Conventional Smokers, and Non-Smokers	Trends in Education	Shazia Taimoor
12:40 – 12:50	Q & A			
12:50 – 01:00	Chair & Co Chair Comments <ul style="list-style-type: none"> <li>- Certificates to all participants by the Chairs</li> <li>- Plaques to the Chairs by Mr. Azam Jamil</li> </ul>			
<b>Lunch/Prayer Break/Poster Walk</b> <b>01:15 – 02:15</b>				
<b>Audience Engagement</b> <b>02:15 – 02:30</b>				
<b>Expert Talks Theme 3: Educational Advancements in Allied Health</b> <b>02:30 – 03:15</b>				
02:10 – 02:15	Introductions by the Master of Ceremony			
02:15 – 02:30	Expert Talk: Accreditation in Allied Health			

	Dr Syed Amir Gillani on Zoom
02:30 – 02:45	Expert Talk: Global Skills for Educational Advancements for Allied Health Professionals Dr Shakeel Ahmed Khan
02:45 – 02:55	Audience Q & A
02:55 – 03:10	Comments by Dr Tabassum Zehra Presentation of Token of Appreciation Dr Fazal H Khan & Dr Mansoor Naqvi
<b>Panel 2: "Charting the Future: Solutions for Enhanced Allied Health Education"</b> <b>03:15 – 04:15</b>	
Special Panel: Allied Health Educational Advancements Panel Lead: Dr. Shelina Bhamani Panel Chair: Dr Ashfaq Ahmed, Faculty of Allied Health Sciences, University of Lahore Panellists <ul style="list-style-type: none"> <li>- Dr. Tausif Rajput Dean &amp; Professor, Shifa Tameer-e-Millat University, Shifa International Hospitals, Islamabad</li> <li>- Dr. Tayyab Rehman Dean/Professor Allied Health Sciences Iqra National University, Swat Campus</li> <li>- Dr. Robyna Irshad Khan Associate Dean, Office of Allied Health, Aga Khan University</li> <li>- Dr. Sumaira Farooqi, Principal School of Physiotherapy, Ziauddin University</li> <li>- Audience Q &amp; A</li> </ul> Plaqués presentations	
04:15 04:30	Tokens for Best Oral and Poster Presentations Tokens to be given by the Invited Deans
<b>Closing Remarks - Summing Up the Conference</b> <b>Dr Aysha Habib Khan</b> <b>Professor, Department of Pathology &amp; Laboratory Medicine, Aga Khan University Hospital</b> <b>04:30 – 04:45</b>	
04:45 – 05:00	Thank you note by Zaibunissa Karim and Acknowledgements Inviting the dean and vice provost and all the conference committee to come in front taking names <ul style="list-style-type: none"> <li>- Group Picture (All Conference Speakers and Committee Members)</li> </ul>

## **Welcome Remarks: Conference on Allied Health**

This conference marks a significant milestone in our journey towards advancing the field of allied health, and it is truly an honor to witness the convergence of brilliant minds dedicated to the betterment of healthcare. Our objectives for this conference are as diverse and dynamic as the professionals it aims to celebrate and elevate. Firstly, we aim to foster a platform for knowledge exchange, where the latest research, innovative practices, and cutting-edge developments in allied health are shared and discussed. This forum provides a unique opportunity for collaboration, enabling us to push the boundaries of what is possible in respective disciplines. Secondly, we are committed to promoting interdisciplinary collaboration. Allied health professionals play a pivotal role in the holistic healthcare model, and this conference serves as a bridge, connecting experts from various fields. The synergies that arise from these collaborations have the power to redefine healthcare delivery and improve patient outcomes. Additionally, our goal is to raise the profile of allied health professionals in the broader healthcare landscape. While their contributions are indispensable, they often operate behind the scenes. This conference serves as a spotlight, illuminating the expertise, dedication, and impact of allied health professionals. By doing so, we aim to garner the recognition they rightfully deserve and elevate the status of allied health in the eyes of the global healthcare community. As we embark on these objectives, let us not forget the ultimate benefactors of our collective efforts—our patients. The advancements and collaborations that emerge from this conference have the potential to transform healthcare experiences, making them more patient-centered, effective, and compassionate. Together, we can amplify the voice of allied health professionals and contribute to a healthcare landscape that is more inclusive, comprehensive, and responsive to the needs of our communities.

### **About the Speaker**

**Dr Robyna Irshad Khan** is an inaugural associate dean at the office of allied health and associate professor anaesthesiology at the Aga Khan University.



## **Comments: Allied Health Professionals and Higher Education**

Allied Health Professionals play a pivotal role in the healthcare ecosystem. They bridge the gap between doctors, patients, and nurses and contribute to the efficacy of the healthcare system. With the developments in technology the field of health sciences, especially medicine is evolving rapidly. Therefore, it is important for the Allied Health Professionals to go beyond initial qualifications and seek opportunities of learning along the continuum of their career to stay abreast with the latest development in their field. The Allied Health Professionals could pursue the traditional routes to seek higher education qualification and continuing professional development. However, in the fast-changing world of work, alternative, multiple, and flexible learning pathways leading to micro credentials are also emerging to offer greater opportunity and choice. According to UNESCO (2015) micro-credentials enable people of all ages and educational levels to engage in learning at various points, including entry and re-entry. These pathways help to strengthen connections between formal and non-formal education structures and involve the recognition, validation, and accreditation of knowledge, skills, and competencies acquired through non-formal and informal education. They provide a solution for addressing changing skill requirements in the job market while also addressing concerns related to equity and access. At AKU the programme for Lifelong Learning, Education and Development of Skills (LEADS) is working with the department of Allied Health among others, to develop virtual courses leading to micro credentials. The pilot programme will be launched sometime next year.

### **About the Speaker**

**Dr Anjum Halai** is a professor, regional vice provost & founding dean of Faculty of Arts and Sciences at the Aga Khan University. Dr Halai has a long-standing and international experience in higher education in low-income and middle-income countries like Pakistan and those in East Africa. She obtained her doctoral degree from Oxford University UK. Professor Halai has substantial experience of teaching at graduate and postgraduate levels and a strong track record of research and publications.

## **Keynote Speech: Allied Health Professionals: Healthcare Heroes**

Allied Health Professionals (AHPs) may be the unsung heroes of the healthcare ecosystem, their potential is untapped, yet their contributions are vital to patient experiences and the continuum of care. For example, physiotherapists, dieticians, occupational therapists, x-ray technicians and radiologists are key to the process of rehabilitation, diagnoses, and bolstering patients' well-being. AHPs address a wide range of services of care for the patients, which may seem shadowed by the care and service of doctors and nurses. Being at the forefront of medical diagnostics and rehabilitative care, AHPs could be keen observers and advisors to healthcare policymaking, and implementation and contribute to evidence-based research. Furthermore, owing to the nature of their work with patients can collaborate effectively across disciplines for a more comprehensive network of healthcare professionals contributing to patient care and well-being. Their experience and observations can help devise better care, techniques, innovative solutions, and improvements in technology to optimize patient care. In a nutshell, the AHP community is vital to the healthcare ecosystem and must be supported to play its role most effectively.

### **About the Speaker**

**Mr. Azam Jamil** is a recognized life and leadership coach. He is the Country Head for Siddiqi Hospitality Pvt Ltd. Board of Governors of NAMAL University and the Hashoo School of Hospitality Management. Former Minister of State, Special Assistant to the Prime Minister for Tourism Coordination, Government of Pakistan, and Chairman of the Pakistan Tourism Development Corporation.

## **Expert Dialogue: Centrality of Allied Health Professionals in Healthcare Landscape**

Allied Health Professionals (AHPs) are a diverse group of trained caregivers who work together with doctors and other medical staff to offer a complete healthcare experience. They are not just skilled in the science of medicine but also in understanding and applying it in real-world settings. For example, radiographers' or lab technicians' insights are pivotal in helping doctors pinpoint the disease and proceed with proper treatment and care. In emergencies, these professionals' step in to assess and provide immediate care, often being the difference between a quick recovery and a prolonged illness. Along with the immediate response, AHPs like physiotherapists or dieticians dive deeper, looking at the bigger picture of a patient's health and contributing to medicine with evidence-based data and reports. They undertake every professional service from physical rehabilitation to dietary needs, ensuring that patients are not just treated but truly cared for. In essence, they are pivotal in ensuring the healthcare system runs smoothly and effectively. This dialogue underscores the indispensable role of Allied Health Professionals (AHPs) in healthcare. The dialogue will answer questions pertinent to the centrality of allied health professionals in healthcare systems, what challenges they face in academic medical centers and what strategies can be done to recognize their centrality in the healthcare landscape.

**Ms. Tasha Koerner-Bungey** is a dietitian by profession and is currently affiliated with Southern Adelaide Local Health Network (SALHN), Adelaide, Australia. Miss Bungey has a research interest in investigating the feasibility of sarcopenia diagnosis & management.

**Dr Aysha Habib** Professor Department of Pathology & Laboratory Medicine, Aga Khan University Hospital

## **Panel Research, Clinical Services and Patient Care in Allied Health**

Allied Health Professionals (AHPs) play an important role in hospital settings, acting as vital links between physicians and nurses to ensure optimal patient care. They contribute significantly to evidence-based clinical research, driving innovation and improved treatment approaches. Their commitment to fostering critical thinking, problem-solving, and a culture of evidence-based practice is invaluable to healthcare advancement. Recognizing the growing need for healthcare services beyond traditional hospital confines, AHPs actively lead the expansion of outpatient services. This ensures that patients receive timely and appropriate care while reducing the necessity for prolonged hospital stays. Collaboration with nurses is a fundamental aspect of AHPs' work, ensuring a smooth and uninterrupted patient journey from the initial diagnosis to complete recovery. Join us for an insightful panel discussion where our distinguished experts will illuminate the multifaceted contributions of allied health professionals in hospital settings. From patient safety to clinical research, outpatient services, and collaborative care with nurses, we'll explore the holistic approach they bring to delivering high-quality healthcare.

**Panel Chair:** Dr Naveed Babur, Dean & Faculty of Allied Health Sciences Superior University, Lahore

**Panel Moderator:** Dr Saleem Gulzar Associate Professor and Director School of Nursing, at the Aga Khan University. She is also co-chairing the allied health conference scientific committee.

### **Panellists**

- **Dr. Tazeen Saeed Ali**, Interim Dean and the Shakur Jamal Endowed Professor at the School of Nursing and Midwifery, Aga Khan University. She is also Associate Dean of Research and Innovation at the School of Nursing and Midwifery, Aga Khan University. In addition to this, she also serves as a Professor at the Department of Community Health Sciences (CHS), AKU Medical College.
- **Dr. Mairaj Shah**, Chief Operating Officer, Secondary Hospitals, AKU
- **Ms. Amina Lakhani**, HOD Department of Nursing Education Services, Division of Nursing Services, AKUH.
- **Dr. Huma Naz**, Director CEO Office, Aga Khan University Hospital
- **Ms. Laila Khymani**, Director Manager Office – CMS, Aga Khan University

## **Expert Talk: Accreditation and Licensing for Allied Health Professionals**

Accreditation is a foundation of credibility and accountability in the Allied Healthcare System which ensures quality standards that uphold teaching practices through rigorous external evaluation. This process validates the competencies of graduates, fostering trust in professional practice, educational institutions, and patient care. Accredited institutions meet or exceed standardized benchmarks, promoting trust and credibility among students and facilitating higher education, transfers, and employment opportunities. Accreditation drives evidence-based evaluation and enhances improvements in teaching and learning strategies. It necessitates institutions to continually evolve monitor and enhance their practices. Moreover, accreditation leads to licensure or credible degrees, enhancing student selection criteria and ensuring a competent Allied Health workforce. Many careers in this field require licensure, underscoring the importance of accreditation in granting licenses only to graduates of accredited institutions. Ultimately, accreditation plays a vital role in maintaining the quality of Allied Health education and the excellence of healthcare services delivered to patients. During this brief talk our expert will delve deep into the intricacies of why accreditation is important in allied health, what licensing options are available, what hospitals and academic medical centres can do to strategize accreditation in their institutions and lastly what allied health professionals do to ensure they get relevant endorsements.

**Prof. Dr. Syed Amir Gilani** is a Rector, of Ibadat International University, Islamabad, Pakistan. He is also a Pro-Rector, of the Faculty of Allied Health Sciences, The University of Lahore, Défense Road, Lahore, Pakistan. In addition to this, he also holds a joint appointment as a Visiting Professor at, the Radiology Dept., L.U.deS University, Lugano, Switzerland.

## **Expert Talk: Global Skills for Allied Health Professionals- Dr Shakeel Ahmed**

"Global Skills for Allied Health Professionals" emphasizes the critical competencies required for effective healthcare delivery in today's interconnected world. Allied Health Professionals (AHPs) must exhibit cultural competencies, establish trust, and tailor care to diverse patient needs while respecting varying cultural beliefs. Collaboration among AHPs is essential for addressing complex patient requirements, requiring collaborative interprofessional efforts. Moreover, a commitment to evidence-based practice and ongoing learning is imperative for optimizing patient care through quality reporting and assessment. AHPs must adapt to the evolving healthcare practices by enhancing digital literacy, ethical practice, and communication skills, including multilingual proficiency. Continual professional development is encouraged to improve critical thinking and problem-solving abilities. Furthermore, AHPs are encouraged to assume leadership roles within their fields, advocating for improved patient care, resource allocation, and public health policies. This expert talk will address the crucial topic of global skills for allied health professionals, exploring the competencies and knowledge required to thrive in an increasingly interconnected healthcare landscape in the 21<sup>st</sup> century era.

**Dr Shakeel Ahmed Khan** is a Voice & Image Consultant at The Society of Image Management Pakistan

## **Panel on Advances in Allied Health Education**

This discussion would emphasize the critical need for investment in Allied Health education and training in Pakistan. This investment is essential to cultivate a proficient healthcare workforce committed to delivering high-quality services. Pakistan faces formidable obstacles, including outdated curricula, limited resources, and limited career prospects for aspiring Allied Health professionals. Few universities and institutes offer credible programs, despite the country's pressing need for healthcare experts. Accreditation, credibility, and licensure are crucial factors in this context. Academia plays a pivotal role in addressing these challenges. Beyond imparting knowledge, academic institutions are responsible for designing curricula that equip graduates with the skills required for real-world practice. This approach encompasses diverse teaching methods, hands-on training, proficiency in evidence-based practices, cultural sensitivity, and collaboration in healthcare models. Moreover, academia emphasizes the importance of continuous learning, aligning with the healthcare sector's ever-evolving nature. Essentially, academia exerts significant influence in guiding the path of Allied Health education in Pakistan.

**Panel Moderator: Dr Shelina Bhamani**, Assistant Professor & Associate Director Office of Allied Health, Aga Khan University

### **Panellist**

- **Dr. Tausif Rajput**, Dean & Professor, Shifa Tameer-e-Millat University, Shifa International Hospitals, Islamabad.
- **Dr Tayyab Rehman**, Dean & Professor, Allied Health Sciences, Iqra National University Swat Campus.
- **Dr. Ashfaq Ahmed**, Dean, Faculty of Allied Health Sciences, University of Lahore.
- **Dr Robyna Irshad Khan**, Associate Professor & Associate Dean Office of Allied Health, AKU
- **Dr. Sumaira Farooqi**, Principal School of Physiotherapy, Ziauddin University

# **Oral and Poster Abstracts**



## Paving the Way for Palliative Care

Full Title: Paving the Way for Palliative Care: A Comprehensive Model of Interdisciplinary Practice in Pakistan

Aisha Ambreen<sup>\*</sup>, Habiba Zaheer, Asra Taj, Ismat Jabeen, Resham Shahzadi, Nadia Mulji, Laila Khymani, Atif Waqar

<sup>\*</sup>Department of Oncology, Aga Khan University

**Introduction:** With a rising global trend in life expectancy<sup>1</sup> and increase in serious health related sufferings<sup>2</sup>, a dire need for Palliative Care (PC) is emerging. PC, a specialized form of health care focuses on relieving suffering and improving quality of life. In Pakistan PC is still in infancy stage remaining a low priority agenda. Formal PC services are being provided by only a handful of institutes in the private sector with few hospices in Karachi, Hyderabad and Rawalpindi run mainly by non-governmental based organizations.

**Methods:** To showcase a unique interdisciplinary model of PC being delivered at Aga Khan University Hospital (AKUH) in which a wide group of health care professionals work together in a team to deliver PC in 3 settings; in-patient, out-patient setting and at home.

**Results:** This is first of a kind service in Pakistan with interdisciplinary team of professionals from various disciplines for adults and paediatric PC patients. Team consists of adult PC physicians, Paediatric PC physician, Family Physician, Oncologist, Clinical Psychologist, Dietician, Physiotherapist, Dental Hygienist, Nurses, Nurse navigator, home Health care physicians. Each member of the team brings unique expertise to the table ensuring a care plan meeting the needs of the individual and family. This involves holding Inter disciplinary team (IDT) meetings, coordination of care with other disciplines and transition of care from in-patient to home setting. AKUH Palliative Care Multi-Disciplinary Team approach is playing a significant role in supporting cancer patients and their families through collaborative efforts from diverse professionals and can serve as a model for others in the country.

**Key words:** Interdisciplinary, Multidisciplinary Team, Palliative Care

## Outcomes of Non-Surgical Periodontal Therapy on the Periodontal Status

Full Title: Outcomes of Non-Surgical Periodontal Therapy on the Periodontal Status among Electronic Cigarette Smokers, Conventional Smokers, and Non-Smokers

Shazia Taimoor<sup>1</sup>, Misbah Shams<sup>2</sup>, Ali Sadiq<sup>1</sup>, Farhan Raza Khan<sup>1</sup>,

\*Department of Surgery, Aga Khan University

**Introduction:** Smoking is known to increase the risk of periodontal disease. It increases the severity of the disease and adversely affects the outcomes of non-surgical periodontal therapy (NSPT). The liquid in e-cigarettes (E-cig) contains nicotine, flavouring agents, and chemicals. It is heated by a battery-operated smoking device to generate the inhaled vapours. Over the past few years, the knowledge of how electronic cigarettes affect periodontium has significantly increased. However, there is still a lack of data regarding how E-cig smokers respond differently to NSPT than conventional smokers (CS).

**Objectives:** To compare the effect of NSPT on the status of periodontitis among E-cig, CS, and non-smoker (NS) groups per the 2017 periodontal classification.

**Methods:** It's an observational, prospective, cohort study comprising 44 participants in three groups. Six-point pocket charting, bleeding on probing (BOP) and radiographic presentation were assessed for periodontal staging, grading, and stability as per the 2017 periodontal classification. Participants were evaluated post-NSPT after 12 weeks, to assess the improvement in periodontal condition. SPSS 23.0 was used for data analysis.

**Results:** Out of 44 participants, 16 were NS, 16 were E-cig users and 16 were CS respectively. In our study, significant variations in periodontal health and disease progression were observed among non-smokers, smokers, and electronic cigarette users. The baseline and follow-up data revealed that non-smokers exhibited a substantial decrease in sites with Bleeding on Probing (BOP) from 81% to 27% and an increase in periodontal stability from 12% to 56%. In contrast, smokers and electronic cigarette users displayed persistently higher BOP percentages at baseline (47% and 49%, respectively), with stability rates of 25% and 17%, respectively, and fluctuating levels of generalized and localized periodontitis. Specifically, smokers exhibited a change in Gen Perio from 75% to 44%, Local Periodontitis from 19% to 44%, and Unknown from 6% to 12%. Electronic cigarette users showed changes from Gen Perio 50% to 40%, Local Periodontitis 33% to 44%, and Unknown 17% to 16%.

**Conclusion:** The study concludes that both e-cigs and CS negatively affect the stage, grade, and distribution of periodontal disease.

**Key words:** Dental health, dental hygienists, non-communicable diseases

## Legacy to Leadership – ASHP IPPR Accreditation

Full Title: Legacy to Leadership – ASHP IPPR Accreditation for Largest Pharmacy Residency in the World – 25 Residents / Year.

Umer Ali Khan<sup>\*</sup>, Syed Shamim Raza, Faqeeha Shakeel, Hafsa Ashfaq

<sup>\*</sup>Department of Pharmacy Services, Aga Khan University

**Introduction:** Since its inception, the Aga Khan University Hospital (AKUH) has been instrumental in shaping the careers of number of pharmacy graduates through its pioneering pharmacy traineeship program. This program, which began as a legacy initiative, has now undergone a remarkable transformation into International Pharmacy Practice Residency Program (IPPR). Over the years, AKUH's traineeship program has produced professionals who seamlessly integrate into the healthcare system. Building upon this success, AKUH transformed its educational program from legacy to leadership by revamping it into an International Pharmacy Practice Residency Program-American Society of Health-System Pharmacists (ASHP), setting an unprecedented global benchmark. AKUH has become the first tertiary care hospital worldwide producing 25 residents annually.

**Methods:** An intervention for curriculum revamping was done. The revamped curriculum encompasses comprehensive learning experiences including Inpatient, Outpatient, Preparation, Drug and Poison Information Center, Research, Clinical rounds, and Pharmacy Practice. The residency is uniquely characterized by its inclusion of highly skilled preceptors, guiding residents toward excellence and gauging residents' knowledge via summative and normative evaluation.

**Key Findings:** With this structured training program and a mission to product competent and well-trained pharmacists we are optimistic to transform the pharmacy practice landscape of Pakistan.

This initiative is significant for countries with limited resources, where access to top-tier education and practice facilities is constrained. This Program stands as a beacon of hope in low to middle-income countries, empowering them to thrive within challenging environments.

**Keywords:** Curriculum reform, pharmacy, student's centeredness

## Development of Oats-Wheat Composite Flour Cookies

Full Title: Development of Oats-Wheat Composite Flour Cookies Enriched with Nigella Sativa (Kalonji) and Its Effect on Hyperlipidemia

Hajra Saleem\*, Muneeb Khan

\*Iqraa Medical Complex, Evercare Hospital, Lahore

**Introduction:** The term hyperlipidemia is used to describe elevated lipid levels in the body. Hyperlipidemia is also a cause of other ailments such as heart and liver diseases that can be fatal. Foods such as oats and nigella sativa have therapeutic effects that improve hyperlipidemia.

**Methods:** The present study was aimed at developing healthy snack cookies and investigating its effect on hyperlipidemia. An experimental study was conducted and individuals of 25-45 were included in the study. 70 individuals were recruited for clinical trial divided equally in two groups, control, and treatment group with 35 participants in each group. Oats-wheat composite flour cookies enriched with Nigella Sativa (kalonji) were developed. Sensory evaluation of cookies was performed. Proximate analysis of cookies was done. The treatment group was given intervention for 30 days i.e., cookies whereas control group didn't receive any intervention. Anthropometric measurements and lipid profile were done at the beginning of the study and after 4 weeks of intervention tests were performed again to compare the results. T test was applied, and data was expressed as mean  $\pm$ SD and percent difference. Significance level was set at  $p < 0.05$ .

**Results:** Results revealed the moisture, ash, protein, fat, crude fiber and carbohydrate content of cookies were 9.17, 2.17, 16.97, 10.47, 1.82 and 59.40 percent respectively. It was observed that intake of cookies for 30 days significantly reduced weight in participants and consequently BMI  $p < 0.01$ . The Total cholesterol, triglycerides and LDL showed significant reduction  $p < 0.01$  after clinical trial of 30 days. No significant reduction was seen in VLDL  $p = 0.630$ . On the other hand, HDL levels were elevated significantly  $p < 0.01$ . Results revealed an overall improvement in parameters of Lipid profile in hyperlipidemic patients.

In conclusion, intake of a healthy snack in form of cookies can play a very important role in weight management and as well as in improvement of biochemical markers such as lipid profile. Just by replacing unhealthy snacks with a healthy one, overall health can be improved.

**Key words:** Composite flour, oats-wheat, nigella sativa, lipid profile, hyperlipidemia

## Evidence-Based Approach to Reduce CLABSI in Cardiac Intensive Care Unit

Full Title: Evidence-Based Approach to Reduce Central Line Associated Blood Stream Infections (CLABSI) in Cardiac Intensive Care Unit

Misbah Dilawar\*, Yasmin Vellani, Nausheen Kassam, Wasim Yosuf, Alvina Amin, Syed Shahbuddin

\*Department of Surgery, Aga Khan University

**Introduction:** Central Line-Associated Blood bloodstream infections (CLABSIs) pose a significant health threat, occurring when pathogens, mainly bacteria or viruses, enter the bloodstream through central lines, commonly employed in intensive care settings. The ensuing infections lead to extended hospital stays, increased costs, higher morbidity, and elevated mortality rates. A noteworthy CLABSI case emerged in June 2022 within Cardiac Intensive Care Units, following staff turnover. This incident underscored the urgency of addressing the issue's impact on patient care and unit indicators. To emphasize CLABSI's importance, an awareness week titled "Scrub the Hub" was observed in June 2022 and later, make continued new hiring training and strict checks.

**Methods:** This study aimed at eliminating the CLABSI rate in CICU completely by reviewing care protocols and enhancing nurses' proficiency. Employing the Plan, Do, Study, Act (PDSA) framework, the project unfolded through distinct phases. Stakeholder consultations assessed needs, while the CLABSI prevention week involved the Department of Infection Prevention and Hospital Epidemiology (DIPHE). Strategies included evidence-based reference materials, displayed in the Cardiac Intensive Care Unit (CICU), sharing relevant CLABSI prevention policies, conducting compliance and hand hygiene sessions, and rigorous audits overseen by DIPHE. Specific protocols for central line insertion, hub cleansing, and sterile dressing changes were meticulously communicated, with certified personnel overseeing dressing assessment. Monthly in-service audits and spot checks by management staff make a continuous part.

**Results:** Significant outcomes emerged from these efforts: 96% of nurses confirmed proficiency in central line management. Notably, the CICU remained CLABSI-free for an impressive 14 months, meriting a CLABSI-free certificate from DIPHE. This study underscores CLABSI prevention's importance and the effectiveness of a comprehensive approach involving education, policy reinforcement, and meticulous monitoring.

**Key Words:** Central Line, Blood Stream infection, Bundles

# **Poster Presentation Theme 1**

## **Interdisciplinary and Education**

## Diagnostic Dilemma of Patients with Homocystinuria: Experience from A Tertiary Care Centre in Pakistan

Hira Naeem, Lena Jafri, Azeema Jamil, Aysha Habib Khan, Sibtain Ahmed, Nasir Ali, Hafsa Majid

Biochemical Genetics Laboratory, Department of Pathology and Laboratory Medicine, Aga Khan University Hospital, Karachi, Pakistan

**Introduction:** To determine the frequency of Homocystinuria disorders diagnosed on plasma amino acid (PAA) analysis.

**Methods:** Patients with Homocystinuria were identified from the results of plasma amino acids (PAA) from Jan 2013 to Dec 2021. Patients were stratified into five groups; (a) Cystathionine beta-synthase deficiency (CBS): high methionine and low cystine and high serum total homocysteine (tHcy), normal serum B12 and folic acid (FA), (b) Cobalamin-related remethylating disorders (Cb1-RD): elevation in urine methylmalonic acid, high tHcy, normal serum B12 & high FA, (c) B12 deficiency (B12 def): serum B12 <200pg/ml, high tHcy, normal urine methylmalonic acid, (d) nonspecific Homocystinuria: high tHcy with normal B12, methionine, and urine methylmalonic acid. Data was analyzed by Microsoft Excel 2010.

**Results:** During the study period, 1910 high-risk patients suspected of having inherited metabolic disorders were screened in BGL. Out of the total, 43 cases of homocystinuria were detected. Median age of the cases was 11.4 months (interquartile range-IQR 6-41.5); 56% were female. On stratification into the type of disorders, 37% (n=16) had homocystinuria due to CBS, 30%(n=13) had Cb1-RD, nonspecific Homocystinuria in 27% (n=12), while B12 deficiency was noted in 5%(n=2).

The mortality rate in patients followed by pediatricians was high [43% (9/22) as compared to 5% (1/19)] followed by metabolic physicians.

**Conclusion:** Screening tests including PAA, UOA, tHcy, B12 and FA provide valuable clues to the etiology of Homocystinuria.

**Keywords:** Cystathionin beta synthase disorder, Methylmalonic Aciduria, cobalamin-related remethylation disorders, Vitamin B 12 Deficiency.

## Outcomes of Non-Surgical Periodontal Therapy on the Periodontal Status among Electronic Cigarette Smokers, Conventional Smokers, and Non-Smokers

Shazia Taimoor<sup>1</sup>, Misbah Shams<sup>2</sup>, Ali Sadiq<sup>1</sup>, Farhan Raza Khan<sup>1</sup>,

<sup>1</sup>Department of Surgery, Aga Khan University

<sup>2</sup>Department of Obs & Gynae, Aga Khan University

**Background:** Smoking is known to increase the risk of periodontal disease. It increases the severity of the disease and adversely affects the outcomes of non-surgical periodontal therapy (NSPT). The liquid in e-cigarettes (E-cig) contains nicotine, flavoring agents, and chemicals. It is heated by a battery-operated smoking device to generate the vapors that are inhaled. Over the past few years, the knowledge of how electronic cigarettes affect periodontium has significantly increased. However, there is still a lack of data regarding how E-cig smokers respond differently to NSPT compared to conventional smokers (CS).

**Objectives:** To compare the effect of NSPT on the status of periodontitis among E-cig, CS, and non-smoker (NS) groups per the 2017 periodontal classification.

**Methods:** It's an observational, prospective, cohort study comprising 44 participants in three groups. Six-point pocket charting, bleeding on probing (BOP) and radiographic presentation were assessed for periodontal staging, grading, and stability as per the 2017 periodontal classification. Participants were evaluated post-NSPT after 12 weeks, to assess the improvement in periodontal condition. SPSS 23.0 was used for data analysis.

**Results:** Out of 48 participants, 16 were NS, 16 were E-cig users and 16 were CS respectively. The baseline and follow-up data revealed that non-smokers exhibited a substantial decrease in sites with Bleeding on Probing (BOP) from 81% to 27% and an increase in periodontal stability from 12% to 56%. In contrast, smokers and electronic cigarette users displayed persistently higher BOP percentages at baseline (47% and 49%, respectively), with stability rates of 25% and 17%, respectively, and fluctuating levels of generalized and localized periodontitis. Specifically, smokers exhibited a change in Gen Perio from 75% to 44%, Local Periodontitis from 19% to 44%, and Unknown from 6% to 12%. Electronic cigarette users showed changes from Gen Perio 50% to 40%, Local Periodontitis 33% to 44%, and Unknown 17% to 16%.

**Conclusion:** Within the limits of the present study, the results support the hypothesis that tobacco smoking worsens periodontal health, with significant improvements observed in non-smokers following Non-Surgical Periodontal Therapy (NSPT).

**Keywords:** Bleeding on Probing (BOP), Non-Surgical Periodontal Therapy (NSPT).



## Newborn Screening for Rare Diseases: Current Challenges and Future Prospects

A Jamil, S Akhtar, M Hafsa, N Ali,  
Section of Chemical Pathology, Department of Pathology & Laboratory Medicine  
Aga Khan University, Aga Khan University, Karachi, Pakistan

**Introduction:** The newborn screening (NBS) program is critical in the early detection and intervention of various rare diseases. The implementation of comprehensive NBS for rare diseases poses significant challenges. Our study aims to explore the current challenges faced in detecting rare diseases and discuss potential prospects for enhancing screening methodologies.

**Objective:** To highlight the importance of early identification of rare diseases and intervention to enhance the quality of life for affected newborns and their families.

**Methods:** A systematic review of approved NBS-guidelines-2013. NBS-01-A6 (Blood Collection on Filter Paper for Newborn Screening Programs), NBS-02-A2 (Newborn Screening Follow-up), NBS-03-A (Newborn Screening for preterm, low birth weight and sick newborn). A comprehensive review of existing NBS programs and their limitations, advancements in screening technologies, and potential for incorporating new biomarkers and testing methods were studied in detail in the included work.

**Results:** An overview of the current challenges faced in NBS programs for rare diseases, include limited availability of validated screening tests, the complexity of diagnostic algorithms, and the high cost associated with implementing NBS programs. Furthermore, there is a need for collaboration among healthcare providers, researchers, and policymakers to enhance the understanding of rare diseases and facilitate the development of effective screening strategies.

**Conclusion:** It is important to expand the scope of newborn screening and enable the early detection of rare conditions. Fostering collaboration between stakeholders is the key to implementing a successful NBS program. Ultimately, embracing innovative approaches and overcoming the existing challenges will lead to improved health outcomes.

**Keywords:** Newborn screening program, Critical, Rare diseases.

## Categorization of Urea Cycle Disorders (UCD): A Study from Pakistan

Tahira Parveen, Hafsa Majid, Azeema Jamil, Akhtar Shah

Department of Pathology and Laboratory Medicine, Aga Khan University (AKU), Karachi, Pakistan

**Introduction:** The principal metabolic mechanism of UCD is the elimination of nitrogenous wastes generated by the breakdown of protein and other nitrogen-containing molecules.

**Objective:** This study was done to determine the prevalence of specific UCD through Plasma Amino Acid (PAA) analysis and establish their etiological classifications for improved patient management.

**Methods:** A cross-sectional study was conducted by the Departments of Chemical Pathology at Biochemical Genetics Laboratory, Aga Khan University Hospital. Patient samples included from January 2013 to April 2022 were analyzed on Bio-chrome30+.

**Results:** A total of 3958 PAA were analyzed, among which 2.0% (n=77) patients were identified with distinct UCD. The median (Q3-Q1) age of patients was 6 days, with 48% (n=40) being female. Among these patients, 30% (n=23) exhibited Citrullinemia type-1 & type-2, 2.5% (n=2) had Arginosuccinate Lyase deficiency, 10% (n=08) had Arginase Deficiency, 31% (n=24) had N-Acetyl glutamate synthetase /Carbamoyl phosphate Synthetase Deficiency, 10% (n=08) had OTC deficiency, 2% (n=2) had OAT deficiency, 10% (n=8) had unspecified UCD, and 1% (n=01) had HHH syndrome. Common symptoms included fever in 24% (n=19), poor sucking in 30% (n=23), seizures in 14% (n=11), hyperammonemia in 13% (n=10), and mental retardation in 10% (n=8). Biochemical parameters indicated hyperammonemia in 25% (n=19) and lactic acidosis in 19% (n=15) of the cases.

**Conclusion:** Standard diagnostic methods can effectively differentiate the etiological classifications of UCD, a critical step for appropriate patient management.

**Keywords:** Citrullinemia, Arginosuccinate lyase, N-acetyl glutamate synthase, ornithine aminotransferase (OAT), Ornithine transcarboxylase (OTC) deficiency.

## Improving Point Prevalence of Modified Early Warning Signs at Medical Surgical Unit

Misbah Dilawar, Sumera Danish, Yasmin Vellani, Alvina Amin, Nausheen Kassam, Hina Inam

**Introduction:** Patient safety is an utmost priority in hospital settings, especially in-patient units. This scoring system is a simple physiological response of the body that helps bedside nurses to track patient's progress and trigger rapid response proactively in order to recognize any critical events and intervene accordingly. This is extremely vital in view of patient safety and early response.

**Methods:** In one of the medical surgical Units at the tertiary care hospital, there was a continuously decreasing trend of MEWs\* in the last two quarters of 2022. It was below 80% against the 100% benchmark of the hospital. Ultimately, it resulted in numerous rush calls and intubations. Based on these continuous critical observations, it was identified that the staff had low sensitivity to MEWs as well as a knowledge deficit on the scoring system.

This was a wake-up call for the unit management and hence, this was prioritized, and a sense of sensitivity and accountability was created for the staff. The staff then came up with various strategies to improve the situation.

**Results:** On reevaluation in Q1 2023, the unit was able to manage 100% compliance to point prevalence audits of MEWs score as well as an increased number of RRT calls from 40 in Q4 2022 to 46 in Q1 2023 and a decrease in the number of codes from 2 in Q4 2022 to 0 in Q1 2023.

**Conclusion:** Identifying early warning signs is an essential component of patient safety. This not only increases the probability of better outcomes, but it also improves patients' and family experiences. Continuous reinforcement of correct identification of MEWs is an indicator of patient safety.

**Keywords:** MEWs, point prevalence.

## C-PEPTIDE: A Method Verification Study Between the Two Immunoassays

Nasreen Bano, Sibtain Ahmed

Section of Chemical Pathology, Department of Pathology & Laboratory Medicine  
The Aga Khan University (AKU), Karachi, Pakistan

**Objective:** Method standardization directly affects result accuracy, which in turn affects patient outcomes. Regulatory authorities as the Clinical and Laboratory Standards Institute (CLSI), recommend method validation studies to quantifiably characterize system performance, assess potential for error, and identify method-to-method differences. So this analytical study was executed to evaluate the two immunoassay methods, Chemiluminescence immunoassay (CLIA) and electrochemiluminescence immunoassay “ECLIA” is intended for use on Cobas e immunoassay analyzers, for C-Peptide measurement.

**Methods:** A method validation study was performed in the section of Chemical Pathology, Department of Pathology & Laboratory Medicine, AKU. Serum samples were simultaneously analyzed for C-peptide to evaluate imprecision, linearity, and method comparison on Cobas - e801 (Roche US) using ECLIA and Immulite 2000 xpi (Siemens Diagnostics, US) by ELISA. Statistical analysis was done using Microsoft Excel and EP Evaluator version 10.3.0.556 (Data Innovations, LLC).

**Results:** Following studies were performed.

- Precision was done by analyzing 2 control levels, Low (L1), (L2) 20 times. The coefficient of variation (CV) for L1, and L2 on Cobas-e 801 analyzer were 2.4% and 3.4%.
- For assessing linearity and analytical measurement range, 3 samples covering the entire measurement range of the respective instruments were analyzed in triplicates. The ECLIA and ELISA methods were linear over a range of 0.02 to 40.0 ng/mL and 0.10 - 20.0 ng/mL respectively.
- For method comparison, 40 serum samples from patients and 3 specimen of proficiency testing material by College of American Pathologists were analyzed by the methods. The Allowable Systematic error was 15.0% with slope 0.909 intercept 0.3003 and correlation of 0.9973

**Conclusion:** The agreement between these two methods is satisfactory and the differences in results of timing of test, automated method, and CAP surveys available for test accuracy so test method ECLIA can replace the older method ELISA and measuring range (low sensitivity and linearity) have been shown to correlate with better outcomes,

**Keywords:** ECLIA electrochemiluminescence immunoassay.

## Shared Decision-Making among Allied Health Professionals

Zaibunissa Karim

**Introduction:** Allied health professionals are a crucial part of multidisciplinary teams and independent services such as physiotherapy, clinical nutrition, podiatrist, and many more and are involved in the decision-making discussions in interprofessional teams. Shared decision-making (SDM) enhances the autonomy, confidence, and value of frontline health care professionals.

**Objectives:** The purpose of this review is to explore the status of shared governance among allied health professionals and the level of participation of AHPs in decision-making with other multidisciplinary teams for patient care.

**Methods:** An explorative literature review was carried out to understand the phenomena of SDM among AHPs using keywords such as Shared Governance, Allied Health, Allied Health Professionals, Shared Decision Making, and interprofessional collaboration.

**Results:** The literature indicates that there are very few relevant studies available that depict the involvement of AHPs in decision-making. One of the models of allied health governance in Australia talks about the need for multidisciplinary governance, instilling and enhancing confidence and autonomy among AHPs leading to retention of the staff.

**Conclusion:** There is a lack of research studies and evidence-based literature related to shared governance in allied health professionals. The involvement and acceptance of allied health professionals in decision-making with other multidisciplinary teams on patient care, unit resources, team recruitments, and many more. Moreover, evidence-based research studies are required in the context of LMICs to understand and evaluate the autonomy of AHPs in decision-making.

**Keywords:** Allied health, Interprofessional collaboration, shared decision-making

## Diagnostic Accuracy of Foot Length Measurement For Identification of Preterm Birth in Rural Sindh, Pakistan

<sup>1,2</sup>Shiyam Sunder Tikmani, <sup>1</sup>Thomas Mårtensson, <sup>2</sup>Alijaan Inayat, <sup>2</sup>Andrea Mårtensson,  
<sup>1</sup>Sarah Saleem & <sup>2</sup>Nick Brown

<sup>1</sup>Department of Women's & Children's Health, Uppsala Universitet, Sweden

<sup>2</sup>Department of Community Health Sciences, Aga Khan University, Karachi

**Introduction:** Accurate gestational age assessment is crucial to save the lives of preterm infants born before 37 weeks of gestation. Antenatal ultrasound (A-USG) is the most reliable method for pregnancy dating. In Low- and Middle-Income Countries, such as Pakistan, access to A-USG for pregnant women is limited, and hence a need to have an alternate method to assess post-natal gestational age which is easy, does not require high technology and is easily available. This study evaluated the diagnostic accuracy of foot length measurement for identifying preterm newborns in rural Pakistan, using antenatal ultrasound as the reference standard.

**Methods:** This cross-sectional validation study, conducted in rural Pakistan, in the catchment area of the Global Network for Maternal Newborn Health Registry, Thatta, enrolled singleton newborns whose mothers underwent A-USG between <20 weeks of gestation. Eligible neonates were identified, and foot length measurements were taken using a rigid transparent plastic ruler by research assistants. Sensitivity, specificity, predictive values, and likelihood ratios were calculated. The Youden index was used to identify an optimal cut-off of foot length for identifying preterm newborns.

**Results:** Out of 336 enrolled neonates, 22.3% were born before 37 weeks of gestation. The median gestational age of the newborns was 38.2 weeks, and the median foot length was 7.9 cm. The optimal foot length cut-off for identifying preterm birth was considered as  $\leq 7.6$  cm with a sensitivity of 90.8%, specificity of 96.0%, positive predictive value (PPV) of 86.7%, and negative predictive value (NPV) of 97.3%. The area under the curve (AUC) for this cutoff was 97.6%. A lower cutoff of  $\leq 7.5$  cm yielded a sensitivity of 95.4%, specificity 84.0%, PPV 63.1%, and NPV 98.5%.

**Conclusion:** Foot length measurement of  $\leq 7.6$  cm for identification of prematurity has shown high sensitivity and specificity in this study. If A-USG has not been performed during the first 20 weeks of gestation, foot length measurement after birth might be a simple, cheap, and reliable method for first-line healthcare professionals to identify preterm newborns that need more comprehensive care which might need a referral to high-level care.

**Study registration:** NCT05515211

**Keywords:** Preterm, foot length, diagnostic accuracy, antenatal ultrasound

## Guardians of Recovery: Nurse-Led Strategies Against Surgical Site Infections in Post-Cardiac Surgery Patients

Naveen Nizar Ali, Nausheen Kassam

Section of Cardiothoracic Surgery, Department of Surgery, Aga Khan University Hospital, Karachi, Pakistan

**Introduction:** Surgical site infections (SSIs) constitute a formidable challenge for individuals recovering from cardiac surgery, resulting in prolonged hospitalization, escalated healthcare expenses, and adverse patient consequences. The indispensable role of nurses in implementing preventive strategies to alleviate these infections is of paramount significance. This study centers on scrutinizing the rates of SSIs among post-cardiac surgery patients during the year 2022 and explores nurse-driven preventive measures aimed at augmenting patient safety and outcomes.

**Objective:** To gauge the frequency of surgical site infections occurring within the initial 30 days post-cardiac surgery in the year 2022. Additionally, the study sought to identify and evaluate the efficacy of preventive strategies undertaken by nurses to reduce SSI rates.

**Methods:** A retrospective analysis of medical records from post-cardiac surgery patients during the year 2022 was carried out to ascertain occurrences of SSIs. Data collection encompassed patient demographics, surgical particulars, coexisting health conditions, and instances of SSI. Nurse-led preventive strategies, including meticulous wound care, adherence to aseptic practices, patient education, and timely antibiotic administration, were examined through nursing documentation and established protocols.

**Results:** In 2022, among a cohort of 349 cardiac surgery patients, 0.86% (3 patients) experienced SSIs within the initial 30 days post-surgery. This rate surpassed the accepted benchmark of 0.3%. The analysis identified diabetes and extended postoperative hospital stays as significant risk factors for SSIs. Nurse-driven preventive strategies yielded substantial outcomes, involving thorough wound assessments, stringent hand hygiene, early mobilization protocols, and patient education initiatives. These interventions collectively contributed to a reduction in SSI incidents. The achieved SSI outcomes were presented in quality and departmental meetings, initiating discussions about effective strategies for ongoing reduction in SSI rates.

**Conclusion:** This study underscores the critical role of nurse-led interventions in preventing SSIs among post-cardiac surgery patients. The collaboration between nurses and multidisciplinary teams, combined with pre-and post-operative education, demonstrated notable success in reducing SSI rates. By embracing evidence-based practices, standardized protocols, and continuous quality improvement initiatives, nurses can continue to play a pivotal role in enhancing patient safety, minimizing SSIs, and optimizing recovery outcomes in the context of cardiac surgery.

**Keywords:** Surgical site infections, cardiac surgery, postoperative complications, nurse-led interventions.

# **Poster Presentation Theme 2**

## **Research and Innovation**



## Estimating the Risk of Diabetes Mellitus Type-II Among the Individuals with Type-II Obesity: A Case-Control Study

Syed Muhammad Zaeem Hasan Zaidi, Huzaifa Ather Rajar, Fiza Munir

**Introduction:** In recent times, obesity has been an emerging problem around the globe, contributing to the development of two major risk factors i.e., hypertension and diabetes. Diabetes is more prominent in Asian populations, but the incidence, percentage, and probability are unclear owing to a lack of data and sufficient research, thus the major goal of this research work was to analyse the relative risk of developing diabetes mellitus in obese type II individuals in Pakistan.

**Objective:** To estimate the risk of diabetes mellitus type II among individuals with type II obesity.

**Methods:** To conduct the research, a case-control study design was chosen, and a sample size of 233 people was taken from clinical and hospital OPDs for six months.

**Results:** Among the 234 participants 48.5% were male and 51.5% were female, according to the initial data gathered, among the males 48.5% (50.4% male were diabetic) and 51.5% female (37.7% female were diabetic) in Karachi. According to the research out of a total of 233 participants, 66 people were found to be obese and diabetic, whereas 51 were only obese and 35 were diabetic only, this suggests that the risk of diabetes increases more in the presence of obesity.

**Conclusion:** Individual lifestyle modification, including adjustments to nutrition, sleeping patterns, exercise routines, and other therapies, should be necessary immediately to lower the risk of obesity and diabetes among people.

**Keywords:** Diabetes, obesity, odds ratio, risk, BMI

## Injury Incidence and Patterns Among Pakistani Crossfit Athletes

Ehtesham Ullah Khan, Syed Muhammad Zaeem Hasan Zaidi, Rukhsana Naushad

**Introduction:** CrossFit is a known sport and a “constantly varied functional movement exercise of high intensity”. In CrossFit training the focus is not on some specific muscles but on whole-body muscles which help us in playing some games, and climbing stairs, mountains and last one is high intensity helps to make the body strong and get rid of laziness.

**Objective:** The objective of this study was to evaluate the occurrence rate of injuries in the athletes who train in CrossFit exercises in Karachi, Pakistan. Risk factors for injury and injury procedures were also explored by athlete demographics and characteristics.

**Methods:** A cross-sectional study was conducted among CrossFit participants to find out the injury rate. A total of 300 plus questionnaires were distributed among different non-affiliated gyms in Karachi through non-convenient sampling. All participants voluntarily filled up the questionnaires. Inclusion criteria consist of participants who do CrossFit in Karachi and exclusion criteria consist of participants had been less than 18 years. A total of 265 participants completed the survey and the risk factor of injury was determined by using univariable and multivariable analyses.

**Results:** All the respondent participants sustained about 32.2% of an injury in the preceding 12 months. The most injured body parts were lower back (20.8%), shoulder (19.8%), and knee (16.7%). The most significant risk factor for injury was the duration of participation for 0-6 months with OR = 0.263 (CI=1.28-0.541) and p-value < 0.00. The most common cause of injuries was improper form (42.6%).

**Conclusion:** The incidence of injury rate was low in our sample of CrossFit athletes. The most injured body parts were the lower back, shoulder, and knee. The duration of participation the first six months was major significant risk factor for injuries.

**Keywords:** CrossFit; competitive exercise; fitness; injury rate; weightlifting.

## Frequency of Flat Feet Among Patients with Knee Osteoarthritis

Syed Muhammad Zaeem Hasan Zaidi, Fiza Munir, Bisma Khan

**Introduction:** Osteoarthritis is a degenerative disorder that involves the degradation of proteoglycan and collagen within the joint cartilage which causes its thinning. While flatfoot is the increase in foot pronation due to the collapse of arches especially the medial longitudinal arch. As far as knee and foot biomechanics are interrelated, disturbance in one joint affects the other joint.

**Objective:** This study was conducted to determine the frequency of flat feet in patients with knee osteoarthritis.

**Methods:** The cross-sectional study was conducted by the students of the Institute of Physical Medicine and Rehabilitation, Dow University of Health Sciences Karachi. The sampling technique was non- non-probability purposive sampling technique, the sample size was 354 participants. Data was collected through an assessment form by using a navicular drop test. Navicular drop test is performed to assess the height of the medial longitudinal arch of foot<sup>9</sup> by means of recording the distance of navicular bone from the ground in non-weight bearing and weight bearing positions in units of millimetres (mm). A value of 6-8 mm is considered normal, > 10mm is low arch and < 4 is high arch. The study duration was 03 months after the approval of the synopsis. This research was conducted at study settings which included the Institute of Physical Medicine and Rehabilitation, Dr. Ruth K.M Pfau Civil Hospital Karachi and Dr. Essa Physiotherapy Clinic, Al-Mustafa Medical Centre, JPMC, National Medical Centre, Hayat Institute of Rehabilitation and medicine.

**Results:** The results showed that out of the total population, patients showed unequal amount of pronation and supination i.e., 55.6% and 7.1% respectively while 37.3% had no alteration in foot posture.

**Conclusion:** In patients with knee osteoarthritis, pronated foot was more common than supinated and normally aligned foot.

**Keywords:** Osteoarthritis (OA), knee osteoarthritis (KOA), flatfoot (FF), frequency, pes planus, navicular drop test, pronation of foot,

## Analysis of Cone Beam CT (CBCT) Based Bladder Volume Variation During External Beam Radiation Therapy for Cervical Cancer

Zoya Zakria, Misbah Afzal, Syeda Aisha, Quratulain Shaikh, Mariam Hina, Bilal Mazhar Qureshi

**Introduction:** Organ motion is critical in precision radiation therapy for pelvic tumours. Bladder volume variation affects the position of the target structure and could potentially reduce local control of the disease. Bladder-filling protocols offer pre-treatment instructions to mitigate these effects. Despite comprehensive guidance, patients struggle to maintain a consistent bladder volume.

**Objective:** To assess variation in inter-fractional bladder volume using daily CBCT scans in cervical cancer patients.

**Methods:** Four Federation of Gynaecology and Obstetrics (FIGO) II-III squamous cell carcinoma cervix patients were educated about bladder filling before external beam radiation therapy. A total dose of 4500-6400 cGy was delivered in two phases. Bladder volumes were measured through planning CT scan and daily CBCTs, verified by a radiation oncologist, and statistically analysed for mean and standard deviation (SD) across 105 CBCTs.

**Results:** The bladder volume for four patients on planning scan was 382.50 ml, 138.70 ml, 243.10 ml, and 329.30 ml respectively. Mean bladder volume on CBCTs was 398.96 ml, 98.66 ml, 270.44 ml, and 289.76 ml with SD of 129.59 ml, 36.00 ml, 81.35 ml, and 134.37 ml respectively.

**Conclusion:** Bladder volume variations correlate with bladder wall motion. Despite protocols, significant variation in SD may affect target volumes necessitating dose adjustments for improved local control and fewer side effects.

**Keywords:** Bladder volume, cervical cancer, cone beam computed tomography (CBCT)  
Disclosure statement:

## Stimulation based Healthcare Training

Sana Hirani, Amber Sabeen, Laila Ladak, & Zohra Kurji

Aga Khan University Hospital Department of Nursing Service, Karachi, Pakistan

**Introduction:** Simulation-based training is considered a core teaching methodology in clinical practice, which allows healthcare professionals to gain clinical experiences in a realistic learning environment. The significance of continuing education has always been emphasized, since the beginning of the medical profession, and during the COVID 19 pandemic, the need for simulation-based training in managing the global crisis increased considerably. However, experiences regarding simulation-based training have not yet been explored in low-middle countries, like Pakistan.

**Objective:** This study aimed to explore the experiences of simulation-based training during the COVID 19 pandemic, among practicing healthcare professionals, and identified the challenges and barriers associated with this learning approach.

**Methods:** Using a descriptive, qualitative design, semi-structured, interviews were conducted who had worked in the COVID areas and attended two or more simulation-based training sessions during the pandemic. There were 17 healthcare professionals enrolled, which included six doctors, eight nurses, and three physiotherapists. Interviews were stopped upon data saturation. The Consolidated criteria for Reporting Qualitative research (COREQ) guidelines were used and a thematic analysis was conducted.

**Results:** Three main themes were identified: (1) simulation-based learning experience, (2) factors affecting simulation-based training during COVID 19, and (3) recommendations for improvement. In the simulation-based learning experience, learning opportunities through technology, self-efficacy, and improved patient outcomes were the major findings. The factors that affect participants learning during COVID 19, were organizational factors; facilitator training and competencies, and logistics and human resources were of great concern, which hindered their learning. The findings of this study have led to some recommendations for improvement, in which resource allocation and capacity building were the major findings. Participants expressed the need for the increasing the number of trainings, and workshop for simulator educators for enhancing their experience were proposed.

**Conclusion:** Simulation-based training has proven to be vitally important during the COVID 19 Pandemic. However, strategies need to be developed for facilitator competencies, and human and logistic factors for a better learning experience. Thus, organizations should become aware and identify the challenges faced by healthcare professionals during the pandemic, to improve the effectiveness of simulation-based training.

**Keywords:** COVID-19, Stimulation based training

## A Shortened Detection Method was Developed to Reduce the Turnaround Time of Amino Acids on Biochrom 30+ Cation Exchange HPLC

N Yousufzai, H Majid, A Jamil, AH Khan, L Jafri  
Section of Chemical Pathology, Department of Pathology & Laboratory Medicine  
Aga Khan University, Karachi, Pakistan

**Introduction:** Due to the high workload, the turnaround time (TAT) of amino acids would be reduced. So, therefore, the running program of amino acid was shared with biochrome support, with their help some changes were made in the program like flow rate and temperature. To optimize a new program of amino acid (AA) to reduce the turnaround time using cation exchange high-pressure liquid chromatography (HPLC).

**Methods:** This interventional study was done at the biochemical genetic laboratory, at Aga Khan University Hospital from January 2019 to Dec 2019. Quantitative analysis of AA was performed by cation exchange-high performance liquid chromatography on Biochrome 30+ Amino acid analyzer (Biochrome, US). The full AA profile was performed in 156 minutes. A shortened detection method was developed on Biochrome for the separation and quantification of amino acid using nor leucine as the internal standard using a 200 x 4.6 mm physiological high-performance column, standard lithium citrate buffers, and standard physiological separation program. Optimization was done with accuracy and precision.

**Results:** The TAT of amino acids was reduced from 155.5 minutes to 131.5 and the throughput was improved from 9 samples/day to 11 samples/day with no significant effect noted on peak resolution or peak shape. Precision study on HPLC showed a cumulative CV of 6.74 % (range 3.43 - 13.27) for 22 AA using control samples. For accuracy, samples of Proficiency testing and standards were run in triplicate. The cumulative accuracy of 22 Amino acids was 99.6 (range 96.8 - 101).

**Conclusion:** We optimized a short program for amino acid which led to increased throughput with no effect on overall AA analysis.

**Keywords:** AA Analysis, Patient care, turnaround time

## Case Study: An Insight into the Assessment and Intervention of Feeding Difficulties in the Pediatric Population.

Hamamah Ansari, Misha Irshad

**Introduction:** A feeding difficulty may present as difficulty at any level of the feeding process which encircle with all aspects of the child's developmental such as feeding skills, oral motor skills, nutritional requirements, environment, and sensory processes. Feeding difficulties commonly develop because of a variety of circumstances that occur at early child's development. There is limited research on intervention with feeding skills.

**Objective:** The case study aimed to provide a structured assessment and intervention program that was used to develop child's chewing and feeding skills with a history of neurological disease (meningitis). It presents the work done over 6 months with a 2.5-year-old boy who had feeding difficulties post meningitis in which he seizures.

**Methods:** An evidenced based approach was used for intervention approach aiming oral motor, behaviour, and sensory areas (tactile hypersensitivity, tactile hyposensitivity etc.). The child received 40 minutes of individual therapy program once a week with a home program given to parents for 6 months.

**Results:** The child improved in terms of his tactile sensitivity towards the different textures, established jaw stability, biting skills, increased labial and lingual range of motion (ROM) and strength. From swallowing purred and semisolid texture food in a gulp to high texture and solid chewing food. The child started to explore a variety of food.

**Conclusion:** This case study provides a structured assessment and intervention which could be used to treat the feeding and chewing difficulties in typical and atypical development children.

**Keywords:** chewing skills, meningitis, oral motor areas, sensory areas, feeding difficulties, seizures

## Rapid detection of Tuberculous meningitis through GeneXpert MTB/RIF Ultra Assay

Ayman Syed, Shazia Chishty, Maha Marium Wajid, Hina Ghulam Nabi, Samreen Shafiq, Adan Zubair, Joveria Farooqi

**Introduction:** Rapid deduction of Tuberculous meningitis through GeneXpert MTB/RIF Ultra Assay is an emerging field. In lower middle income countries, there are research gaps around this phenomenon.

**Objective:** To determine the sensitivity, specificity, positive predictive value, and negative predictive value of Nucleic acid amplification assay (GeneXpert Ultra) in diagnosing Tuberculous meningitis (TBM) as defined by CSF analysis showing protein >100 mg/dL and WBC count >10/microliter as mycobacterial culture is an imperfect standard due to its low sensitivity.

**Methods:** We retrospectively reviewed the data from February 2022 to June 2023 for GeneXpert Ultra (Xpert® MTB/RIF assay) requests on CSF samples from 160 patients. These samples were categorized as possible TBM if CSF analysis showed WBC count >10/microliter and protein >100 mg/dL. The sensitivity, specificity, PPV and NPV of GeneXpert Ultra in detecting MTB DNA were calculated.

**Results:** Data of 245 samples were collected, out of 245 CSF sample 160 samples had CSF DR available and were included in the study. 135 (84.3%) were categorized as possible TB (chronic meningitis) by CSF protein and TLC, while 25 did not fulfil the criteria. 135 samples were positive on Xpert Ultra. The overall sensitivity, specificity, PPV and NPV of GeneXpert Ultra were 93.28%, 61.53%, 92.59% and 61.53% respectively for diagnosing TBM.

**Conclusion:** GeneXpert Ultra is a highly sensitive tests for confirming tuberculous meningitis. Even a minimally raised protein and leukocyte count on CSF DR should be tested for *Mycobacterium tuberculosis* when evaluating cases for chronic meningitis in endemic countries like Pakistan.

**Keywords:** GeneXpert Ultra, Tuberculous meningitis through GeneXpert MTB/RIF Ultra Assay



## Enhancing Nursing Staff Motivation through Weekly Appreciation: A Unit Lead Project Cardio-Thoracic Surgery

Alvina Amin, Wasim Yosuf, Naveen Nizar, Misbah Dilawar, Yasmin Vellani, Saulat Fatimi

**Introduction:** Motivating nursing staff is crucial for maintaining high-quality patient care and preventing burnout. This abstract presents a project led by the unit management to enhance nursing staff motivation through the implementation of a weekly appreciation program.

**Methods:** The project aimed to create a positive work environment and boost staff morale by recognizing and appreciating the nursing team's efforts and achievements. The unit lead devised a weekly appreciation program consisting of various strategies and initiatives to recognize and reward outstanding performance, dedication, and teamwork. The weekly appreciation program included the following key components:

1. Rewards and Incentives (Monthly appreciation): Gift Vouchers: Monetary rewards in the form of gift vouchers for outstanding performance.
2. Weekly Appreciation Meetings: Regular team meetings are held every Friday to celebrate achievements and acknowledge the exceptional efforts of the nursing staff with a written appreciation letter by CTS section head Dr. Saulat and Unit nurse manager Alvina. Verbal Recognition: Public acknowledgment and praise from the unit lead for individual and team accomplishments.

**Results:** The project positively impacted nursing staff motivation and job satisfaction. Staff members reported feeling valued, recognized, and more engaged in their work. The weekly appreciation program fostered a sense of camaraderie, teamwork, and pride within the nursing team. It creates an impact on attendance as absenteeism is reduced significantly.

**Conclusion:** The unit lead's project on enhancing nursing staff motivation through a weekly appreciation program demonstrated the importance of recognizing and appreciating the efforts of the nursing team. By implementing various recognition initiatives and providing rewards and incentives, the project fostered a positive work environment and improved staff morale. This project serves as a valuable example for other healthcare units aiming to boost staff motivation and enhance patient care outcomes.

**Keywords:** Cardio-Thoracic Surgery, Nursing staff, Staff motivation

## Interdisciplinary Synergy: Essence of Collaboration Among Allied Health Professionals and Advanced Practice Nurses

Sajida Chagani, Rubina Barolia, Tazeen Saeed Ali, Khairunnissa Hooda

**Introduction:** In modern healthcare, the collaboration between allied health professionals and Advanced Practice Nurses (APNs) has gained prominence as an essential strategy for providing comprehensive and patient-centered care. In the current practice, the APN clinical residency program seems to be a great milestone to create more opportunities for interdisciplinary team efforts. It is noticeable that both professionals encompass responsibilities in managing healthcare needs across diverse populations, including individuals, families, and communities, in a variety of clinical settings including acute care, primary care, rehabilitative care, assisted living care, and palliative/end-of-life care.

**Objective:** The objective was to emphasize the dynamic interdisciplinary approach that would leverage the expertise of allied health professionals and APNs to achieve optimal patient outcomes and institutions could capitalize on the strengths of each discipline to provide holistic, patient-centred care to improve patient care outcomes.

**Methods:** This interdisciplinary synergy required an engagement of stakeholders from across healthcare settings. This cooperation was emphasized in several domains like specialized Cardiac, respiratory, etc. APN collaborated with a rehabilitation specialist to design exercise and lifestyle interventions tailored to a patient's health condition. Promoting evidence-based practice with the latest research and clinical guidelines into patient care plans. Leadership and education by providing guidance, mentorship, and educational support to allied health professionals, to enhance overall team performance. Their advanced clinical knowledge allowed them to contribute valuable insights to discuss treatment options and shared decision-making about patient care for complex patient cases. Moreover, they also enhanced patient understanding and engagement in treatment plans, and self-care strategies through education.

**Results:** The collaborative efforts ensured continuity of care, promoting quality for smooth transitions of care, either from hospital to home, between different healthcare settings, or across different stages of treatment.

**Conclusion:** These roles, while advanced, are firmly rooted in both disciplines and complement the existing healthcare system.

**Keywords:** Interdisciplinary approach, allied health professionals, Advanced Practice Nurses, patient-Centered care, collaboration, healthcare excellence.

**Poster Presentation Theme3**  
**Technology and Digital Solutions**

## Enhancing Sterile Reprocessing Technology and Surgical Instrument Care and Maintenance in CSSD: A Quality Assurance Project

Zahida Shahzad, Saba Khan

**Introduction:** This quality assurance project was aimed at improving CSSD practices through two workshops. The first workshop covered advancements in sterile reprocessing technology, The second workshop focused on enhancing surgical instrument care and maintenance to reduce infections and extend instrument lifespan.

**Objectives:** To improve employee knowledge and abilities through comprehensive training and workshops, implement best practices and standard operating procedures, and continuously monitor and evaluate processes for long-term success. These objectives support professional development, reduce errors, and ensure consistency in operations.

**Methods:** These workshops involved 50 participants. The workshops followed a structured methodology, including pre-tests to identify knowledge gaps, presentations by experts, hands-on training, post-tests for evaluation, feedback sessions, and follow-up support. The goal is to equip employees with up-to-date expertise.

**Results:** Workshops effectively achieve objectives. Pre-test scores of 56.5% in sterile reprocessing technology improved significantly to 77.1% post-test. Similarly, Pre-test scores of 65% in the care and maintenance area improved to 80% after workshops.

**Conclusion:** Workshops enhanced understanding of the latest practices, confirmed effectiveness and ongoing follow-up sessions ensure safer patient care.

**Keywords:** Care, Technology, Maintenance, Quality, and Staff training.

## Assessment of Factors Affecting the Smoking Habit in Minors in Pakistan Qualitative Exploratory Research Study

Jonathan Johnson, Wafa Aftab, Romaina Iqbal, Narjis Rizvi

**Introduction:** Smoking among minors is a critical concern in Pakistan, with alarming statistics indicating that most smokers start before the age of 21. National Statistics of Pakistan (2000), 90% of smokers initiate smoking earlier reaching the age of 21 years. Shockingly, experimentation with tobacco begins as early as age 11 for one-third of children, and by age 16, two-thirds have already tried smoking. In Islamabad, a survey report showed that in Pakistan 27% of children aged 10-14 years are smokers, and around 1200 new children take up smoking daily.

**Objective:** To identify the factors influencing smoking habits among minors in Pakistan through qualitative exploration.

**Methods:** Insights from policymakers, schoolteachers, health experts, policy implementers, tobacco industry representatives, and parents shed light on various factors, including peer pressure, role modeling, easy accessibility, and inadequate enforcement of tobacco-related laws and regulations.

**Results:** The study results reveal diverse perspectives and observations of participants regarding smoking and its regulation in Karachi, Pakistan. It emphasizes the importance of tailored programs by different agencies based on their geographical localities to address the issue effectively. The research highlights that tobacco use tends to rise in environments where these products are commonly used, particularly in public places like parks, schools, and colleges, where peer pressure can influence choices.

**Conclusion:** Pakistan has laws and regulations in place to control and restrict the use of tobacco products, the study underscores the need for more robust enforcement and compliance mechanisms to combat the alarming prevalence of smoking among minors in the country.

**Keywords:** Smoking policy, Minors, Factors, tobacco control, enforcement.

## Enhancing Spirometry Compliance and Cardiac Rehabilitation to Reduce BiPAP Applications Following Cardiac Surgery: An Evidence-Based Nursing Research

Naveen Nizar Ali, Nausheen Kassam  
Section of Cardiothoracic Surgery, Department of Surgery  
Aga Khan University Hospital, Karachi, Pakistan

**Introduction:** Cardiac surgery is a routine procedure for patients afflicted by cardiovascular diseases. However, recovery can be obstructed by postoperative complications, such as respiratory distress necessitating Bi-level Positive Airway Pressure (BiPAP). Non-adherence to spirometry exercises and inadequate engagement in cardiac rehabilitation programs have been identified as potential contributors to this issue. This study aimed to examine the efficacy of interventions aimed at enhancing spirometry compliance and boosting cardiac rehabilitation participation, ultimately leading to a reduction in the need for post-cardiac surgery BiPAP applications.

**Objective:** The primary objective of this research was to assess the impact of interventions designed to improve spirometry compliance and increase engagement in cardiac rehabilitation on the incidence of BiPAP applications following cardiac surgery.

**Methods:** A systematic review of pertinent literature from the last four years was undertaken to glean evidence-based insights. Studies encompassing strategies to enhance spirometry compliance and innovative approaches to cardiac rehabilitation were included. The effects of these interventions on reducing the requirement for BiPAP applications were meticulously analyzed. The review encompassed randomized controlled trials, cohort studies, and observational studies to ensure a comprehensive analysis.

**Results:** The analysis unveiled a consistent and favorable trend when interventions were targeted toward improving spirometry compliance and enhancing cardiac rehabilitation participation. Interactive and personalized spirometry education, seamlessly integrated into routine nursing care, demonstrated heightened compliance rates. Furthermore, comprehensive cardiac rehabilitation programs integrating physical exercise, psychosocial support, and patient education showcased a noteworthy decrease in postoperative complications, including the necessity for BiPAP therapy.

**Conclusion:** Recent research substantiates the importance of addressing spirometry compliance and cardiac rehabilitation to mitigate the requirement for BiPAP post-cardiac surgery. Strategies centered around patient education, personalized care, and holistic rehabilitation have shown promising results. Nursing holds a pivotal role in implementing and sustaining these interventions, thereby augmenting patient outcomes, and minimizing postoperative complications. Collaborative research and innovative strategies are essential for further refinement and enhancement of these interventions, aiming to elevate patient care during the post-cardiac surgery phase.

**Keywords:** Cardiac surgery, spirometry compliance, cardiac rehabilitation, and Bi-level Positive Airway Pressure (BiPAP).

## Integration of Tertiary Care into Dental Hygiene Curriculum as a Future Interprofessional Educational Model (IEM)

Ali Sadiq<sup>1</sup>, Shazia Taimoor<sup>1</sup>, Iqra Damani<sup>1</sup>

<sup>1</sup>Department of Surgery, Aga Khan University

**Introduction:** The dental hygiene program at Aga Khan University has recognized the growing need for primary oral care to be integrated into tertiary care which is backed by evidence. The program incorporated interprofessional education (IPE) within its curriculum as a steppingstone to fulfill this growing need.

**Methods:** The integration model of education allowed dental hygiene students to rotate alongside professionals from multiple dental and medical specialties within the hospital. The range of rotations embodied specialties such as oral surgery, oncology, head and neck pathology, and palliative care. The structure of the interdisciplinary rotations adheres to the principles of Kolb's experiential learning model. Initially, students learn through observation, active listening, inquisitive questioning, and critical analysis of new information. Toward the end of these rotations, students write a lesion description along with self-reflection and discuss it with their fellow students in block meetings after the dental hygiene student clinics. They also created a brief and comprehensive photovoice project at the end of the fourth semester.

**Results:** These rotations facilitate the students in developing proficiency in interpersonal communication, and critical thinking, and fostering collaboration with fellow healthcare professionals, enabling them to administer holistic patient care. It cultivates deeper learning and advanced analytical reasoning among the students through exposure to real case scenarios across diverse settings and exchanging knowledge with counterparts from other healthcare teams. Evidence also indicates that dental hygiene students who participate in interprofessional collaboration cultivate enhanced clinical and interpersonal skills.

**Conclusion:** IPE is an effective pedagogical approach that can be utilized by healthcare education to equip future leaders to fulfill the emerging needs of healthcare.

**Keywords:** Interprofessional education, dental hygienist, tertiary care, clinical rotations or clerkships.

## Mapping Local Laboratory Interface Codes to LOINC Using RELMA:

### **A Team-Based Approach**

Abdul Mateen, Sibtain Ahmed, Rizwana Kausar, Hafsa Majid, Akhtar Shah, Imran Siddiqui, Aysha Habib Khan, Farooq Ghani, Lena Jafri  
Section of Clinical Chemistry, Department of Pathology & Laboratory Medicine  
The Aga Khan University (AKU), Karachi, Pakistan

**Introduction:** Efficient and standardized exchange of medical information is paramount in modern healthcare systems. The integration of Logical Observation Identifiers Names and Codes (LOINC) has emerged as a solution to facilitate uniform communication of laboratory test orders and results.

**Objectives:** To validate the accuracy and completeness of the LOINC mappings across a diverse range of biochemical laboratory tests within the Laboratory Information System (LIS). A secondary objective was to identify the appropriate documents for training the laboratory staff to use LOINC codes effectively.

**Methods:** This study was conducted at the Clinical Chemistry laboratory at the AKUH, which serves as a referral center, and caters to on an average of 16000 routine and specialized test requests per day from all the provinces owing to its network of more than 250 phlebotomy stations spread across Pakistan. A team-based approach to implement, review, and validate was adopted to integrate LOINC into the laboratory test catalog. The Regenstreif LOINC Mapping Assistant (RELMA) software was employed to map existing test codes, chemistry analytes, and test components to their corresponding LOINC codes. A total of (n=235) chemistry analytes and test components were diligently categorized and assigned appropriate LOINC codes using the RELMA tool. The mapping process underwent rigorous validation

**Results:** A total of (n=55) immunoassays, (n=95) routine chemistry parameters, (n=10) therapeutic drugs, (n=7) drugs toxicology, (n=3) immunosuppressive drugs & (n=65) provocative tests were successfully integrated using LOINC, yielded substantial improvements in test result standardization and data exchange. Ensuring precise identification of specific tests, analytes, and components. The implementation of LOINC codes presented challenges: adapting to new terminology, training gaps, and workflow disruptions. Code selection complexity arose due to the vast LOINC database, and data entry errors occurred. Integrating LOINC codes seamlessly into the LIS posed technical challenges, requiring coordination with IT teams from AKUH and Vendor and potential adjustments to software interfaces.

**Conclusion:** This study successfully mapped 235 LOINC codes for clinical chemistry lab tests, accompanied by the creation of educational resources and workshops. Team-based approach not only ensures effective implementation but also offers valuable training potential for other sections and laboratories, fostering improved standardization across the clinical services landscape.

**Keywords:** LOINC, RELMA, Clinical Chemistry, Pakistan.



## AKUH Data Enhancement via ICD-10 Implementation

Javeriah Khan, Abeer Fatima  
Aga Khan University

**Introduction:** The **ICD-10-CM** (International Classification of Diseases, Tenth Revision, and Clinical Modification) is a system used by healthcare providers to classify and code diagnoses, symptoms, and procedures of all patients. In the USA ICD-10/CM/PCS was implemented in 2015, while AKUH was in a phase of budgeting and planning for implementation. Our Coders are postgraduates, majoring in physiology. We trained our team to complete the transition from ICD-9-CM to ICD-10-CM.

**Methods:** In Pakistan medical coding isn't linked with medical billing. Here coding is done to collect data for research purposes, which is why there is no hard and fast rule to implement it by any due date. When coders were trained on ICD-10-CM and successfully passed the exam simultaneously, they needed the Information Technology team to cope with the hindrance of new software. Clinical data collection and quality of coded patient records were continuously reviewed to modify the functionality of data elements in the software. The most notable problem is that many times documentation on the clinical record does not support the detail of the classification. There was continued follow-up to ensure that the two interfaced systems reconciled in terms of the number of records discharged and coded monthly.

**Results:** The key to success was teamwork. Preparation was a must, which went hand-in-hand when provided with appropriate resources.

**Conclusion:** Although there were significant challenges to overcome when implementing ICD-10, there were many opportunities as well. Some key points to remember are preparation, planning, education, and lessons learnt from the experience.

**Keywords:** The **ICD-10-CM** (International Classification of Diseases, Tenth Revision, and Clinical Modification)

## Revolutionizing Cancer Care: Transforming Oncology through CNEXT-Powered Hospital-Based Cancer Registry

Quratulain Ali, Maham Zafar, Saba Tabassum, Fizzah Hasan

Aga Khan University Hospital

**Introduction:** In a landscape where technology propels healthcare, our hospital's cancer registry is pioneering change using the CNEXT software without EHR integration, this abstract reveals how our technology-enabled registry leverages CNEXT to consolidate data, facilitating advanced analytics and collaboration across oncology care teams.

**Methods:** Our cancer registry powered by CNEXT seamlessly aggregates data from multiple sources ensuring a broad view of patient experiences. In the absence of EHR integration, CNEXT facilitates customized reporting and efficient data abstraction processes. This promotes precision and accuracy.

**Results:** CNEXT-enabled registry yields promising outcomes by standardizing data collection and analysis, we've uncovered actionable insights into treatment responses, patient demographics, and care pathways. In a realm often reliant on EHR integration, CNEXT-powered registry showcases a pioneering approach to technology-driven healthcare solutions. By embracing CNEXT, we've cultivated cross-disciplinary collaboration and empowered informed decision-making. Registry's unique adaptability amplifies the potential for future innovations.

**Conclusion:** The CNEXT-powered cancer registry exemplifies the transformative power of innovative software solutions. Without EHR integration, our approach showcases how CNEXT has revolutionized data-driven oncology care, serving as a testament to our commitment to pushing boundaries and shaping the future of cancer treatment.

**Keywords:** CNEXT software, technology-driven cancer registry, advanced analytics, data sharing, innovative solutions.

**Acceptability and Scalability Characteristics of an IT-based App used to Triage NCD Risk by LHWs in Pakistan - A Mixed Methods Study**

Zeerak Jarrar, Ayesha Kamal, Saadia Sattar, Shaharyar Usman, Maham Aziz

Department of Medicine, The Aga Khan University Hospital, Karachi, Pakistan

**Introduction:** Population health statistics demonstrate that the risk for non-communicable diseases (NCDs) in Lower-middle Income countries (LMICs) is gradually increasing. The Global Burden of disease statistics for NCDs in Pakistan show that ischemic heart disease is the second-highest cause of mortality followed by stroke and diabetes. This study aims to investigate the characteristics of an IT-based app used by Lady Health Workers (LHWs) and its potential for preventing NCDs across Pakistan.

**Objectives:** This section has threefold objectives: First, to understand the perceptions of LHWs about mobile health technology in NCDs. Second, to design and develop the mobile health application and alpha and beta test it. Third, pilot tests and evaluate the mobile health application in the community through the hands of LHWs.

**Methods:** This involved a mixed-method approach consisting of three methodologies. First, conducting focus group discussions (FGDs) with LHWs. Second, developing mobile applications, and lastly, pilot testing the Toolkit with 30 LHWs in Karachi and Hyderabad.

**Results:** FGDs facilitated the development of mobile health applications. After this, LHWs used the NCD toolkit, and risk identification and stratification of the patients was achieved. This assessment demonstrated the value of our mobile health application in terms of preventing non-communicable diseases.

**Conclusion:** This study highlights the potential of the IT-based app in preventing NCDs and underscores the critical role of LHWs in fostering community healthcare initiatives.

**Keywords:** NCDs, LHW, mobile health application.

# **Poster Presentation Theme 4**

## **Workforce and Patient Care**

## Frequency of Anemia in Elderly Patients in a Hospital Setting

Anila Zafar, Fatima Farhan, Bushra Moiz

Department of Pathology and Laboratory Medicine, Aga Khan University Hospital Karachi

**Introduction:** Anemia is a significant concern in the elderly population aged >60 years and is associated with heightened morbidity, mortality, and diminished quality of life. Despite its clinical significance, anemia in older adults remains under-recognized, with a lack of evidence-based management guidelines.

**Objective:** To determine the frequency of anemia among elderly hospitalized patients and to identify the contributing factors responsible for causing anemia in such patients.

**Methods:** This was a retrospective descriptive study from July to August 2023 encompassing 221 consecutive inpatients aged >60 years. Anemia was defined by a haemoglobin threshold of <10g/dl. Clinical characteristics and laboratory results were extracted from medical records, with comorbid conditions and anemia-related diagnoses determined through historical data, clinical observations, and laboratory evaluations.

**Results:** Anaemia was commonly observed in elderly hospitalized patients with a frequency of 85.5%. The highest incidence was observed in the age group of 60-69 years (n=116). Females (n=121) (54.75%) were more affected in contrast to males (n=100) (45.24%). Median haemoglobin was 8.9g/dl. Most patients with anaemia were diabetic (n=119) (53.8%) and hypertensive (n=155) (70.13). Patients diagnosed with urinary tract infections (n=23) had the highest association with anaemia at 10.4%, followed by pneumonia (n=21) at 10.8%. Nutritional deficiencies in iron and B12 were the least common contributors, affecting only 4.5%(n=10).

**Conclusion:** We observed a high frequency of anaemia in elderly patients admitted in our hospital. However, severe anaemia requiring treatment was less common. Larger studies are needed to better understand the threshold of anaemia for appropriate management in this population.

**Keywords:** Elderly, anemia, hospital setting.

## Differentiating Between Dengue Fever and Malaria Using the Hematological Parameters

Anila Zafar, Bushra Moiz

Department of Pathology and Laboratory Medicine, Aga Khan University Hospital Karachi

**Introduction:** Dengue fever and malaria are major public health problems in Pakistan. Infection timings may overlap in endemic areas. Early differentiation could help clinicians for better management. CBC is usually the first lab test done on any febrile patient. So, it's imperative to evaluate if it can help in differentiating the two conditions.

**Objective:** This study aimed to compare the hematological parameters and morphological findings of complete blood counts to distinguish between dengue and malaria.

**Methods:** A cross-sectional retrospective study was conducted at the Aga Khan Hospital in the section of Hematology in September 2022. The hematological parameters of the two groups were compared. The 1st group was confirmed dengue patients based on NS1 Antigen positive and 2nd group was confirmed malaria patients based on microscopy detection. A total of 336 CBC (E.D.T.A) samples was included in the study.

**Results:** Total no. of 336 patients. 65% were male and 35% were female, mean age was 28.9 years. 201 were confirmed dengue patients and 135 were confirmed malaria patients. In malaria patients 97% observed *P. vivax* and 03% observed *P. falciparum*. Low hemoglobin and thrombocytopenia were more common were observed in malaria patients as compared to those having dengue and leucopenia and neutropenia were observed in dengue patients as compared to those having malaria. 95.5% reactive lymphocytes were observed in dengue and 4.5% reactive lymphocytes were observed in malaria patients.

**Conclusion:** Low hemoglobin, thrombocytopenia and lymphocytopenia had a higher odds ratio for malaria than for dengue. More significant reactive lymphocytes in dengue patients as compared to malaria. This study concluded that several hematological parameters could differentiate dengue fever from malaria.

**Keywords:** Dengue, Malaria, Reactive lymphocytes.

## Numerical Changes in COVID-19 Cases and Correlation with Age and Blood Groups: A Cross-Sectional Study in LUMS Hospital, Hyderabad, Pakistan

Zubair Ahmed Rahojo, Zulfiqar Lagari, Amna Khatoon, Hamza Hanif, Sadaf, Rameen Komal, Zunaira

**Introduction:** On March 11, 2022, the World Health Organization (WHO) declared COVID-19 as a pandemic. In December 2019, a new coronavirus, COVID-19, emerged in Hubei Province, China. Understanding the numerical changes in COVID-19 cases and exploring correlations with demographic factors, such as age and blood groups, is crucial for effective management and control of the disease.

**Objective:** The objective of this cross-sectional study was to analyze the numerical changes in COVID-19 positive and recovered individuals and investigate the correlation between age and blood groups in the context of COVID-19.

**Methods:** This cross-sectional study was conducted at LUMS Hospital in Hyderabad, Sindh, Pakistan, aiming to investigate the numerical changes in COVID-19 positive and recovered individuals and their correlation with age and blood groups. A total of 99 subjects were enrolled in the study, including 51 individuals who had recovered from COVID-19 and 48 individuals who tested positive for COVID-19. Blood samples were collected in EDTA tubes, and participants were administered a questionnaire to gather relevant information. Complete blood count (CBC) tests were performed using the Sysmex analyzer machine to obtain numerical data on blood parameters. Blood groups were determined using the ABO method.

**Results:** The research comprised 99 coronavirus-infected individuals, with 51 individuals who had recovered from COVID-19 and 48 individuals who were hospitalized. The study population consisted of 19.8% females and 80.8% males, with ages ranging from 12 to 80 years. In the recovered group, the mean hemoglobin level was 12.7 g/dL, the mean red blood cell count was 4.9 million/ $\mu$ L, the mean white blood cell count was 14,283.1/ $\mu$ L, and the mean platelet count was 293,888.8/ $\mu$ L. In contrast, the hospitalized group exhibited lower mean hemoglobin levels (11.6 g/dL), mean red blood cell counts (4.3 million/ $\mu$ L), and mean white blood cell counts (11,216.3/ $\mu$ L), but higher mean platelet counts (396,900.0/ $\mu$ L). Among the COVID-19-infected individuals, the distribution of blood types was as follows: 22.2% had blood type A, 27.3% had blood type B, 27.3% had blood type AB, and 23.2% had blood type O. Moreover, 22.2% of individuals had the RH negative factor, while 78.8% had a positive RH factor. The study indicates potential correlations between blood parameters, blood types, and the severity of COVID-19 infection. The recovered group showed higher hemoglobin, red blood cell count, and white blood cell count but lower platelet count compared to the hospitalized group. The blood group distribution among COVID-19-infected individuals suggests varying susceptibilities to the virus based on blood type and RH factor. These findings could contribute to a better understanding of the disease and potentially aid in future clinical management.

**Conclusion:** This cross-sectional study provides detailed insights into the numerical changes observed in COVID-19 positive and recovered individuals. The results highlight significant variations in blood parameters between the recovered and hospitalized groups, suggesting potential implications for disease severity and recovery.

**Keywords:** Covid-19, Blood Group, Numerical blood paramete

## Occupational Therapy Interventions for Adult Living with Schizophrenia

Noor Ghulam Hussain

**Introduction:** Schizophrenia is a chronic and severe mental disorder affecting more than 24 million people worldwide. It is characterized by distortions in thinking, perception, emotions, language, sense of self, and behavior. Common experiences include hallucinations mostly involving hearing voices or seeing things that are not there and delusions which involve having fixed, false beliefs. Occupational therapy is a patient-centered approach that emphasizes the importance of engaging in meaningful activities or occupations to improve overall well-being. We present the case of one such patient.

**Objective:** To determine the role of occupational therapy interventions in the rehabilitation of a schizophrenia patient. Systematic review findings for occupational therapy interventions for adults living with serious mental illness were published in the September/October 2018 issue of the *American Journal of Occupational Therapy* and in the *Occupational Therapy Practice Guidelines for Adults Living with Serious Mental Illness*.

**Methods:** A 35-year-old female, unmarried, was referred through the psychiatric clinic with complaints of restlessness, aggression, overtalkativeness, anxiety, difficulty in executive functioning, lack of interest in household chores, compromised self-care, maintaining family relationships. The patient was diagnosed with schizophrenia and referred to an occupational therapy daycare rehabilitation program for anger management, to encourage functional independence, and reduce social anxiety. Twice a week session recommended.

The patient enrolled in individual therapy sessions. The short-term goal was to manage anxiety and behavior, to improve daily living functioning; areas of concern were grooming and encouraging participation in the household chores. Relaxation techniques and psychosocial interventions were given to the patient. After one month of regular sessions, restlessness reduced, behavior improved and anxiety was manageable, with the patient carrying out small household tasks assigned for home to improve daily living functioning.

After managing anxiety, the patient was introduced to a social skills group. Evidence-based approaches were used including functional living skills training and social skills training in a large group setting to increase the spontaneous initiation of communicative behaviors, and social engagement, and to improve independence in instrumental activities of daily living (IADL) such as money management, budgeting, and in activities of daily living (ADL) such as grooming skills. Using evidence-based, patient-centered occupational therapy interventions, the patient met the treatment goals. The family reported considerable improvement in her use of a structured routine, effectively completing self-care activities, relationship with the family members also improved, she started engaging in vocational activities such as embroidery and craft work. It helped her to improve her self-esteem.

**Results:** After 6 months of therapy sessions, progress was observed in her behavioral and daily living functioning, managing anxiety, and aggression through relaxation techniques and psychoeducational sessions regarding the management of the disease process. The patient started taking interest in goal-directed activities (both individual and in group), reduced social anxiety, and improved group interaction.

**Conclusion:** This case emphasizes the importance of long-term treatment rehabilitation of schizophrenia with individualized occupational therapy interventions promoting active participation and recovery.



## Experiences and Perceptions of Patients and Healthcare Providers Regarding Patient-Centered Care

Rustam Ali, Kashif Siddiq

**Introduction:** Patient-Centred care (PCC) is an approach to healthcare that prioritizes the individual needs, values, preferences, and experiences of patients. It places patients at the core of medical decision-making, treatment planning, and overall healthcare delivery. This concept recognizes that each patient is unique and that their input, concerns, and perspectives should guide the medical process.

**Objective:** The primary objective of this study was to explore the experiences and perceptions of both patients and healthcare providers regarding PCC and the factors that facilitate or hinder its implementation in the Operating room (OR).

**Methods:** By using a qualitative research design, in-depth interviews with patients, from diverse backgrounds, and healthcare providers, directly involved in the OR were conducted. Thematic analysis was utilized to identify recurring patterns and emergent themes within the data, which enabled a comprehensive understanding of the subject matter.

**Results:** Preliminary findings suggested that PCC generates a sense of empowerment among patients, promoting improved communication, trust, and adherence to treatment plans. Healthcare providers, in turn, perceived enhanced job satisfaction and a more holistic approach to patient management. However, challenges such as time constraints and systemic barriers emerge as barriers to consistent implementation.

**Conclusion:** By recognizing the multifaceted nature of PCC, healthcare systems can implement tailored strategies to foster a culture that prioritizes individualized patient care. The findings emphasize the need for policy changes, education, and resource allocation to ensure the widespread integration of PCC principles, ultimately leading to improved healthcare quality and patient satisfaction.

**Keywords:** Patient-Centered care, experiences, perceptions, qualitative, barriers

## Role of Serum Total Bile Acid in Pregnancy: A Useful Biomarker for Obstetric Cholestasis

Zubair Ahmed, Abdul Mateen, Sibtain Ahmed

Section of Clinical Chemistry

Department of Pathology and Laboratory Medicine, The Aga Khan University Karachi

**Introduction:** Obstetric cholestasis (OC), also known as intrahepatic cholestasis of pregnancy, is a disorder that affects the liver's ability to process bile acids during pregnancy. It is characterized by elevated levels of total bile acids (TBA) in the maternal bloodstream due to impaired bile flow. OC is more prevalent in certain populations and has been associated with adverse maternal and fetal outcomes, making early detection and appropriate management essential for ensuring the well-being of both mother and baby.

**Objective:** To assess the utility and diagnostic performance of TBA measurements for identifying OC, against clinically documented diagnosis as the gold standard.

**Method:** A cross-sectional study was undertaken at the Section of Clinical Pathology, Aga Khan University Hospital. TBA performed from August 2022 to January 2023 were extracted and clinical diagnosis was recorded from medical records. Patients with complete medical records were included in the study, while outside referrals lacking clinical details were excluded. Data analysis was performed using statistical software, specifically SPSS for comprehensive analysis and MS Excel for data organization and visualization. Agreement between TBA and clinical diagnosis was assessed via Cohen's Kappa.

**Results:** A total of 114 patients with completed medical records were included in the final analysis, 90 (79%) had elevated TBA whereas 24 (21%) had TBA within normal limits. 90 patients had a clinically documented diagnosis of OC during pregnancy, with an average gestation period of 36 weeks. For the OC group, the TBA values ranged from 11.8 to 124, with a median TBA value of 19.1. whereas for the non-OC patients, the values ranged from 0.45 to 2.45, and the average TBA value was 1.6. There was 100% agreement between TBA and clinical diagnosis with a Cohen's Kappa value of 100%.

**Conclusion:** This research underscores the importance of monitoring TBA levels during pregnancy, emphasizing the utility of TBA in conjunction with other hepatic biomarkers such as ALT, AST, and ALP as a valuable tool for the diagnosis of OC.

**Keywords:** Clinical Pathology, obstetric cholestasis, total bile acids (TBA)

## Trends in Cancellation of Elective Procedures in Perioperative Care in Academic Medical Center

Vardah Wasim, Samuel Nawab, Mohammad Mujeeb.

Department of Anaesthesiology, Aga Khan University

**Introduction:** In today's world, the rising cost of the medical services has made the healthcare sector one of the most expensive sectors. Maintaining the operating rooms (OR) is the costliest. This audit evaluated the trends in cancellation of elective procedures scheduled in the OR.

**Method:** This study was conducted using the quantitative retrospective analysis of the available quality audit data. The pattern of the cancellation trend was gathered from the data of the year 2022.

**Results:** The results will be shared later.

**Conclusion:** The conclusion will be shared later.

**Key Words:** Elective Procedures, Cancellation, Perioperative Care

## Assessing Work-Related Stress Level Among Allied Health Professionals Working in an Academic Medical Centre Of Karachi Pakistan: Cross-Sectional Study

Afshan Abro, Rukhsana Naushad

Physiotherapy & Rehabilitation Services, Aga Khan University Hospital

**Introduction:** In this fast-growing world, stress has become the most influencing factors and an unavoidable part of life. Allied health professionals are a critical part of the healthcare landscape, and their work involves a variety of tasks that require them to be physically and mentally engaged. Working in competitive and challenging environments such as academic medical centers can be relatively stressful. It is crucial to address these issues faced by allied health professionals.

**Methods:** It was a cross-sectional, non-randomized study. Purposive sampling was used whereby all allied health professionals working in the academic medical center were surveyed using Google Forms.

**Results:** The results will be shared later.

**Conclusion:** The findings of this study will plausibly help to reduce the work-related stress model among allied health professionals.

**Key Words:** Work-related stress, work environment, allied health professionals.

## Oral Health-Related Outcome of Oral Hygiene Promotion Initiative among the Housekeeping Staff in Tertiary Care Hospital in Karachi, Pakistan: A Quasi-experimental Study

Ansharah Imran<sup>1</sup>, Maryam Javed<sup>1</sup>, Uzra Nasir<sup>1</sup>, Misbah Shams<sup>2</sup>, Dr. Shaheen Mehboob<sup>1</sup>, Dr. Rashna Hoshang Sukhia<sup>1</sup>

<sup>1</sup>Department of Surgery, Aga Khan University

<sup>2</sup>Department of Obs/Gynae, Aga Khan University

**Introduction:** Improving oral hygiene practices in the low-middle-income population has a significant impact on well-being. The study's target group, housekeeping employees, was educated on the importance of oral health and oral hygiene, effective practices for maintaining excellent oral hygiene, and the adverse effects of various kinds of tobacco use. The purpose of the study was to investigate current oral hygiene practices, assess the prevalence of oral disease, and the impact of oral health education sessions on oral hygiene practices among housekeeping staff at a tertiary care hospital.

**Methods:** This was a Quasi-experimental design in which employees were recruited from the housekeeping department at a tertiary care hospital, in Karachi, Pakistan. The study sample was 43 individuals who were above 18 years of age and were currently employed by the housekeeping department of the Aga Khan University Hospital, Pakistan. An oral examination and a questionnaire were used to obtain baseline data. After one week, a combined instructional session for housekeeping staff was held, utilizing different teaching tools such as PowerPoint presentations, videos/multimedia, charts, dental Typodonts, and oral hygiene instructions.

**Results:** A total of 43 participants were enrolled in this study. Participants were satisfied with the session conducted and their oral hygiene knowledge increased, and their daily oral care practices improved. Participants in the post-assessment session were completely satisfied with the session. The outcome of the post-assessment evaluation depicted 34% previously using a soft bristle brush, which increased to 100%, and their tobacco habits decreased as previously 51% were using tobacco in different forms, and after the intervention, it decreased to 22%.

**Conclusion** The study showed that oral health education of housekeeping employees has a positive impact on their oral hygiene knowledge, attitude, and practices that result in improved optimal oral health. Oral health behaviour is greatly influenced by the repetition and reinforcement of oral health education programs.

**Keywords:** Oral Health, Oral Health Promotion, Housekeeping Staff, Oral Hygiene Practices, and Oral Health Prevention.

## Improving Ergonomics Practice among Laboratory Personnel through Education and Training

Farhat Jahan, Humera Imran, Aysha Habib Khan,  
Section of Chemical Pathology, Department of Pathology & Laboratory Medicine Aga Khan  
University (AKU), Karachi, Pakistan

**Introduction:** Awareness of ergonomics contributes significantly to safety of technologists at workplace. The goal of ergonomics is to reduce the risk of work-related injury at the workplace, promote efficiency of the employee, improve productivity, and ultimately contribute to achievement of organizational goals.

**Objective:** To assess knowledge and improve ergonomics practices and their implications among the laboratory personnel.

**Methods:** This project duration was October to December 2019 at the section of Chemical Pathology, based on plan, do check, act cycle. The team included, chemical pathologist, technologists, and QC co-ordinator. **Plan:** Roles and responsibilities were defined including planning and supervision of **Do:** A questionnaire was designed using online google form. It consisted of questions related to knowledge and practice of ergonomics in Yes or No type of format. A pre audit, pretest was conducted to assess existing knowledge and practice patterns of technologist on ergonomics (n= 41; 4 faculty, 36technologists, 1 associate technologist). A WhatsApp group was created of all laboratory personnel who participated in pre audit survey. Awareness amongst laboratory personnel was created by sharing educational materials i.e., video clips, songs, posters on WhatsApp group. In addition, 8 micro-lectures were conducted on weekly basis of 5-10 minutes duration in which work related ergonomic discussions and physical activities were conducted All micro-lectures and practical demonstration sessions were recorded and shared in WhatsApp group for those members who were not available at the time of lecture. To increase interest in this activity, an e-poster competition was arranged. Evaluation of program related to the processes was taken on scale i.e., poor, fair, good, and excellent. **Check:** Data was analysed and shared with team using MS excel sheet. **Act:** Post audit survey was performed after given awareness regarding laboratory ergonomics.

**Results:** 41 laboratory personnel ((Doctors (n=4), Technologists (n=36), Associate (n=1)) participated in study. Improvement of 100% was obtained in understanding of the term “ergonomics”. Posture related MSDs and exercises to strengthen back, shoulders or hands improved from 38 to 92%, 35 to 85% and 33 to 80% respectively. An improvement in awareness about 20-20-20 rule was seen from 49% to 87%. After creating awareness, 88% followed ergonomics practice, 83% were taking micro breaks during work, 73%. Not many technologists were exercising to strengthen their back (43%), shoulder (73%) or hand (54%). Feedback on the project was promising and 80% reported gaining good information and they learnt a lot. Ninety-eight % recommended conducting similar activities in future.

**Conclusion:** Statistics showed a significant increase in knowledge and daily practices of ergonomics. Continuous education at specified intervals is expected to improve ergonomics knowledge and practices.

**Keywords:** Ergonomics, physiological needs, staff education

## Making Core Allied Health Services Patient Centric: Experiences and Perceptions of Healthcare Leaders of an Academic Medical Center

Rizwana Kausar<sup>1</sup>, Sumaira Ramzan Ali<sup>2</sup>, Abdul Qadir Jangda<sup>3</sup>

1Department of Pathology and Laboratory Medicine, The Aga Khan University Karachi  
Pakistan

2Department of Cardiopulmonary Diagnostic Service, The Aga Khan University Karachi  
Pakistan

3, Department of Oncology, The Aga Khan University Karachi Pakistan

**Introduction:** Patient-centric care [PCC] is a healthcare delivery approach whereby the patients are placed at the Center of the care continuum. PCC has been shown to have multiple positive impacts that involve improved patient satisfaction, quality adherence, and improved health outcomes. Leaders play a pivotal role in the inclusivity of allied health professionals; their professional identity and autonomy to work and progress in the healthcare sector. Past studies have been conducted to evaluate the knowledge, attitudes, and practices of nurses and physicians. However, there is a gap in understanding the importance of incorporating PCC in allied health areas. This study aimed to understand healthcare leaders' experiences and perceptions about patient-Centred care in allied health services in a private healthcare hospital in Karachi, Pakistan.

**Methods:** A qualitative descriptive research methodology was proposed which focused on describing and analysing human experiences, actions, or occurrences. The study was conducted at Aga Khan University Hospital, Pakistan. Interviews were conducted in the participants' individual office rooms. 6 senior level leaderships with extensive experience in leadership, expertise of healthcare and leading allied health departments/services were selected. Informed consent was taken from the participants.

**Results:** Will be shared later.

**Discussion:** The findings of this will be shared later.

**Keywords:** Allied Health, Leadership, Patient Centric Care

## Comparative Analysis of Patient Specific Quality Assurance Tools for VMAT Dose Distribution

Asad Yousuf\*, Syed Muhammad Javeed\*\*, Abdul Qadir Jangda\*,  
Aga Khan University Hospital\*\*, PIEAS Institute\*\*

**Introduction:** The purpose of this report was to compare the results of Patient-Specific Quality Assurance (PSQA) using two commercial tools: the Electronic Portal Imaging Device (EPID) and the OCTAVIUS 4D phantom. PSQA is a process that involves measuring the actual dose distribution delivered to the patient and comparing it with the planned dose distribution. In this study, we evaluated their effectiveness in accurately assessing the dose distribution in VMAT.

**Methods:** To simulate realistic treatment scenarios, two cancer sites were selected: head and neck and prostate carcinoma. A total of 10 VMAT plans were evaluated for each selected site. The resulting dose distributions were measured and analysed in the coronal plane. Gamma analysis was performed using different criteria: 3%/3 mm, 3%/2 mm, and 2%/2 mm.

**Results:** For head and neck cases, the passing rate for both EPID and Octavius was more than 95% when using 3%/3 mm and 3%/2 mm criteria. However, when reduced the criteria to 2%/2 mm, our study presented the lowest passing rate which was less than 80%. A similar trend of passing rate was found for the prostate cases which represented the simple plan. When the gamma criteria, the passing rate was reduced. The results were more than 95% for all gamma criteria in EPID but in Octavius results was a little bit low because of some limitation, detector size, handling, etc. 2%/2 mm might be too strict for our clinical practices.

**Conclusion:** In summary, for head and neck cases, both EPID and Octavius achieved high passing rates exceeding 95% with 3%/3 mm and 3%/2 mm criteria but dropped significantly below 80% with the stricter 2%/2 mm criteria. This trend was also observed in prostate cases, suggesting that 2%/2 mm criteria may be excessively stringent for our clinical need.

**Keywords:** VMAT, PQSA, Gamma Analysis, EPID, Octavius



## Patient Satisfaction with Physical Therapy in Cardiac Inpatients of Public Sector Hospitals/Institutes of Karachi; A Cross Sectional Survey

Shaiaza Masooma, Rosheen Naeem, Sadia Waseem, Maliha Sayyad

**Introduction:** Cardiovascular disease trends are increasing globally, particularly in South Asia, especially Pakistan. Cardiac procedures require longer hospital stays, requiring immediate Physical therapy (PT) availability necessary for patients' Rehabilitation. Patient satisfaction (PS) is crucial for healthcare quality, leading to improved guideline adherence and lower mortality rates. Analysing PS and experiences with cardiac inpatient PT is essential.

**Objective:** The study evaluated cardiac inpatient satisfaction with Physiotherapy in public sector cardiac hospitals/institutes, aiming to gain insight into patient experiences and gather data for further Cardiac Rehabilitation program improvement.

**Method:** A cross-sectional study assessed patient satisfaction with physiotherapy in public sector cardiac hospitals and institutes of Karachi including DOW, NICVD and Civil Hospital. Nonprobability purposive sampling technique was used. The study involved 126 inpatients with various cardiovascular treatments and used the MedRisk instrument to measure satisfaction with Physiotherapy.

**Results:** Statistical Analysis of 126 patients founds that 83.3% were highly satisfied with inpatient PT services, with a significant association with age, gender, education, cardiac hospital site, admitted site, and procedure. Males were more satisfied, and 77.5% of patients aged 41-60 were highly satisfied. Angioplasty patients were more satisfied than CABG. Patients of site II were seen to be highly satisfied (93.4%) as compared to other sites. Majority of the MRPS items were above 3 with the highest score (4.50) being physiotherapist's respect to the patient and the lowest (3.6) being response to all questions.

**Conclusion:** High level of patient satisfaction (83.3%) has been reported from cardiac patients receiving PT services within inpatient settings of Karachi's public sector cardiac hospitals.

**Keywords:** Patient satisfaction, inpatient physical therapy, angioplasty, CABG.

**For any queries**

Please write to

[Office.alliedhealth@aku.edu](mailto:Office.alliedhealth@aku.edu)

**Office of Allied Health  
Medical College, Aga Khan University**