



3RD  
NORTHWEST ANNUAL  
RESEARCH CONFERENCE 2024

# ABSTRACT BOOK



Northwest General Hospital  
& Research Centre



Northwest School  
of Medicine



Northwest Students  
Research Society



Alliance  
Healthcare

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## Message | Principal Northwest School of Medicine



In an era marked by rapid advancements in the medical field, the role of research has never been more crucial. It empowers us to address the evolving health needs of our communities and to pioneer new solutions that can enhance patient care. I am deeply honored to witness the breadth of talent and expertise represented here today, as researchers from various medical disciplines come together to share their findings and insights.

At NWSM, we are committed to fostering a culture of inquiry and excellence. Our dedicated faculty and state-of-the-art facilities create an environment where ideas can flourish and where students can engage in meaningful research that impacts lives. The impressive results achieved by our students in professional examinations and their commitment to academic excellence are a testament to our collective efforts.

This conference serves not only as a platform for showcasing research but also as an opportunity for networking and collaboration. I encourage all participants to engage actively, ask questions, and explore partnerships that could lead to groundbreaking advancements in medicine. Together, we can leverage our diverse expertise to tackle the pressing challenges in healthcare.

As we embark on this day of discovery, let us remain focused on our shared mission: to advance medical education and contribute to the global health landscape. I am excited to see the innovative ideas and solutions that will emerge from the discussions at the conference.

Thank you for being part of this important event. Let us inspire each other and drive meaningful change in the world of medicine.

### **Prof Dr Noor ul Iman**

MRCP (Eire), FRCP (Eire), FRCP (Edn)  
Fellow European Board of Gastroenterology  
Principal, Northwest School of Medicine

## Message | Head Organizing Committee NARC 2024



It is a great pleasure to welcome you all to the 3rd Northwest Annual Research Conference. This year, we gather under the theme "Leveraging the Power of Research," bringing together a diverse group of researchers from across Pakistan for a multidisciplinary exchange of ideas and knowledge.

This conference aims to provide a vibrant academic platform that encourages collaboration, and the dissemination of research findings. With a range of workshops and presentations, the event promises to foster learning.

We are proud to offer this academic activity with no fee charged to presenters, reinforcing our commitment to supporting and promoting research. Preference will also be given to publish high-quality submissions in the Northwest Journal of Medical Sciences.

I extend my best wishes to all the researchers for a successful and enriching experience at this conference. Good luck, and may this conference be a stepping stone toward greater achievements.

**Prof Dr Waqar Ali**

Vice Principal (Research)

HOD, Community Medicine

Chief Editor, NJMS

Northwest School of Medicine

## Message | Chairperson Scientific Committee NARC 2024



It is with great enthusiasm that I welcome you to the 3rd Northwest Annual Research Conference (NARC) 2024. This conference, with its theme of "Leveraging the Power of Research," aims to provide a dynamic platform for researchers, students, and healthcare professionals to exchange innovative ideas and collaborate across disciplines. As the Chairperson of the Scientific Committee, I am proud to see the diverse range of topics and high-quality research submitted this year, reflecting the commitment and dedication of our participants.

The primary goal of NARC 2024 is to foster an environment of inquiry and exploration, where emerging research can lead to meaningful advancements in healthcare and medical education. I am particularly pleased by the efforts of all contributors, as their work contributes to enhancing knowledge and ultimately improving patient care and health systems. This year's conference will feature thought-provoking presentations, poster sessions, and interactive discussions that aim to inspire new directions in research and pave the way for future innovations.

I extend my deepest gratitude to all the researchers, faculty, and students who have shared their expertise, as well as to our esteemed reviewers and organizing team for their unwavering support. A very special thanks to the Northwest Students Research Society for making NARC always a huge success. Let us embrace the opportunities for learning, networking, and collaboration that NARC 2024 offers, and strive to translate research into tangible outcomes that benefit our communities.

Warm regards,

**Dr. Almas Fasih Khattak**

Chairperson Scientific Committee

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## Section A: Oral Presentations

### 1. Medicine & Allied

#### MO-1: Association of levels of C-reactive protein with positive and negative syndrome scale among patients with schizophrenia

Dr Fawad Ahmed

**Materials & methods:** The design of study is cross-sectional and it was carried out at “Inpatient and Outpatient Department of Sir Cowasjee Jehangir Institute of Psychiatry, Hyderabad and Department of Community Medicine, Gomal Medical College, Dera Ismail Khan from Feb to Aug 2022. Non-probability, consecutive sampling technique was used. A total of 310 (Margin of error: 5%, Confidence level: 95%) cases were studied. This was calculated using Open-Epi sample size calculator, expected prevalence of raised CRP among patients with schizophrenia is taken as 28% (Miller et al., 2014). After ethical approval of the research (Research Ethics Committee approval letter No. LUMHS/REC/-226), the patients and relatives (if and when the patient is not in a state to answer reliably) were included in the study after evaluating against the eligibility criteria. Data was collected onto a self structured proforma which contained questions related to basic personal details, and particulars of disease (duration of illness and family history) and PANSS. After taking informed written consent from the patient or the attendant (if patient is not able to provide consent), 3 cc blood was drawn from each patient for assessing the levels of CRP. Privacy of the patients were kept secret by password protecting and coding the data set instead of using names. SPSS v. 21.0 Microsoft Excel 2016 was used to analyze data. Qualitative data (gender, socioeconomic status, family history of psychiatric illness and suicide and No. of patients with normal or raised CRP levels) were expressed as number and percentage (No. & %). Quantitative data (CRP level, age, duration of illness, positive, negative and general psychopathology symptom scores) were expressed as mean & standard deviation ( $X \pm SD$ ). Pearson’s coefficient was used to check for association between levels of CRP with PANNS score and its sub-scales. P value  $\leq 0.05$  was considered statistically significant.

**Results:** The mean age of patients was  $32.88 \pm 8.29$  years, and the mean PANSS Score was  $57.08 \pm 11.88$ , the General Psychopathology Scale Score was  $15.16 \pm 5.62$ , the Positive Scale Score was  $12.50 \pm 3.65$  while Negative Scale Score was  $29.42 \pm 9.62$ . Raised CRP levels were significantly associated with Negative Symptoms Scale Score ( $p < 0.05$ ).

**Conclusion/Recommendations:** This study was conducted to find association of CRP with PANSS in which we found the raised CRP levels is only associated with negative symptoms scale score of schizophrenia.

**Keywords:** Association, Schizophrenia, C-Reactive Protein

## **MO-2: Efficacy and Safety of Distal radial artery Access versus Proximal Radial artery Access in Cardiac procedures: A Systematic Review and Meta-analysis**

Dr Hafsa Arshad, Azam Raja

**Objective/Hypothesis:** In this meta-analysis, we compare DRA versus proximal radial artery access (PRA) in cardiac catheterization or angiography.

**Materials and Methods:** A detailed literature search was performed on PubMed, Cochrane, Embase and Clinicaltrials.gov from inception till June 2024. Risk ratios (RR) and mean differences (MD) were pooled for categorical and continuous outcomes, respectively. Random effects meta-analysis was undertaken on Revman.

**Results:** Our meta-analyses include 21 randomized controlled trials with 9,539 patients (DRA 4,761, PRA 4,778). DRA was significantly superior in terms of the radial artery occlusion at 24 hours (RR 0.30, 95% CI 0.23 to 0.40,  $p \leq 0.00001$ ), and time to hemostasis (minutes) (MD -44.46, 95% CI -50.64 to -38.92,  $p < 0.00001$ ), whereas PRA was significantly superior in terms of the puncture success rate (RR 0.96, 95% CI 0.93 to 0.99,  $p < 0.01$ ), the crossover rate (RR 2.89, 95% CI 2.02 to 4.15,  $p < 0.00001$ ), and puncture attempts (MD 0.69, 95% CI 0.37 to 1.00,  $p = 0.00001$ ).

**Conclusion/Recommendations:** DRA was associated with a lower risk of occlusion and lower time to hemostasis, but required a greater number of puncture attempts and had lower success rate. Further research is required to elucidate the most optimal approach.

**Keywords:** Cardiac Catheters; angiography; radial artery; percutaneous coronary intervention; hemostasis; punctures; arterial occlusive disease

### **MO-3: Audit Of Fasting Practices With International Standards In Patients Undergoing Endoscopy**

Dr Mahnoor Raza

**Objective/Hypothesis:** In healthcare system, patient's safety and quality of procedures hold utmost importance. According to the American society of anesthesiologists ASA guidelines, patients should stop intake of fluids or solid foods for a sufficient period of time to allow for gastric emptying before the procedure (1). Specifically, these guidelines state that patients should fast a minimum of 2 hours after ingestion of clear liquids and 6 hours after ingestion of light meals before sedation is administered (2). Our audit aimed to assess compliance with fasting practices among patients undergoing endoscopic procedures.

**Materials and Methods:** This clinical audit was conducted in Khyber Teaching Hospital Peshawar. Data was collected from 100 people irrespective of their age and gender and information was asked in the form of close ended questions regarding NBM duration. Data was analyzed using spss version 22.

**Results:** The results showed that around 95% people were informed about NBM before procedure while 5% were not (Fig.1). Highest number of respondents/patients i.e. nearly forty percent had stopped taking fluids 9 to 10 hours before the procedure and very few patients i.e. nearly 5 percent stopped fluid intake 3-4 hours before the procedure (Fig.2). The trend seemed similar with respect to stoppage of food intake (Fig 3).

**Conclusion/Recommendations:** Our audit highlights the fact that there is a wide gap between fasting practices followed prior to endoscopy in our setup and international standards. By following proper guidelines healthcare providers can optimize patient outcomes, minimize procedural risks and enhance the overall quality of care delivered in the endoscopy setting. **RECOMMENDATIONS:** 1. To ensure that a proper checklist is being followed according to American Society of Gastrointestinal Endoscopy (ASGE) prior to endoscopy. 2. Implementation of proper protocol of endoscopy to make it safe and less hazardous for masses. 3. Providing adequate information regarding NBM to patients to prevent unnecessary starvation of already compromised patients.

**Keywords:** Endoscopy, NBM, Gastrointestinal, patient safety.



## **MO-4: Efficacy and Safety of Triple Therapy of Telmisartan/Amlodipine/Rosuvastatin in Patients with Dyslipidemia and Hypertension: A systematic Review and Meta-analysis of Randomized Controlled trials**

Dr Muhammad Umar Afridi

**BACKGROUND:** The increased prevalence of hypertension and dyslipidemia demands safe and effective treatment options. A potential treatment strategy that has been hypothesized to be effective against both problems is triple therapy that combined telmisartan, amlodipine and rosuvastatin (TAR).. This study aims to establish the efficacy and safety of this triple therapy in patients with hypertension and dyslipidemia, providing a baseline for future research and clinical endeavors.

**Materials and Methods:** An extensive search was carried out on PubMed, Embase, Cochrane Database of Systematic Reviews and ClinicalTrials.gov, using MeSH terms and relevant keywords for “Hypertension”, “Dyslipidemias”, “Telmisartan”, “Amlodipine” and “Rosuvastatin” from inception to August 23, 2024. The study included Randomized Control Trials (RCTs) that compared a triple drug regimen, including telmisartan, amlodipine and rosuvastatin, with a combination of Amlodipine and Telmisartan (TA) in patients with hypertension and dyslipidemia. Our primary outcomes included levels of LDL-C (Low Density Lipoprotein-Cholesterol) at 4th and 8th week, sSBP (sitting Systolic Blood Pressure) at 4th and 8th week and our secondary outcomes include safety profile such SAEs (Serious Adverse Events), ADEs (Adverse Drug Events) and TEAEs (Treatment Emergent Adverse Events). A random effects model was used to aggregate risk ratios (RR) for dichotomous outcomes and mean differences (MD) for continuous outcomes, with a 95% confidence interval (CI).

**Results:** Of 3225 articles, after removing duplicate and irrelevant studies, final 3 RCTs which met our eligibility criteria were included, involving 473 patients, of which 69.77% were male with a mean age of 66.32±9.72. In the analysis of LDL-C, TAR was significantly superior to TA at the 4th week of follow-up with (MD -86.80, 95% CI -95.27, -78.33, P=<0.00001, I<sup>2</sup>=38%) as well as the 8th week (MD -84.77, 95% CI -95.88, -73.66, P=<0.00001, I<sup>2</sup>=60%). However in the analysis of sSBP TAR was comparable to TA at the 4th week of follow-up (MD -3.14, 95% CI -7.35, 1.06, P=0.14, I<sup>2</sup>=51%) and 8th week (MD -4.83, 95% CI -12.15, 2.49, P=0.20, I<sup>2</sup>=81%). For the analysis safety profile of TAR such as SEAs, TAR was comparable to TA with a ( RR 1.04, 95% CI 0.11, 9.88, P=0.97, I<sup>2</sup>=0%) and for TEAEs ( RR 1.04, 95% CI 0.58, 1.89, P=0.83, I<sup>2</sup>=21%) similarly for ADEs (RR 0.94, 95% CI 0.51, 1.72, P=0.89, I<sup>2</sup>=0%).

**Conclusion/Recommendations:** This study demonstrates that the triple therapy combining telmisartan, amlodipine, and rosuvastatin (TAR) is significantly more effective than the dual therapy of telmisartan and amlodipine (TA) in reducing LDL-C levels in patients with hypertension and dyslipidemia, with benefits evident as early as the 4th week of treatment. However, the combination of TAR did not show a significant advantage over TA in lowering sitting systolic blood pressure (sSBP) at either the 4th or 8th week of follow-up. Additionally, the safety profile of TAR was comparable to TA, with no significant difference in the incidence of serious adverse events, treatment-emergent adverse events, or adverse drug events. These findings suggest that while TAR may offer superior lipid control, its impact on blood pressure and safety is similar to that of TA.

**Keywords:** telmisartan/ amlodipine, and rosuvastatin (TAR), Hypertension, dyslipidemi

## **MO-5: Optimising Postnatal Glycemic Monitoring in Gestational Diabetes Mellitus Patients: A Retrospective Evaluation of Blood Glucose Testing Protocols**

Dr Syed Wahab Ali Zaidi

**Objective/Hypothesis:** A Retrospective Evaluation of Blood Glucose Testing Protocols in Postpartum Period for GDM Patients.

**Study Design:** Gestational Diabetes Mellitus (GDM) significantly increases the risk of developing Type 2 Diabetes Mellitus (T2DM) postpartum, with prevalence rates as high as 50%. Effective postnatal management is crucial to mitigate this risk. This study evaluates the adherence to blood glucose testing protocols in postnatal GDM patients, as recommended by the National Institute for Health and Care Excellence (NICE) guidelines. This study underscores the necessity for enhanced adherence to guidelines to improve patient outcomes, emphasizing evidence-based practice to ensure optimal care for GDM patients postnatally. [1][2]

**Materials & Methods:** A retrospective review was conducted involving GDM patients from September 2022 to November 2023. Patient data from electronic health records were analyzed to evaluate the completion of fasting plasma glucose (FPG) tests within 6-13 weeks postpartum, and subsequent HbA1c testing when required. [3][4]

**Results:** The study revealed suboptimal adherence to the recommended protocols. FPG testing within the 6-13 week postpartum window was completed in 20% of patients, while 10% underwent HbA1c testing after 13 weeks. Additionally, 30% received follow-up glucose testing outside the recommended timeframe, and 20% had no postnatal glucose testing. In total, 70% of patients did not adhere to the standard guidelines for postnatal monitoring, pointing to a substantial gap in care. [5]

**Conclusion/Recommendations:** The study highlights the need for systematic improvements in adherence to postnatal glycemic monitoring protocols. Enhancing patient education, implementing reminder systems, and providing healthcare staff with training are key strategies to optimize outcomes. Future studies should focus on larger, geographically diverse cohorts to assess the long-term impact of these interventions on reducing T2DM risk. [6][7]

**Keywords:** Gestational Diabetes Mellitus, Postnatal Glycemic Monitoring, Type 2 Diabetes Mellitus, Evidence-Based Practice, NICE Guideline

## **MO-6: Unraveling the Enigma of Myopericarditis in a 15-Year-Old Male Presenting with Evolving ST-Segment Changes and Acute Decompensated Heart Failure**

Naeem Khan

**Objective/Hypothesis:** Myopericarditis should be considered in the differential diagnosis of young patients with chest pain and evolving ECG changes. This case demonstrates the successful management of myopericarditis using a combination of medications tailored to the individual patient, leading to significant clinical improvement and enhanced cardiac function.

**Materials and Methods:** Myopericarditis should be considered in the differential diagnosis of young patients with chest pain and evolving ECG changes. This case demonstrates the successful management of myopericarditis using a combination of medications tailored to the individual patient, leading to significant clinical improvement and enhanced cardiac function.

**Results:** Myopericarditis should be considered in the differential diagnosis of young patients with chest pain and evolving ECG changes. This case demonstrates the successful management of myopericarditis using a combination of medications tailored to the individual patient, leading to significant clinical improvement and enhanced cardiac function.

**Conclusion/Recommendations:** Myopericarditis should be considered in the differential diagnosis of young patients with chest pain and evolving ECG changes. This case demonstrates the successful management of myopericarditis using a combination of medications tailored to the individual patient, leading to significant clinical improvement and enhanced cardiac function.

**MO-7: Complexometric Titration of Calcium in Multivitamin Brands: Enhancing the Accuracy of Supplement Labels for Optimal Bone Health**

Dr Muhammad Shahzad Saleem

**Objective/Hypothesis:** Enhancing the Accuracy of Supplement Labels for Optimal Bone Health

**Materials and Methods:** Complexometric titration was employed to determine the calcium content in five different brands of multivitamins. Each brand's calcium strength was evaluated in triplicate

**Results:** Out of the five brands examined, only one brand's calcium content was determined accurately using complexometric titration, measuring approximately 400 mg, while the label indicated it should be 500 mg. The investigation to determine the calcium content of the remaining four brands is still ongoing.

**Conclusion/Recommendations:** The objective of this study was to ensure that calcium supplements meet the labeled calcium content, thereby fulfilling the recommended intake requirements. This is essential in reducing the risk of osteoporosis and other ailments associated with inadequate calcium intake.

**Keywords:** Calcium, Complexometric titration, osteoporosis.

**MO-8: Gut microbiota metabolites and risk of major adverse cardiovascular events and death A systematic review and meta-analysis**

Dr Muhammad Asad

**Objective/Hypothesis:** : Gut microbial metabolites such as trimethylamine N-oxide (TMAO) and its precursors, namely betaine, L-carnitine, and choline, have been implicated as risk factors for cardiovascular events and mortality development. Therefore, we aim to perform a systematic review and meta-analysis to assess the validity of these associations

ueried from their inception to August 2023 to identify studies that quantified estimates of the associations of TMAO with the development of major adverse cardiovascular events (MACE) or death. A random-effects meta-analysis was conducted to pool unadjusted or multivariable-adjusted hazard ratios (HR) and their 95% confidence intervals. The primary endpoint was the risk of MACE and all-cause death

**Results:** 30 prospective observational studies (n = 48 968) were included in the analysis. Elevated TMAO levels were associated with a significantly greater risk of MACE and all-cause death compared to low TMAO levels (HR: 1.41, 95% CI 1.2–1.54, P < .00001, I<sup>2</sup> = 43%) and (HR: 1.55, 95% CI 1.37–1.75, P < .00001, I<sup>2</sup> = 46%), respectively. Furthermore, high levels of either L-carnitine or choline were found to significantly increase the risk of MACE. However, no significant difference was seen in MACE in either high or low levels of betaine.

**Conclusion/Recommendations:** Elevated concentrations of TMAO were associated with increased risks of MACE and all-cause mortality. High levels of L-carnitine/choline were also significantly associated with an increased risk of MACE. However, no significant difference was found between high or low levels of betaine for the outcome of MACE.

**Keywords:** major adverse cardiovascular events, mortality, risk, trimethylamine N-oxide

**MO-9: Pre admission metformin in diabetic patients with sepsis**

Saif ur Rahman

**Objective/Hypothesis:** Sepsis majorly contributes to the mortality rate of diabetic patients with suppressed immune responses. Patients receiving antidiabetic treatment prior to hospitalization with sepsis may have better outcomes compared to those with untreated diabetes. The association among preadmission metformin use and various effects in diabetic patients with sepsis has been investigated in this systematic review and meta-analysis.

**Materials and Methods:** We undertook a thorough systematic literature search across several databases up to June 2024. Cohorts comparing outcomes in diabetic patients with sepsis who received preadmission metformin with those not receiving preadmission metformin were included. Risk ratios (RR) for categorical outcomes and mean differences (MD) for continuous outcomes were combined using a random effects model in RevMan.

**Results:** We included 13 studies that employed a cohort type of study design. Metformin was significantly superior in terms of mortality with the latest follow-up (RR 0.81, 95% CI 0.73-0.90,  $p < 0.0001$ ). Metformin significantly improved hospital mortality, mortality at 30 days and mortality at 90 days. The two groups were comparable in terms of acute renal injury, the need for renal replacement surgery, the need for a vasopressor, and length of hospital stay. Metformin increased the risk of invasive ventilation.

**Conclusion/Recommendations:** Metformin significantly improves mortality in septic patients, but it also increases the need for invasive ventilation. Large-scale studies can be conducted to determine the role of metformin in the specific group of septic patients with diabetes.

**Keywords:** Metformin Sepsis Septic shock Septicemia Diabetes Mellitus Diabetes Mellitus type-1 Diabetes Mellitus type-2

## **MO-10: Effectiveness Of Platelet-Rich Plasma In Hair Growth Compared To Topical Minoxidil: A Quasi-Experimental Study**

Dr Ashraf Ali

**Objective/Hypothesis:** The aim of this study was to compare the clinical efficacy of platelet-rich plasma (PRP) and topical Minoxidil therapy for the treatment of androgenic alopecia (AGA) patients. PRP therapy is more effective in new hair growth as well as prevent hair loss as compared to topical Minoxidil

**Materials and Methods:** This experimental study was carried out from July 2023 to December 2023. 84 participants were selected on the basis of purposive non-probability sampling. The enrolled patients were randomized into two groups - Group A, which underwent monthly injection of PRP for 6 months while Group B was given treatment with topical Minoxidil therapy alone which was applied as 1 ml twice daily for six months. Group A and Group B were evaluated using a standardized hair growth questionnaire, the hair pull test, and a patient satisfaction score to assess their respective outcomes. Data was analyzed based on the information gathered from our questionnaire, using SPSS software version 22.

**Results:** In the study, Group A (Platelet-Rich Plasma, PRP) showed more favorable outcomes compared to Group B (Topical Minoxidil). In Group A, 71% had a negative hair pull test, 65% noticed changes in hair loss, 61.8% experienced new hair growth, and 47.3% reported a significant increase in hair growth. Additionally, 54.5% were very satisfied with their appearance. Conversely, in Group B, only 36% had a negative hair pull test, 36% reported changes in hair loss, 32% saw new hair growth, and 28% experienced a significant increase in hair growth. Satisfaction levels were lower, with 24% being very satisfied.

**Conclusion/Recommendations:** We have done an amazing study, in this study we repeat something which is already clear but we make them sure if it is, and we also find out something new, we have studied about the number of PRP session required to show clear changer, and also find out duration of Topical Minoxidil for enough changes. This study will provide a better understanding of the treatment used, this will also help future researchers to elaborate this study further. This study is done for the first time in our region, overall results are quite encouraging and we have proved our hypothesis regarding the PRP which shows better results in some variable than Topical Minoxidil.

**Keywords:** Hair growth, androgenic alopecia, platelet-rich plasma, PRP, topical Minoxidil

## **MO-11: Trends in Chronic Renal Failure Associated Mortality in the United States: An Analysis of Racial, Gender, and Geographic Disparities (1990-2020)**

Touba Azeem

**Objective/Hypothesis:** Globally, chronic renal failure (CRF) affects over 800 million people, with significant regional and geographic variations. Mortality trends associated to CRF have received scant attention.

**Materials and Methods:** Death certificates from the Centers for Disease Control and Prevention Wide-Ranging Online Data for Epidemiologic Research database with ICD-10 codes (N18.0-N18.5, N18.8 and N18.9) were used to investigate trends in CRF mortality. Crude and age adjusted mortality rates (AAMR) per 100,000 persons were retrieved, and the annual percentage changes (APCs) in age-adjusted mortality rate with 95% confidence intervals for race, gender, census regions, and urbanization were estimated using Joinpoint version 5.2.0

**Results:** Total number of deaths due to chronic renal failure spanning from 1999-2020 was 1938505. AAMR remained relatively stable from 1999 to 2009 with APC of 0.05 (95% CI - 7.59 to 2.48), followed by a substantial rise in AAMR from 2009 to 2012 with APC value 17.10\*(95%CI 5.57 to 25.38). After this period, till 2015 AAMR showed a sharp decrease with an APC value of -15.60\* (95% CI -21.35 to -6.18), but a rising trend was seen again from 2015 to 2020 with APC value 7.17\*(95%CI 2.11 to 22.45). Males had higher total AAMR than females (34 vs. 21.2). African Americans exhibited the highest AAMR (54.5). Highest AAMR (35.3) was seen in the West Virginia.

**Conclusion/Recommendations:** CRF mortality has increased dramatically during the last two decades, notably since 2009. Identifying high-risk demographic groups is critical for early detection and targeted management options to decrease CRF-related mortality and improve patients' quality of life.

**Keywords:** Chronic renal failure; Mortality trends; Racial disparities; Geographical disparities. Epidemiology; Public Health



## **MO-12: Comparative Analysis Of Microbial Infections In Diabetic Vs Non-Diabetic Patients**

Dr Areej

**Objective/Hypothesis:** To identify the frequency of different types of microbial organisms found in DM and non

**Materials and Methods:** One year record of 257 individual with confirm cases of infection either diabetic or non diabetic from July 2023 to July 2024 was retrospectively collected from the internal laboratory of Northwest General Hospital and Research Centre after taking ethical approval from Institutional Review Board and Laboratory Incharge. The data of. Only those cases was included that have complete medical record.

**Results:** Among 257 patients, 131 (51%) are female and 126 (49%) are male. Among 131 female individuals 73 (56%) were diabetic and 58 (44%) were non-diabetic. Among 126 males, 43 (34%) are diabetic and 83 (66%) are non-diabetic.

**Conclusion/Recommendations:** MRSA and Pseudomonas aeruginosa showed high prevalence in both diabetic and non-diabetic groups. 2.Diabetic patients had a slightly higher prevalence of Escherichia coli (ESBL producer) at 11.2% compared to 12.8% in non-diabetic patients. 3.Acinetobacter species were more commonly found in diabetic patients (7.8%) compared to non-diabetic patients (5.7%). 4.The p-value for Stenotrophomonas maltophilia was 0.696, indicating no significant difference in prevalence between diabetic and non-diabetic patients for this organism.

**Keywords:** Diabetic Non diabetic Wound Microbial infections

## 2. Surgery and Allied

### SO-1: Outcomes Of Endoscopic Myringoplasty In Terms Of Graft Take Up And Hearing Improvement

Ihtisham ul Haq

**Objective/Hypothesis:** To examine the success of graft integration and postoperative hearing enhancement using endoscopic myringoplasty in patients with CSOM who have a central tympanic perforation.

**Materials and Methods:** : This cross-sectional study was conducted in Khyber Teaching Hospital, Peshawar from November 2022 to November 2023. 87 patients, 39 (44.83%) males and 48 (55.17%) females, diagnosed with CSOM with a single central tympanic membrane perforation and no active ear discharge were enrolled. Patients were excluded in presence of ossicular chain disorders, tympanosclerosis, revision surgeries, or mixed-type hearing loss. Endoscopic myringoplasty was performed using temporalis fascia grafts and a 4 mm endoscope via a transcanal approach under local anaesthesia and intravenous sedation. Graft integration and hearing improvement were evaluated at 12 weeks postoperatively. Hearing outcomes were assessed by comparing pre- and postoperative air bone gap (ABG) and air conduction thresholds (ACT).

**Results:** Mean age of participants was  $28.05 \pm 9.68$  years. Graft success rate was 93.1% (83/87) and improvement in both ABG and ACT was observed. A significant reduction in the postoperative ABG to  $8.98 \pm 4.64$  dB, compared to the preoperative ABG of  $16.82 \pm 11.11$  dB ( $p < 0.05$ ) was found. The postoperative ACT also decreased significantly to  $30.034 \pm 10.54$  dB from a preoperative ACT of  $71.36 \pm 14.36$  dB ( $p < 0.05$ ).

**Conclusion/Recommendations:** High graft uptake rate, significant improvement in hearing parameters and low complication rate make endoscopic myringoplasty using temporal fascia graft for the treatment of central tympanic perforation in CSOM an excellent option.

**Keywords:** Endoscopic myringoplasty, CSOM, Hearing loss, Temporalis fascia graft, Tympanic Perforation

## **SO-2: The Functional outcome of muscle slide technique in Volkmann ischemia contracture**

Dr. Wasim Khan

**Objective/Hypothesis:** To determine the functional outcome of the muscle slide technique in patients with Volkmann's ischemic contracture of the forearm.

**Materials and Methods:** This descriptive case series was performed in the Department of Orthopedic Surgery, MTI- Khyber Teaching Hospital Peshawar Pakistan from 1st September 2022 to 30th April 2023. Upon clinical presentation, a consultant orthopedic surgeon diagnosed forty-three (43) patients with severe Volkmann ischemia contracture. The sample size was determined using the WHO Sample Size calculator using the parameters of a 5% significance level, margin of error of 15%, and success rate of 47.70% for the muscle slide method. Clinical evaluation in terms of functionality was checked before and after the muscle slide procedure in the 3rd and 6th week post operatively.

**Results:** As per functional outcomes of muscle slide procedure, 26 (60.5%) patients had excellent, 6 (13.9%) had good, 7 (16.3%) had fair, and 4 (9.3%) patients had poor functional outcomes.

**Conclusion/Recommendations:** Muscle slide technique is an effective technique in robustly managing Volkmann's ischemic contracture.

**Keywords:** Volkmann's Ischemic Contracture, Muscle Slide Technique, Functional Outcome

### **SO-3: Outcomes of Staging Laparoscopy in Upper GI cancer patients in single unit by a single surgeon**

Dr. Muhammad Waqas

**Objective/Hypothesis:** The objectives of this study are to assess the outcomes of Staging Laparoscopy in detail. Positivity rate for metastasis in adenocarcinoma and Squamous cell carcinoma. Assessment of Efficacy in terms of rate of complications post operatively.

**Materials and Methods:** It is a retrospective cohort study with a sample size of (n=171) over a period of 2 years from September 2022 to May 2024. The data was analyzed using Spss version 22. Results were calculated as mean and frequencies reported in percentile.

**Results:** A total sample size of (n=171) with basic demographics like age and gender were reported. Mean age was 41 years old. Total number of male and female patients was n=100(58%)/n=71(41%).93% patients had no co morbidities whereas 7 % had co morbidities such as diabetes, ischemic heart disease and hypertension. Total of 138 (81%) cases were histologically found as adenocarcinoma and 31(18%) cases as squamous. Positivity rate for metastasis of 21.7% was only found for adenocarcinomas.60 %( n=103) cases were gastric cancers, 20.5% (n=35) cases were esophageal cancer and 17.5%(n=39) were Gastro esophageal junction cancers. In 22.8 %( n=39) cases fluid cytology was positive for malignant cells. Complication rate of only 3.5 % was found (port site infection, hematoma at port site, defect in diaphragm and dislodgement of gastrostomy tube).All cases were Day Case without definite admission

**Conclusion/Recommendations:** Staging Laparoscopy is an essential, accurate, less invasive and an efficient procedure in the diagnostic process of GOJ and gastric cancer patients.

**Keywords:** Staging laparoscopy Outcomes of staging laparoscopy Gastric and GOJ cancer workup

#### **SO-4: Comparison of STONE Score, Guy's Stone Score, CROES Nomogram, and Seoul National University Renal Stone Complexity Score in Prognosticating Outcomes of Multiple-Tract Mini-Percutaneous Nephrolithotomy: A Retrospective Study**

Khalid Farooq

**Objective/Hypothesis:** The objective of this study was to compare the STONE score (Size of the stone, Topography or location, degree of Obstruction of the urinary system, Number of stones, and Evaluation of Hounsfield units), Guy's stone score (GSS), Clinical Research Office of the Endourological Society (CROES) nomogram, and Seoul National University Renal Stone Complexity Score (RSCS) in prognosticating multiple tract mini-percutaneous nephrolithotomy (mPCNL) outcome

**Materials and Methods:** This descriptive retrospective analysis was carried out at the Urology Department, Lady Reading Hospital, Peshawar, Pakistan. Male and female patients in the age range of 18-70 years who underwent multiple tract mPCNL for renal stones from July 1, 2021, to June 30, 2023, were included in the analysis

**Results:** A total of 110 patients were registered. Stone-free status (SFS) was achieved in 78.2% (n=86), and complications were observed in 13.6% (n=15) patients. The odds ratio for STONE score, GSS, CROES scoring system, and RSCS for predicting the SFS was 7.093 (95%CI 2.40-20.89), 9.333 (95%CI 2.92-29.81), 11.70 (95%CI 2.56-53.38) and 3.450 (95%CI 1.25-9.53), respectively

**Conclusion/Recommendations:** Multiple tract mPCNL is a safe and effective technique for the management of renal stones, producing a high stone-free rate. This study demonstrated adequate efficacy and dependability of the four scoring systems in predicting SFS

**Keywords:** renal complications, clinical research office of the endourological society (croes), stone free rate, renal stone complexity score, guy's score, stone score,

## **SO-5: Prehabilitation in Esophageal Cancer Surgery: Integration of Enhanced Recovery after Surgery (ERAS) Protocol**

Dr. Mahnoor Asim

**Objective/Hypothesis:** This study aims to evaluate the feasibility and safety of an ERAS protocol in a high-volume upper gastrointestinal (GI) surgery and to assess the short-term outcomes in these patients

**Materials and Methods:** A total of 49 patients underwent Minimally Invasive Stage 2 Esophagectomy from August 2022 to May 2024 at Shaukat Khanum Memorial Cancer Hospital and Research Center Peshawar. Patient demographics and perioperative outcomes were collected and assessed, Furthermore, ERAS society guidelines recommendations were adopted. Pre habilitation included Preoperative nutritional assessment, Preoperative oral pharmaconutrition, physiotherapy and psychological counselling. For an intra-operative period, avoidance of hypothermia and glycemic control was assessed. For a post-operative period, NG tube removal, chest drain removal and epidural removal post-operatively were assessed. Moreover, the initiation of oral intake with water sips to commencing free fluids with oral nutritional supplements was also recorded. Length of hospital stay and 30- and 90-days mortality were assessed as well.

**Results:** A total of 49 patients underwent two stage Hybrid Ivor Lewis two stage esophagectomy. Male /Female patients were n=28(57%)/21(42%) with a mean age of 35 years old. Mean BMI was 21. 92% patients had no co morbidities where as 8 % had co morbidities including diabetes, hypertension, IHD. 98% cases underwent prehabilitation. Mean operative time was 412 minutes. Regarding patient's ASA status, 81% (n=40) had grade 2/16%(n=8) had grade 3/ 2%(n=1) was grade 5. In terms of surgical complications Clavien – Dindo Classification was used, 92%(n=45) were classified as grade 1/4%(n=2) as grade 2, 2%(n=1) as grade 3/ 2%(n=1) (anastomotic leak) as grade 5. The total lymph node yield was 18.83%. One resected margin was positive for metastasis out of 49 cases. Mean length of ICU and IPD was 2.27/3.6 days. Whereas mean for total length of stay 5.8 days. The mean duration for chest drain removal and epidural removal was 4.19/4.22 days. Finally, oral intake was started from water sips on POD 1, followed by clear fluids and Peptamen 2.15 progressing to free fluids 4.08 POD. There was 1 mortality at 30 days.

**Conclusion/Recommendations:** Prehabilitation and ERAS significantly improves perioperative and post-operative outcomes. The successful introduction of ERAS protocol in esophageal surgery yields better perioperative care and short-term outcomes.

**Keywords:** ERAS Esophageal carcinoma Prehabilitation Preoperative optimization

**SO-6: Management of Club foot, A narrative review**

Dr. Sikandar Hayat

**Objective/Hypothesis:** The management of club foot has drastically changed from surgical management to conservative one in last 30 years.

**Materials and Methods:** Club foot clinic KTH is providing complete free treatment to kids with congenital club foot deformity. The clinic was established with the help of US NGO Miracle feet since April 2023. Paraplegic Center is working as implementing partner. So far more than 280 pts has been treated. The child undergo weekly serial casting for foot correction, followed by brace to prevent recurrence

**Results:** Total pts treated 280. More than 131 patients on bracing whole 66 patients undergoing casting. Average cast for correction is 5.5. Tenotomy rate is 85 %. Neglected cases treated are 41.

**Conclusion/Recommendations:** Conservative management described by Hippocrates in 400 BC had been accepted as the most effective treatment to correct club foot deformity.

**Keywords:** Club foot, CTEV, serial casting , Ponseti casting

## **SO-7: Short Term Neurological Outcomes of Microsurgical Release of Tethered Cord**

Dr. Syed Jawad Ahmad

**Objective/Hypothesis:** To evaluate short term neurological outcomes of microsurgical release of tethered cord

**Materials and Methods:** A retrospective analysis of the tethered cord release operated between January 2018 and August 2024, operated by a consultant neurosurgeon were evaluated for post-operative neurological outcome. All patients with tethered cord due to primary or post surgical causes were evaluated and reviewed. Their clinical data in the form of age, gender, location of tethering, pre-operative neurological status, and post-operative outcomes were noted. Patients were assessed and evaluated immediately post-op and on 14 post-operative day. Data was entered and analyzed using SPSS version 25

**Results:** A total of 79 patients undergone surgery for tethered cord release during the time frame with a mass on the back (44.7%) the most common reason for surgery. Preoperatively 63(79.7%) patient had intact neurology and only 3(4.7%) cases resulted in loss of neurology post-operatively in short terms. Bowel and bladder dysfunction was present in 14 patients present pre-operatively and was remained same post-operatively with no improvements in short term. The most common complication encountered post-operatively was CSF leak 18(22.8%) and infection 4(5.1%).

**Conclusion/Recommendations:** Microsurgical release of tethered cord is a safe and effective modality to treat the tethered cord release with minimal neurologic deficits.

**Keywords:** CSF= cerebrospinal fluid TCS= tethered cord syndrome



## **SO-8: Accessing the necessity and utilization of post-operative intensive care in hepato-pancreatico-biliary( HPB) surgeries. Is it time to change our practice?**

Dr. Asad Ullah Khan, Fatima Gillani

**Objective/Hypothesis:** This study aims to better allocate resources, decrease needless ICU admissions, and improve patient outcomes by assessing the necessity, effectiveness, and utilization of ICU admissions following elective hepatic-pancreatic-biliary (HPB) surgeries.

**Materials and Methods:** We retrospectively analyzed data from 254 patients who underwent elective HPB surgery between April 2021 and April 2024, examining patient demographics, surgical variables, and post-operative outcomes.

**Results:** Among 254 patients, 180 (70.86%) were treated in the ICU. Of these, 159 (88.33%) received observation only during ICU care. ICU readmission (4.44%, n=8/180) and intensive medical treatment (11.66%, n=21/180) were significantly associated with prolonged surgeries (>6 hours) (7.78%, n=14), age > 60 years (6.11%, n=11), comorbidities (e.g., DM, HTN, Renal impairment) (9.44%, n=17), intraoperative transfusions (9.44%, n=17), perioperative morbidities (2.22%, n=4), intraoperative use of inotropes (3.33%, n=6), and BMI > 29 (1.11%, n=2) and < 17 (1.67%, n=3). These factors were significantly associated with the need for interventions in ICU such as supplemental oxygen therapy, Electrolytes replacement, Transfusions, Hemodialysis, and longer postoperative stays in the ICU and hospital, and hospital mortality.

**Conclusion/Recommendations:** Our study demonstrated that low-risk patients undergoing major HPB surgeries can be safely managed on the ward without the need for postoperative ICU/HDU care. However, a subset of patients who underwent prolonged surgeries, had pre-existing comorbidities, received intraoperative transfusions, or experienced perioperative morbidities, and with extreme BMI values and those who required inotropes during surgery, should be monitored in ICU/HDU until stability is ensured. These findings suggest that targeted ICU/HDU care can be optimized, leading to improved resource allocation and patient outcomes. This will lead to further study on a larger scale to validate these results and reform clinical practice.

**Keywords:** HPB= hepato-pancreatico-biliary, ICU= intensive care unit, HDU= high dependency unit

## **SO-9: Battle of the Protocols: Assessing the Effectiveness of Cross vs. FLOT in Esophageal Adenocarcinoma**

Dr. Furqan Ul Haq

**Objective/Hypothesis:** 1. To check pathological complete response rate in peri operative chemotherapy vs CRT. 2. To check for peri operative chemo and CRT associated toxicities. 3. To analyze for survival (progression free survival, median survival and mortality rates) and assess for R0 resections. Null Hypothesis: Peri operative chemotherapy is non inferior to trimodality treatment (Chemoradiation) therapy in esophageal adenocarcinoma. Alternate Hypothesis: Trimodality treatment (chemoradiation therapy) is superior in terms of toxicity, PFS, OS as compared to peri operative chemo therapy.

**Materials and Methods:** Retrospective pilot study of 101 patients treated in our SKMH hospital Peshawar.

**Results:** We have done pilot retrospective study in our center (SKMCH Peshawar), in which FLOT has been received by 38, and CRT by 18. CAPOX has been received by 11, FOLFOX by 14 patients, CARBO/PACLI BY 1 patient. PCR has been achieved in 2 out of 38 patients (5.3%) and in one patient in CRT group (1/18) which is 5.5 %. Tumor regression has significantly been seen in patients and R0 resection have also been seen in chemoradiation therapy group. Lesser toxicities were observed in CROSS trial, but more response rates were seen with FLOT group.

**Conclusion/Recommendations:** Based on the above it is concluded that the who have received chemo radiation therapy have showed better outcome with respect to tumor regression, toxicities such as pancytopenia, R0 resection than FLOT chemotherapy. Futuristic Goal/approach: Aim is to do randomized control-controlled trial in our hospital as a standardized trial and want to define clearly to the world the standard of adeno carcinoma esophagus.

**Keywords:** CROSS Trial, FLOT trial, adeno carcinoma esophagus, sievert I and II tumors.

**SO-10: Sphincter Preservation in Anastomotic Leak Patients Following Low Anterior Resection: A novel technique**

Dr. Mariam Asad

**Objective/Hypothesis:** To evaluate the efficacy of conservative management in treating anastomotic leaks and preserving the sphincter.

**Materials and Methods:** Prospectively collected data of all the patient of rectal cancer who underwent sphincter preserving surgery between April 2021 and August 2024 at Shaukat Khanum Memorial Cancer Hospital Peshawar. All the patient of either sex who had biopsy proven rectal cancer and underwent low anterior resection / ultra-low anterior resection with colorectal / coloanal anastomosis above 18 years of age was included in the study. Exclusion was age below 18, those in whom no anastomosis was performed.

**Results:** Out of 97 patients 6 patients (6.18%) had anastomotic leak. Conservative management includes antibiotics, bowel rest, rectal wash and endosponge. 3 patients (50%) were successfully managed with conservative treatment with endoscopic washout and endosponge technique, 2 had undergone ileostomy reversal recently. 3 patients who had completion proctectomy, were unstable to be managed conservatively. Mean hospital stay was 23 days with no mortality reported. Average number of endoscopies performed was 6.3.

**Conclusion/Recommendations:** Endosponge is a viable first line treatment for localized leak patients who are stable, as it reduces morbidity and mortality associated with re-exploration and improves sphincter preservation and quality of life.

**Keywords:** Anastomotic Leaks Rectal Cancer Sphincter preserving techniques

## SO-11: Outcome Of Ultrasound Guided Erector Spinae Plane Block In Patients Undergoing Laparoscopic Bariatric Surgery In Tertiary Care Hospital Of Peshawar

Dr Muhammad Bilawal Khan

**Objective/Hypothesis:** Purpose: The aim of this study is to compare the outcome of ultrasound guided erector spinae plane block (ESPB) in patients undergoing laparoscopic bariatric surgery versus group of laparoscopic bariatric surgery patients not availing ultrasound guided ESPB. There is considerable postoperative pain after Laparoscopic bariatric surgery. We evaluated the impact of ultrasound-guided ESPB on perioperative analgesia following laparoscopic bariatric surgery.

**Materials and Methods:** This study was conducted in the department of General Surgery, Hayatabad medical complex Peshawar from January 2021 to December 2023. All the patients were admitted after proper evaluation of their obesity and extent of metabolic arrangements. A total of 50 patients aged 18 to 65 years with a body mass index (BMI) of  $43 \pm 8$  kg/m<sup>2</sup> were randomly allocated into two groups. 25 Patients (50%) received bilateral ESPB using 20 mL bupivacaine 0.25% at the level of the T10 transverse process while 25 (50%) patients were assigned to control group. The primary outcome measure was the change in the post-operative pain as assessed by 10 point Visual analog scale (VAS) for 24-hours was recorded.

**Results:** Results: All the 50 patients underwent laparoscopic Bariatric surgery. Out of 50 patients 35 (70%) patients availed Laparoscopic Sleeve Gastrectomy (LSG), and 15 (30%) patient have undergone Gastric Bypass (GB) surgery. 18 (51.4%) LSG and 7 (46.7%) GB patients have availed Bilateral Ultrasound guided ESPB. While 17 (48.6%) LSG, 8 (53.3%) GB patients we're included in the control group. Out of 25 ESPB patient group only 1 (4 %) patient has been observed to have post operative pain of  $5.0 \pm 1.0$  VAS score at awake. He was administered 100mg Tramadol injection at awake. While rest of the 24 (96%) ESPB patients have lower VAS Score at awake, at 12-hour, and at 24-hour post-op. The ESPB VAS score at awake is  $3.0 \pm 1.0$ ,  $2.0 \pm 1.0$  at 12-hours, and  $1.0 \pm 1.0$  at 24 hours post-op. ESPB patients received a single dose of tramadol injection at awake. Oral analgesic required at 12-hours post-op while no analgesic is required at 24-hours post-op. On the contrary, the control group patients VAS Score is  $7.0 \pm 1.0$  at awake,  $6.0 \pm 1.0$  at 12-hours and  $5.0 \pm 1.0$  at 24-hours post-op. Control Group required analgesia in the form of tramadol injection at awake, at 12-hours and at 24-hours post-op.

**Conclusion/Recommendations:** Conclusion: Bilateral ultrasound-guided ESPB appears to be a simple and very effective technique in lowering post-operative pain resulting in decreased analgesia administration in obese patients undergoing laparoscopic bariatric surgery. Control group patients have more post- operative pain requiring more tramadol analgesia for 24 hours.

**Keywords:** Bariatric surgery, erector spine plane block, Sleeve gastrectomy, RYGB, MGB.

### 3. Paediatrics

#### PO-1: Organ involvement and treatment outcomes in MIS-C: a retrospective analysis

Dr Abdul Moez

**Objective/Hypothesis:** the purpose of this study was to analyze the cases diagnosed as MIS-C in tertiary care hospital and to look out for the variability of presenting symptoms and the involvement of organ systems in the patients diagnosed as MIS-C, The treatment given to them and their role in controlling the severity of the symptoms with our main focus on use of IVIG, IV steroids, immunosuppressive drug and anti-coagulants.

**Materials and Methods:** retrospective study was conducted, in which data was collected from patient files who were diagnosed as MIS-C in Northwest general hospital Peshawar from the date: 1st June 2022 to 31st May 2024

**Results:** A total of 60 pediatric patients diagnosed with Multisystem Inflammatory Syndrome in Children (MIS-C) were included in the study. The median age was 7 months, with a male predominance (65%). Apart from respiratory system involvement which was seen in all cases, the most commonly affected organ systems were hepatobiliary (66%), the cardiovascular (56%), renal involvement was noted in 50%, gastrointestinal involvement was observed in 43% of the patients along with the cutaneous manifestations were seen in 43% of the patients and Central nervous system involvement was seen in 36% of the patients. Of the 60 patients, 41 (68%) required mechanical ventilation. Treatment regimens included intravenous immunoglobulin (IVIG) in 50 patients (83%), corticosteroids in 40 patients (67%), and immunosuppressants in 20 patients (33%). Anticoagulation therapy was administered to 30 patients (50%). The overall mortality rate was 30%, with 18 patients succumbing to the illness. The majority of patients (70%) recovered with appropriate treatment, emphasizing the importance of early recognition and intervention.

**Conclusion/Recommendations:** MIS-C is a rare but relatively life threatening condition in which patients require hospital stay. The initial non-specific presentation of this syndrome can lead to misdiagnosis or delayed diagnosis which can have grave consequences. So early recognition and treatment of MIS-C is crucial for improving the outcomes of the patient. IVIG, steroid therapy and immunosuppressive drug and anti-coagulants along with symptomatic therapy have positive role in improving the symptoms of the patient thus outcome. Further study is needed to understand the pathophysiology of the MIS-C to optimize the treatment for it.

**Keywords:** covid infection, pandemic, MIS-C (multi-system inflammatory syndrome in children), IVIg (intravenous immunoglobulin), IV steroids, immunosuppressive drugs

## **PO-2: Clinical Manifestation and Outcome of Myocarditis in Multisystem Inflammatory Syndrome in Children (MIS-C) Following COVID**

Dr Muhammad Hamza

**Objective/Hypothesis:** 1.To identify the frequency of Myocarditis in multisystem inflammatory syndrome (MIS-C) patients 2.To determine the echocardiographic findings of patients with myocarditis secondary to MIS-C 3. To correlate laboratory evidence of cardiac injury with the hemodynamics status of patients

**Materials and Methods:** This was a Retrospective study conducted in the Pediatric department of Northwest General Hospital, Peshawar from November 2021 to February 2023. Data from 29 out of 188 patients diagnosed with MIS-C were retrieved from hospital records. Data were collected using a non-probability convenient sampling technique The study received ethical approval from the Medical Research Board and Ethical Committee of the Northwest General Hospital, KPK, Peshawar, Pakistan. Data was collected by filling out the enclosed Proforma designed for this study. The inclusion and exclusion criteria were made according to WHO criteria for MISC. Data analysis was performed using SPSS version 23.

**Results:** 29 out of 188 patients diagnosed with MIS-C were selected who showed Echocardiographic or laboratory evidence of cardiac injury. Findings from this study infer that 75.9% of patients with Myocarditis secondary to MIS-C commonly present with the classic presentation of shortness of breath, there is a wide range of patients between the age of 3 months to 12 years. The male-to-female ratio is almost equal with 55.2% of the population being male patients while the female gender is 44.8%.Almost 55.2% of patients required mechanical ventilation and 75.9% of the patients required inotropic support. The Mortality was 31% in Myocarditis secondary to MIS-C.

**Conclusion/Recommendations:** Findings from this current study infer that cardiac injury following covid is a rare but serious complication with high morbidity and mortality. Most children with myocarditis secondary to MIS-C have a serious disease course that requires Intensive care and monitoring. The disease equally affects both genders and the raised levels of Troponin I correlate with the clinical course. The decreased ejection fraction on Echocardiographic findings provides direct evidence of decreased myocardial contractility. The study also discusses the use of inotropic drugs to improve cardiac function as well as the use of IVIG, steroids, and Tocilizumab: the standard treatment for MIS-C and the patient outcome.

**Keywords:** Myocarditis, Multisystem Inflammatory Syndrome in Children (MIS-C), COVID.

**PO-3: Insights into Behavioral Challenges in ASD Children in Peshawar Autism Centers and Parental Perspectives on its Management: A mixed method study**

Mr Malak Amanullah Khan

**Objective/Hypothesis:** To determine the frequency of common behavioral problems in children with autism and to explore Parental perception of autistic children about its available management and effectiveness.

**Materials and Methods:** A mixed method study was conducted on Autistic children in Peshawar Autisms center in which a CBCL questionnaire were filled by parents of total sample 175(Rao soft with 95%confidence interval) in first phase within 3 months (Nov/2023-jan/2024) while 10 in-depth interviews of 09 questions were taken from their parents in 2nd phase within 15 days (Feb /2024). Random sampling was used for quantitative data while purposive sampling was used for quantitative data collection. The qualitative data was analyzed using Virginia Braun and Victoria Clarke's thematic analysis method through NVivo 14, while the quantitative data was analyzed using SPSS 26 for measuring frequency, mean and total score.

**Results:** In all, 135 questionnaires were filled by parents of Autistic children with mean age of 3.5years. Among them the most prevalent behavioral issues were aggression (24%), attention problems (19%), withdrawal (16%), and somatic problems (15%). 44 codes were generated from the qualitative interviews, which further divided into 15 categories and emerged into 4 themes. (1) Parental Challenges in Rearing ASD Children, (2) Goals and Effectiveness of early intervention in ASD, (3) Key Components of Successful Autism Management, (4) Parental Satisfaction & Suggestions. Majority of parents (70%) expressed full satisfaction with the available resources for managing autism, and they have observed improvements in their children's behavior like Attention & verbal communication through various early interventions.

**Conclusion/Recommendations:** Aggression and attention problem were common in autistic children in peshawar centers. It can be effectively addressed through early intervention. Many parents have witnessed notable improvements in their children's behavior with timely support and guidance .

**Keywords:** Autism Spectrum Disorder; Child; Parent; Therapies.

**PO4 : Correlation of Cerebrospinal Fluid Lactate Dehydrogenase with other Inflammatory biomarkers in Pediatric Patients of Meningitis undergoing Cerebrospinal Fluid Routine Examination in a Tertiary Care Hospital in Peshawar**

Dr Qazi Kamran Amin

**Objective/Hypothesis:** This study aims to investigate the correlation between CSF LDH levels and other inflammatory biomarkers (glucose, protein, cell count, neutrophils, and lymphocytes) in pediatric meningitis patients. Additionally, it assesses the association of CSF LDH levels with lymphocytic-predominant and neutrophilic-predominant CSF reactions.

**Materials and Methods:** A retrospective cohort study was conducted at Rehman Medical Institute, Peshawar, over two months in 2024. Data were collected from Hospital Management Information System (HMIS) records and analyzed using IBM-SPSS version 27

**Results:** The study included 158 pediatric patients with meningitis. Age distribution: 20.9% (0-1 month), 25.9% (1 month – 1 year), 9.5% (1-3 years), 7.6% (3-6 years), 29.7%(6-12 years), and 6.3% (12-18 years). CSF examination showed 96.25% of cases had no microbial growth. Rare microbes (e.g., *Naegleria fowleri*, *Streptococcus pneumoniae*) were found in 0.6% of cases each. Inflammatory predominance showed 15.8% neutrophilic, 82.9% lymphocytic, and 1.3% neutral responses. A moderate positive correlation was observed between CSF LDH levels and other inflammatory markers. Higher CSF LDH levels were linked to neutrophilic predominance, suggesting a potential association with bacterial meningitis

**Conclusion/Recommendations:** CSF LDH is a valuable biomarker for inflammation and cellular damage in pediatric meningitis. Its correlation with other inflammatory markers enhances its role in differentiating viral from bacterial meningitis, aiding accurate diagnosis and disease management. Further research is needed to confirm these findings and explore CSF LDH's role as a risk indicator in pediatric meningitis.

**Keywords:** CSF, LDH, Pediatric patients, Meningit



#### 4. Obstetrics and Gynaecology

##### **OGO-1: The Etiology of Stillbirths Using Relevant Condition at Death (ReCoDe) Classification System; Experience in a tertiary care Hospital**

Arzoo Gul Bangash

**Objectives/Hypothesis:** To find out the causes of stillbirths using the ReCoDe classification system

**Materials and Methods:** A prospective cross-sectional study of 343 women diagnosed with stillbirth after 24 completed weeks of pregnancy at Khyber Teaching Hospital between 30 June 2021 and December 2023. After taking ethical approval, detailed review of maternal and fetal clinical findings, investigations and examination of placenta, cord and membranes, relevant condition at death were recorded against the headings of ReCoDe classification (along with the sub classifications) as Group A-Fetus, Group B-Umbilical cord, Group C-Placenta, Group D-Amniotic fluid, Group E- Uterus, Group F- Mother, Group G Intrapartum, Group H-Trauma, Group I- Unclassified. Data was analyzed on the SPSS v.23.0

**Results:** A total of 41503 live births and 343 stillbirths were observed during the study period with a stillbirth rate of 8 per 1000 live births. Mean maternal age, and parity were  $24.5 \pm 4.36$  and  $2.62 \pm 2.35$  respectively. Ninety-eight per cent of cases were un-booked. Maternal causes (Group F) including preeclampsia and diabetes were responsible for 28.35% of stillbirths followed by 22.7% fetal (Group A) and 19.9% placental causes (Group C). Among fetal causes, 14% were due to lethal congenital abnormality and 6.4% cases of fetal growth restriction were noted. In placental causes, abruption was seen in 10.5% and placenta previa in 7.3% of cases. Birth asphyxia, cord accidents and ruptured uterus were responsible for 10.8%, 5.9% and 3% of stillbirths. Application of the ReCoDe classification System led to the identification of 93.6% of stillbirth cases associated condition and only 6.4% of cases were categorized as unexplained

**Conclusion/Recommendations:** The Study concluded that maternal causes like preeclampsia and diabetes in Group F, are the pre-dominant causes of stillbirths followed by Group A including fetal causes like lethal congenital abnormality and fetal growth restriction.

**Keywords:** Stillbirth, ReCoDe, Perinatal Deaths, Lower middle-income countries (LMIC)

## **OGO-2: Previous stillbirth and subsequent perinatal outcomes in a tertiary care hospital in Peshawar**

Dr Fauzia Afridi

**Objective/Hypothesis:** To determine the incidence of repeat stillbirth in women with stillbirth in previous pregnancy. To compare the incidence of adverse perinatal outcomes between women with previous stillbirths and those having previous live births

**Materials and Methods:** A 6-month study conducted at OBYGYN department of Khyber Teaching Hospital on pregnant women between 18-45 years of age, 28-42 weeks pregnant, having at least one previous birth. Sample size was 142 (71 in the exposed group and 71 in the unexposed group), and sampling technique was non-probability purposive sampling. The absolute and relative risk of stillbirth in the two groups was determined, by analysing data using SPSS V. 25

**Results:** The mean age of the participants was 28.4±4.2. mean BMI was 28.2 ± 0.9. There were six stillbirths (4.2%) among the 142 participants. Among these, 2 (2.8%) were in Group A and 4 (5.6%) were in Group B (OR=2.0). Incidence of other adverse perinatal outcomes like early neonatal death, low APGAR score, NICU admission, and low birth weight were also increased in the exposed group. The c-section rate was 19.3% in the unexposed and 32% in the exposed group.

**Conclusion:** A previous history of stillbirth is a high-risk obstetric group and is associated with a two-fold increased risk of repeat stillbirth in addition to an increased risk of other adverse perinatal outcomes.

**Keywords:** stillbirth, live birth, recurrence, pregnancy outcome

### **OGO-3: Maternal and fetal outcomes of pregnancies ending between 28 and 37weeks of gestation**

Dr Madina

**Objective/Hypothesis:** To determine the frequency of fetomaternal outcomes of pregnancies endings between 28 and 37weeks gestation

**Materials and Methods:** A total of 139 patients with preterm labour were included in the study. All patients were followed up till delivery and fetomaternal outcomes(postpartum heamorrhage, puerperal sepsis,newborn jaundice,birth asphyxia, necrotizing enterocolitis) were noted. Results were tabulated as frequency and percentages for categorical variables+mean.

**Results:** Age range in this study was from 18 to 40 years with mean age of 28.194+<sub>3.22</sub> years,mean gestational age 32.352+<sub>2.04</sub> weeks and mean parity was 1.129+<sub>1.43</sub>. Postpartum haemorrhage was observed in 12.2% patients. Puerperal sepsis 22.3%,new born jaundice 41%,birth asphyxia 16.5% and necrotizing enterocolitis was7.2%.

**Conclusion/Recommendations:** Our study has concluded that preterm birth from 28-37weeks gestation shows an increased risk of adverse maternal and neonatal outcomes.

**Keywords:** Pregnancy, Preterm, Fetomaternal outcomes

## **OGO-4: Postpartum Intrauterine Contraceptive Device: Acceptance And Practices At A Tertiary Care Hospital Of Peshawar**

Dr Maimoona Qadir

**Objective/Hypothesis:** Our goals were to ascertain the demographic traits and decision-making processes of women who consented to get PPIUCDs, as well as how they felt about and were satisfied with the devices, and any difficulties that followed PPIUCD implantation.

**Materials and Methods:** From January 2021 to December 2023, a prospective, observational cross-sectional study was carried out in the Gynecology department of the Khyber Teaching Hospital in Peshawar. Using the openEpi calculator, a sample size of 2960 was determined with a 1% margin of error and a confidence interval of 99.99%. We monitored women who chose to have an intrauterine contraceptive device implanted after giving birth. These women were delivered by cesarean section or by standard vaginal delivery. In both situations, the patient was told to check up six weeks later, and the thread was cut. SPSS 22 was used to enter and evaluate the data. Categorical variables were given as percentages, and continuous variables were recorded as Mean±SD.

**Results:** There were 366 women who chose to have a postpartum IUCD inserted. IUCD was implanted during a cesarean section in 222 women (60.7%), although it was inserted after vaginal delivery in 144 women (33.3%). Women's ages ranged from 20 to 40 years old, with a mean age of 27.32±4.01. The women's mean parity was 2.8±1.06. In terms of future pregnancy desire, 108 people (29.5%) had no intention of getting pregnant again, 12 people (3.3%) wanted to wait 1-2 years to get pregnant, 155 people (42.3%) wanted to wait 3-5 years, 47 people (12.8%) wanted to wait more than 5 years, and 44 people (12%) were unsure. In 233 cases (63.8%) during the 6-week follow-up, the IUCD string was detectable on pelvic USG but not seen. In 127 (34.7%) cases, IUCD was observed in situ; in 6 (1.6%) cases, IUCD was not visible on pelvic USG.

**Conclusion/Recommendations:** An efficient, secure, reversible, long-acting type of contraception is postpartum intrauterine device placement. This method's effectiveness is similar to that of tubal ligation.

**Keywords:** Contraception Tubal Ligation Postpartum Perinatal Mortality Primipara Multipara

## **OGO-5: Causes and outcome of pregnancy related acute kidney injury**

Dr Nazia Liaqat

**Objective/Hypothesis:** To determine frequencies of causes and outcome of pregnancy related acute kidney injury

**Materials and Methods:** This descriptive case series was conducted in Nephrology unit of a tertiary care hospital of Peshawar, from 1st August 2021 to 31st July 2022. A total of 100 obstetric patients with acute kidney injury secondary to obstetric conditions were enrolled via nonprobability consecutive sampling technique. While patients with preexisting renal disease, those with renal stones, or having bilateral small kidneys on ultrasound were excluded from the study. Patients were followed till 12 weeks postpartum period. Underlying obstetrical causes and outcome at 12 weeks postnatal period were determined.

**Results:** The mean age of sample of 100 cases was  $29.29 \pm 6.45$ . Mean serum creatinine at presentation was  $6.5 \pm 3.13$ . Majority of patient, 89 % were multigravidas. Seventy eight percent patients required hemodialysis. Primary postpartum hemorrhage remained the commonest underlying cause of pregnancy related acute kidney injury in this study. The frequency of persistent renal failure in Pr-AKI in this study was 14%. In about 66% of cases complete recovery occurred. All the underlying obstetrical causes, when adjusted for age, gravidity, place and mode of delivery, had no association with persistent renal failure.

**Conclusion/Recommendations:** Primary postpartum hemorrhage is the predominant cause of pregnancy related acute kidney injury. By the end of 12 weeks postpartum, two third patients recover completely from pregnancy related acute renal injury.

**Keywords:** Pregnancy related acute kidney injury, obstetrical causes, renal outcome

## **OGO-6: Histopathological Spectrum Of Ovarian Lesions Undergoing Surgical Management In A Tertiary Care Hospital, An Observational Study**

Dr Nazish Hayat

**Objective/Hypothesis:** To find out the frequency of various histopathological types of ovarian cysts undergoing surgical management in Lady Reading Hospital, Peshawar.

**Materials and Methods:** About 4 years (January 2020 till December 2023), statistical data of all patients undergoing surgical removal of ovarian cysts was retrieved from Health Management Information System (HMIS). Cases of para ovarian cysts and already diagnosed cases of malignant ovarian cysts were excluded. Data was entered on SPSS version 26. Frequencies and percentages for categorical variables, Mean and standard deviation numerical variables were used.

**Results:** Total 229 cases were included. The mean age of patients was  $31.71 \pm 10.60$ . Bilateral cysts occurred in 19 patients. On histopathological diagnosis, mature cystic teratoma occurred in 24.5%, endometriotic cysts in 22.7%, and serous cystadenomas in 18.3% of cases. Based on size, mucinous cysts were larger with overall diameters of  $16.8\text{cm} \pm 6.6\text{cm}$ . About 7.8% of cysts were associated with torsion, 2% with ascites, and 1.7% with metastasis. The association of age more than 50 years was noted with risk of malignancy. No significant size difference in benign and malignant counter parts was noted.

**Conclusion/Recommendations:** Mature cystic teratomas were the most frequent histological type of ovarian cyst, followed by endometriotic cysts. Increasing age was found significantly associated with risk of malignancy.

**Keywords:** Ovarian cysts; epithelial ovarian cancer; corpus luteum cyst; classification; surgical procedure.

## **OGO-7: Relationship of placental edge thickness and cervical length to gestational age at delivery in patients with placenta previa**

Dr Wajeeha Syed

**Objective/Hypothesis:** Aim of the current study was to determine relationship of placental edge thickness and cervical length with gestation at delivery in patients having placenta previa.

**Materials and Methods:** : It was a descriptive case series conducted in the department of obstetrics and gynaecology, Medical Teaching Institute Lady Reading Hospital Peshawar from January 2020 till January 2021 .75 patients fulfilled the inclusion criteria. Already diagnosed cases of placenta previa, with singleton alive pregnancies and gestation of 28 weeks or more were enrolled. Trans vaginal ultrasound was done to determine placental edge thickness and cervical length. Patients data on gestation at delivery were collected from hospital records.

**Results:** A significant negative correlation between the placental edge thickness and gestational age at delivery was seen ( $r = -0.566$ ,  $p = 0.001$ ). The correlation between length of cervical canal and gestation at delivery was positive ( $r = 0.362$ ,  $p = 0.001$ ). Also thick placental edge of  $> 2$ cm had significant association with birth before 37 weeks( $p = 0.023$ ). A short cervix of less than 2.5 cm had also statistically significant association with birth before 37 weeks ( $p = 0.022$ ).

**Conclusion/Recommendations:** There is linear inverse relationship of placental edge thickness with gestation at delivery. The relationship of cervical length with gestation is positive linear. Patients with thick placental edge are more likely to deliver preterm than those with thin placental edge.

**Keywords:** Placental edge thickness, Cervical length, Placenta previa, Preterm delivery.

## **OGO-8: Effectiveness of Intracervical Foley's Catheter with PGE2 Versus PGE2 Alone for Induction of Labour at Term Pregnancy**

Romana bibi

**Objective/Hypothesis:** To compare the effectiveness of intracervical foley catheter with prostaglandin E2(PGE2) and PGE2 alone in

**Materials and Methods:** This Comparative cross-sectional study was conducted in the Department of Obstetrics and Gynaecology, Khyber Teaching Hospital Peshawar, and Combined Military Hospital, Peshawar from January to December 2021. It included 388 pregnant women with singleton, term, cephalic presentation, admitted for induction of labor. The patients were divided into two groups, with one group (group A) comprising patients undergoing induction of labor with a foley catheter and prostaglandinE2 combined, whereas Group B consisted of patients having ProstaglandinE2 tablet only, as the mode of induction. The primary outcome was the mode of delivery, whereas secondary outcomes were induction to delivery interval and neonatal Apgar score.

**Results:** In Group A, 176 (90.7%) patients showed effective results in achieving vaginal while in Group B, 172 (88.7%) patients delivered vaginally (P-value 0.504). Mean induction to delivery interval was 12.5+2.7 hours in group A and 13.6 + 3.7 hours in Group B. (Mean difference 1.1 hr, p-value:0.04, CI :0.9-1.9). There was no significant difference in neonatal Apgar score in the two groups(p-value: 0.816).

**Conclusion/Recommendations:** This study demonstrated that intracervical foley catheter with PGE2 application resulted in a significantly

**Keywords:** Term Pregnancy, Induction of Labour, intracervical Foley's Catheter, PGE2



## 5. Basic sciences

### **BSO-1: Mutational analysis of different consanguineous autosomal families of short stature and skeletal dysplasias of Khyber Pakhtunkhwa, Pakistan**

Mr Amir Atlas

**Objective/Hypothesis:** The key objectives of the proposed research are: 1. To clinically evaluate short stature and skeletal dysplasias patients in consanguineous families of Khyber Pakhtunkhwa, Pakistan. 2. To map the whole family members for identification of homozygous segments through genotyping. 3. To identify pathogenic variants in affected individuals by whole exome sequencing and genotyping data analysis. 4. To confirm and validate segregation of pathogenic variants through Sanger sequencing.

**Materials and Methods:** Material and Method Editorial Policies and ethical considerations All the experimental protocols and subject handling procedures were approved by the ethical committee of the Institute of Basic Medical Sciences, Khyber Medical University, Peshawar, Khyber Pakhtunkhwa, Pakistan. The research topic was presented in Graduate Research Committee (GSC) of the institute of Basic Medical Sciences. After the approval of GSC the topic was then presented in Advance Studies and Research Board (ASRB) of the Institute of Khyber Medical University, Peshawar, Khyber Pakhtunkhwa, Pakistan. After topic approval from (ASRB) ethical approval for samples collection was taken from Institutional Research Ethical Board (IREB) of the institute. The approval was granted in 5th IREB meeting vide notification No. KMU/IBMS/IRBE/5th Meeting/2023/9879-17. Informed Consent Written informed consents were obtained from all participating individuals or their parents. Sample collection Families were identified by personal contacts from Different districts of Khyber Pakhtunkhwa, Pakistan. Families Allocation Families were selected on the basis of number of affected individuals per family and the mode of inheritance. The international criteria for categorizing a person as dwarf were followed so that individuals with height of less than 4 feet and 10 inches were considered dwarf. Families comprising of more than one affected individual, and having unaffected parents were selected for study. Detailed growth progress and disease history was recorded. Questionnaire about disease history, typhoid, physical anomalies, respiratory tract infection or ear infection was completed. Heights and head circumference of all individuals were measured. Photographs of face, hands, knees, feet, and forearms were taken. X-rays of at least one affected individual per families were also performed where possible. Clinical Examination Clinical examinations were done by doctors at hospitals and photographs and radiographs were examined by Dr. Wahid Ullah (Orthopedist) and our by our international collaborator Dr. Outi Makitie, (Pediatrician) Helsinki Hospital, Finland. Pedigree Construction Pedigrees were drawn after detailed interviews of several family members especially parents and grandparents. Pedigrees of the families selected for study were drawn using Cyrillic® program V 1.15 (Cherwell Scientific Publishing Ltd.) and Macromedia® FreeHand® MX Software. In all the collected families the family tree (pedigree) showed that the marriages were consanguineous and the mode of inheritance was autosomal recessive. The family history mentioned that parents were cousins. The family was composed of four individual's two males and two females. All the siblings were suffering from skeletal dysplasias. Blood Collection 5-10 ml of blood samples of all available and willing members of families including affected individuals, their normal siblings, parents and grandparents, were drawn in EDTA vials. In addition, samples from families' Family SS-SKD-01 SS-SKD-02 were identified in district karak and district

Charsada Gnjay Daog. Samples of blood were collected from the parents and all four individuals with skeletal dysplasia. They samples were screened for most reported genes (CDMP1, SOX 9, CHSTR3 and FGR3) mutations through linkage analysis but no linkage was established all these families. After this the samples were then processed for whole exome Sequencing of one abnormal individual was carried out. The rest of the family members were then screened for reported mutation via Sanger Sequencing. The expected and possible mutation will be then confirmed by Sanger Sequencing in all family members. DNA extraction DNA extraction was performed as per protocol of commercially available WizBio kit with Lot No. 2C0522-02. Extracted DNA was checked for purity and quantity through Nanodrop spectrophotometer (BIOBASE) and also agarose gel electrophoresis. Microsatellite Markers Designing Markers were synthesized using bioinformatics tool UCSC genome browser and were synthesized against mostly reported genes by other researchers which are, FGFR3, CDMP1, CHSTR3, SOX9 and GHRHR. Markers were diluted centrifugation for 13000 rpm for 1 minute and T.E was added marker in 1:3 to form dilutions. PCR amplifications Amplification conditions for both the genes microsatellite markers were kept as similar as described by Carakushansky et al (Carakushansky et al., 2003) and that for Npr2 by Khan et al, (Khan et al., 2010). Many researchers identified these two genes as genetic contributors of dwarfism. As it was previously reported that mutation in both of these genes that is GHRHR gene and NPR2 gene are the cause of short stature most commonly called dwarfism. Linkage analysis was carried for various the candidate genes that is CHSTR3, CDMP-1, GHRHR and NPR2 genes for both families were tasted by using microsatellite markers of the concerned genes such as, microsatellite markers (D20S843, D20S195, D20S909) for CDMP-1, (D4S412, D4S2366 , D4S394 , D4S403) markers for FGFR3 gene, (D7S2491, D7S2496, D7S435, D7S2252) for GHRHR gene and (D9S1118, D9S1845, D9S1817, D9S50, D9S1874) for NPR2 mapped on chromosome 9p13-q12. Amplification of all the genes exon-intron borders were carried out by using polymerase chain reaction through thermo cycler with specific primers which were designed for the candidate genes. Conditions for PCR amplifications were optimized that were 950 C for 1 minute denaturation process which was then followed by other 30 cycles of 950 C for the duration of 35 seconds, 600 C for 35 seconds, and 700 C for 3.5 minutes, followed by a single incubation at 700 C for 10 minutes. Whole exome sequencing Sequence data in fastq format was used for further analysis. The data was used to perform variant detection and annotation using GATK variant calling pipeline. The workflow of data analysis is given below: Raw data import Quality check of the raw reads (FastQC) Mapping to the reference genome (BWA-mem) Duplicates marking MarkDuplicates (Picard) Variant calling Haplotypecaller (GATK) Annotation of variants (ANNOVAR) Adapters' removal (FASTP) Quality checking of data Quality checking of the data was performed through FASTQC 1 tool. FastQC aims to provide a simple way to do some quality control checks on raw sequence data coming from high throughput sequencing pipelines. It provides a modular set of analyses which one can use to give a quick impression of whether the data has any problems of which one should be aware before doing any further analysis. The input files were in fastq format while the output files an html report containing information of different quality control parameters Adapters' removal Slight adapter content was present in the fastq files of the sample. A tool named fastp 2 was used for removal of the adapter content. Fastp is an ultra-fast all-in-one FASTQ preprocessor. fastp is a versatile tool that can perform quality profiling, read filtering, read pruning, adapter trimming, polyG/polyX tail trimming, UMI preprocessing and other operations with a single scan of FASTQ files. Additionally, it can split output into multiple files for parallel processing. Input data: fastq files Output data: cleaned fastq files Mapping to the reference genome Mapping to the indexed reference genome was performed using BWA 3 tool. Burrows-Wheeler Alignment tool (BWA), is a new read alignment package that is based

on backward search with Burrows-Wheeler Transform (BWT), to efficiently align short sequencing reads against a large reference sequence. Reference genome was in fasta format. Fastq files of the sequenced samples and fasta sequence of the reference genome were given as input. The output files were in the form of aligned BAM format. The following table represents the genome which was used as reference. Reference genomes of all organisms used for alignment

Species	Reference Genome
Human	hg38

resources\_broad\_hg38\_v0\_Homo\_sapiens\_assembly38.fasta  
[\(https://console.cloud.google.com/storage/browser/genomicspublic-data/resources/broad/hg38/v0/\)](https://console.cloud.google.com/storage/browser/genomicspublic-data/resources/broad/hg38/v0/) Duplicates marking For marking the duplicates, the aligned BAM files were given as input to MarkDuplicates (Picard) 4 tool. This tool locates and tags duplicate reads in a BAM or SAM file, where duplicate reads are defined as originating from a single fragment of DNA. The tool's main output was a new BAM, in which duplicates were identified in the SAM flags field for each read. Variant calling Variant calling was performed using Haplotype Caller (GATK) tool. The HaplotypeCaller 5 is capable of calling SNPs and indels simultaneously via local de-novo assembly of haplotypes in an active region. In other words, whenever the program encounters a region showing signs of variation, it discards the existing mapping information and completely reassembles the reads in that region. The input files were the fasta file of the reference genome and BAM files with marked duplicates and applied BQSR. The output of this tool was a variant call format (VCF) file containing different identified variants. Annotation of variants Annotation of the variants was performed through ANNOVAR 6 tool. The inputs were predicted variants in VCF file. ANNOVAR is a rapid, efficient tool to annotate functional consequences of genetic variation from high-throughput sequencing data. It generates 3 output files (an output .vcf file with INFO field populated with ANNOVAR annotations One additional output file in .txt format will be in tab-delimited text format for easier manual examination in Excel or other programs., and .avinput file with extra columns that serve as comments on the variants). The databases implemented in ANNOVAR are as follows: refGene, cytoband, exac03, avsnp150, dbnsfp4.2a clinvar,gnomad32,esp6500siv2\_all.

**Results:** We screened different families for mutation using advanced genetic techniques such as linkage analysis, whole exome sequencing (WES), and Sanger sequencing were employed. The study included multiple families, initially investigated using microsatellite STR markers. Families that were not excluded based on STR markers were subsequently processed for WES. The WES results revealed a homozygous stop-gain mutation in the BMP2 gene in one family, a mutation that leads to premature protein truncation. The BMP2 (bone morphogenetic protein receptor type 2) gene plays a critical role in bone formation and growth regulation. The premature termination of the amino acid chain due to this mutation results in a truncated protein, thereby disrupting its function. Mutations in BMP2 are also implicated in other bone-related disorders, such as brachyolmia, dental anomalies, and short stature (Nawaz et al., 2024). In the other two families, no homozygous mutations were detected.

**Conclusion/Recommendations:** The study suggests that families excluded from homozygous mutations on WES should undergo further clinical and medical evaluation, focusing on the development of the pituitary gland, the activation of growth hormone, and the cell signaling mechanisms involved in growth hormone release.

**Keywords:** Short Stature, Skeletal Dysplasia, Mutation, Whole Exome Analysis, Sequencing

## **BSO-2: CHOLERA- A CHALLENGE TO CURTAIL IN DEVELOPING COUNTRIES**

Afnan Naeem

**Objective/Hypothesis:** To determine the bacterial causative agent and associated risk factors responsible for sudden increase in cases of acute diarrheal disease in Rawalpindi/Islamabad northern region of Pakistan and to find the antimicrobial susceptibility pattern of isolates.

**Materials and Methods:** A Cross-sectional observational study was carried out at Department of microbiology, Army Medical College / Pak-Emirates Military Hospital (National University of Medical Sciences) from 18 may 2022to 30 july 2022 .Case definition was defined and all stool specimens were processed according to Clinical Microbiology procedures hand book edition four. Specimens were identified using standard microbiological procedures. Culture was confirmed by serology. Antimicrobial susceptibility testing was performed using by Kirby Bauer disc diffusion method following Clinical and Laboratory Standards Institute M45-A-2 document. Risk factors like age, gender, socio economic determinants, provision of safe drinking water, toilets and hygiene facilities and travel history were evaluated through structured questionnaire after obtaining informed consent. Data was analyzed using statistical package for social sciences version 26 and correlation was determined between different risk factors and presence of disease.

**Results:** A total of 51 patients full filled the definition of cholera but only 33 cases were confirmed through microbiological work up in the laboratory .The mean age of positive cases was 40.80 years. All isolates were identified as biotype Classical serotype Ogawa and had same antibiotic susceptibility pattern i.e. sensitive to antibiotic panel except trimethoprim/sulfamethoxazole.

**Conclusion/Recommendations:** Provision of healthcare facilities, clean drinking water, proper waste and sewage disposal all are fundamental for preventing the spread of cholera. Education about hygiene, sanitation, and preventive measures like vaccinations are essential for controlling outbreaks, along with regular testing of water sources to monitor contamination levels. A multifaceted approach is needed to overcome this disease.

**Keywords:** Cholera, Developing countries Outbreak, Risk factors

**BSO-4: Effect of Hypo-caloric, Protein-rich Diet on Resting Metabolic Rate (RMR) and its Variation according to Fat Mass and Obesity associated (FTO) Gene**

Aneela Siddique

**Objective/Hypothesis:** 1. To determine if high protein low calories diet affects resting metabolic rate. 2. To determine if hypo caloric, protein rich diet affects resting metabolic rate differently in different FTO gene variation.

**Materials and Methods:** Initially, 300 participants were tested for the presence of the rs9939609 FTO variant. The first 14 subjects proven carriers of rs9939609 SNP were recruited and allotted to the minor homozygous/heterozygous (AA/AT) allele group, while 14 non-carriers were allotted to the wild-type (TT) allele group. 14 participants in each group were recruited. A hypocaloric, protein-rich diet was given for 4 weeks. Each participant was requested to sit comfortably on an armchair in a quiet, cool room, and an appropriate mask of breath-by-breath analyzer was attached to the mouth. Pre-, mid-, and post-RMR, RQ, VO<sub>2</sub>, VCO<sub>2</sub>, EE/m, and BMR were measured by a breath-by-breath analyzer for 15-20 minutes and saved as data.

**Results:** RMR changed with diet intervention in 3 genotypes (AA, AT, and TT), and all these groups show different effects of the intervention on them. RQ decreased during intervention in AA ( $p = 0.042$ ), in AT ( $p = 0.008$ ), and in TT ( $p = 0.34$ ). At mid-intervention, RQ showed a significant decrease ( $p = 0.08$ ) in all 3 groups. VO<sub>2</sub> consumed showed different results in all groups. The VCO<sub>2</sub> exhaled during the procedure almost remains the same. EE/m showed an increase during intervention in 3 groups, and in AT, it showed a significant increase ( $p = 0.046$ ). At mid-intervention, EE/m showed a significant increase ( $p = 0.046$ ). BMR decreased in 3 groups, where AT ( $p = 0.002$ ) and TT ( $p = 0.001$ ) showed significant decrease.

**Conclusion/Recommendations:** Consumption of a hypocaloric, protein-rich diet was effective in maintaining the resting metabolic rate. To reduce weight, RMR should be increased or maintained. For weight loss, RQ should be reduced, and energy expenditure should increase. This intervention decreased the respiratory quotient and increased the energy expenditure per minute. All these changes cause weight loss. This suggests that a hypocaloric protein-rich diet maintains or prevents the decrease in RMR in different FTO gene variations.

**Keywords:** Obesity, Hypocaloric, Protein-rich diet, FTO gene, RMR, RQ, EE/m, and BMR.

## **BSO-5: Discrepancies/Concordances between Intraoperative Frozen section and Permanent Histopathological diagnosis of Central Nervous System Tumors**

Dr Mohibullah Khan

**Objective/Hypothesis:** To investigate the diagnostic accuracy between Intraoperative Frozen section (IOFS) and permanent sections in the diagnosis of brain tumors.

**Materials and Methods:** This retrospective cross-sectional study comprised all brain tumor cases with Frozen Section diagnosis and permanent section Diagnosis in Northwest general Hospital from May, 2021 to June, 2024. Data were obtained by reviewing slides and reports from the histopathology archives. The cases were classified into three diagnostic compatibilities (i) complete concordance; the diagnosis of IOFS was identical to the permanent diagnosis, (ii) Partial concordance ; IOFS diagnosis was not incorrect but was too broad to be considered full compatibility, (iii) Discordant; IOFS diagnosis is completely different from the permanent diagnosis. The permanent diagnosis was used as a primary criterion and was compared to IOFS diagnosis. Statistical Package for the Social Science (SPSS) software v20 was used for analysis

**Results:** Total of 127 cases with frozen section and permanent section diagnoses were analyzed after excluding deferred cases. Sixty eight (68) patients were males (53.5 %) and 59 (46.5 %) were females. The ages ranged from 4 to 83 years. Ninety-two percent (92.9 %) of cases revealed complete concordance and 5.5 % of the cases revealed partial concordance in the diagnosis between IOFSs and permanent sections, while 1.6 % were complete mismatching/ discordant in the diagnosis between IOFS sections and permanent sections. Among the brain tumors, the highest percent of tumors were WHO Grade 1 (31 %). The highest percentage of tumor type were low grade astrocytic tumors (30.7 %), closely followed by high grade astrocytic tumors (17.3%).

**Conclusion/Recommendations:** This study highlights diagnostic value of Intraoperative frozen section as a rapid and reliable method for accurate diagnosis of CNS tumors. Our results were comparable to international reports. Further studies should be conducted to explore the reasons of conflict in the two diagnostic methods

**Keywords:** Brain tumor, Histopathology, Frozen section, Diagnostic compatibility, Central nervous system

## **BSO-6: Genetic Profiling of Biotin Responsive Multiple Carboxylase Deficiencies (MCD) in Consanguineous Families of Khyber Pakhtunkhwa**

Dr Naumana Rehman

**Objective/Hypothesis:** Key objectives of the study are; • Identification of consanguineous families with a history of developmental delay, lack of coordination, seizures or neurological sequelae, and unexplained deaths of siblings. • Mapping of family members through genotyping and identification of homozygous segments of the genome. • Whole exome sequencing and bioinformatics analysis for the pathogenic variants associated with biotin-responsive multiple carboxylase deficiency. • Segregation analysis of selected families. • Whole genome sequencing and bioinformatic analysis for our local population's pathogenic and novel variants.

**Materials and Methods:** Study Designs: Experimental Study Study Settings: This study was conducted at Khyber Medical University, Peshawar, and Town Children Hospital, Peshawar, Khyber Pakhtunkhwa (KP). Whole exome sequencing was done at Arcensus GmbH Diagnostics at Rostock, Germany. Study Duration: This study was conducted 24-36 months from Jan 2023 to July 2025 Sample Technique: Non-probability convenient sampling technique. Sample Size: At least 40 Autosomal recessive families with Biotin responsive Multiple carboxylase deficiency. Sample Selection Inclusion Criteria: 1. Pediatric patients of age 0-18 years presenting with neurological manifestations at Town Children Hospital, Peshawar. 2. Presence of one or more of the following clinical attributes without defined etiology failure to thrive, developmental delay, electrolytes imbalance, metabolic acidosis, hypoglycemia, seizures, family history indicating MCD, unexplained death of siblings. 3. At least two or more affected in a family 4. Consanguineous marriage 5. Wasing participation of the families for blood sampling and consent. Exclusion Criteria 1. One patient within a family 2. Family unwasing to participate 3. Families involved in other studies. Data Collection Procedures: A) Identification And Enrolment of Families: Those who fulfill the inclusion and exclusion criteria were included in the study. A questionnaire about the patient's demographics, disease duration, and treatment record was completed. B) Informed Consent An informed verbal & written consent in the local language was acquired from each patient's parents for enrolment and photographing for the research purpose (Annexure IV) duly signed by the guardian, researcher, and field researcher. C) Interview of Families and Clinical Evaluation The families were interviewed in person. Biotin-responsive multiple carboxylase deficiency patients was already diagnosed by the pediatrician. The questionnaire was translated into a local language. D) A physical examination was conducted to exclude any morphological /neurological or other organ system abnormalities (Medical Annexure form III) E) Drawing Family Pedigree: The determination of the mode of inheritance was carried out the pedigree of each biotin-responsive MCD family was drawn using the software HaploPainter. Each Family was allotted a unique research identification number which was used across the investigation. F) Taking Photographs of Affected Member The field coordinator was taken various photographs of affected patients from different angles by using a digital camera (Sony - Japan 30 Megapixel. Video was taken to depict abnormal gait and movements of the body where necessary. The research was approved by the institutional review board of Khyber Medical University Peshawar (Annexure VI) G) Blood samples: Blood samples of such patients and their parents were taken and studied. 5ml fasting blood samples were obtained from all the participants under aseptic conditions in disposable syringes and collected in plastic ethylene diamine tetraacetate (EDTA) coated vacutainers. Butterfly needles were used for patients under 5 yrs of age. Blood samples from unaffected

family members was also collected and used as a control. It was also used for allelic frequency calculation and confirmation of disease-associated mutations. H) Transport and storage of Samples: All the samples were carried from the field in an ice box at 2-6 degrees C. The collected samples were stored at 40 C at the Molecular Biology and Genetics Laboratory KMU. I) DNA extraction and Quantification: Genomic DNA were extracted from collected blood samples using a standardized process already in use at Emory University ([www.core.edu/eigc](http://www.core.edu/eigc)). Isolation of pure DNA from collected blood samples, all the DNA extraction stages were used, including cell lysis, protein digestion, and protein precipitation using isopropanol and NaCl. The quality and quantity of extracted DNA were checked through agarose gel electrophoresis (2%) and Nanodrop-1000 spectrophotometer reading at an optical density of 200nm. J) Single Nucleotide Polymorphism genotyping to identify homozygous regions. The extracted DNA samples from affected family members, their parents, and normal siblings were be genotyped using the Illumina Human Omni 2.5M Bead Chip having 2500,000 SNPs by Illumina Inc® (San Diego, CA, USA). After filtering for quality, the Runs of Homozygosity (ROH) detection was carried by Auto SNPs or PLINK (<https://www.coggenomics.org/plink/1.9/ibd#homozyg>). After then, ROH (allele shared) common in affected individuals was be identified in the hot spot genomic region(s) for pathogenic variant, excluding the parents and unaffected siblings. K) Exome sequencing The exome sequencing technique was used for targeting exons and genes using the Sure Select Human All Exons v5 reagents (Agilent Inc®). Illumina Hi Seq 2000 instrument was used for exome sequencing. The results of Illumina Hi Seq 2000 was be analyzed through a customized pipeline including BWA for mapping the reads, SAM tools was used for variants detection, indels detection through Pindel, and ANNOVAR for the annotation). Updated human Ref Seq coding genes were used as the reference for the calculation of target reads and coverage. The manufacturer's recommended protocols was be used for all experiments. l) Whole Genome Sequencing It is a comprehensive method for analyzing entire genomes to detect nearly all DNA pathogenic variations in an individual's genome. The entire genome is sequenced to obtain nucleotide order and then it is compared to a reference genome to identify changes. The relevant changes are analyzed together with documented symptoms to identify inherited disorders and characterize the mutations that drive disease progression. Arcensus GmbH, Goethestraße 20, Rostock, Germany.

**Results:** Results Clinical diagnostics/History Muhammad Zohan born of consanguineous marriage presented with developmental delay, failure to thrive, speech difficulty, and walking with support. He is being evaluated for the presence of any pathogenic/ likely pathogenic variations related to the above-described conditions by Whole Exome Sequencing. Variant Interpretation and Clinical Correlation Variant: (btd) Variant Description A homozygous indel variation in exon 2 of the BTBD9 gene (chr3:g.15635477\_15635483delinsTCC) that results in a frameshift and premature truncation of the protein 36 amino acids downstream to codon 13 (p.Cys13PhefsTer36; NM\_001370658.1) was detected (Table). This variation has been reported previously in homozygous or compound heterozygous state in multiple individuals affected with profound biotinidase deficiency [PMID: 28220409, 27845546]. This variation is reported as pathogenic in ClinVar database [ClinVar ID: VCV000001895.35]. The minor allele frequency of this variation is 0.0123%, 0.0165% in gnomAD(exome) and in ExAC databases respectively, and is absent in 1000 Genomes databases. The reference codon is conserved across species. OMIM phenotype Biotinidase deficiency is caused by homozygous or compound heterozygous mutation in the BTBD9 gene (609019) on chromosome 3p25. Individuals with biotinidase deficiency who are diagnosed before they have developed symptoms (e.g., by newborn screening) and who are treated with biotin have normal development. Symptoms including seizures, developmental delay, cutaneous manifestations



(skin rash, alopecia), optic atrophy, hearing loss, and respiratory problems occur only in those individuals with biotinidase deficiency prior to biotin treatment. Symptoms of untreated profound biotinidase deficiency (<10% mean normal serum biotinidase activity) usually appear between ages one week and ten years, typically with optic atrophy, hypotonia, seizures, hair loss, and skin rash. Affected children often have ataxia and developmental delay. Individuals with partial biotinidase deficiency (10%-30% of mean normal serum biotinidase activity) may develop symptoms only when stressed, such as during infection.

**Conclusion/Recommendations:** This study concludes that BTD has a key role in causing biotinidase deficiency deficiencies in individuals. Mutation in this gene results in function failure. The study recommends prenatal screening of the newborn for this genetic defect to avoid diseased condition and also to control it's high prevalence

**Keywords:** Biotin, Optics Atrophy, Seizures

## **BSO-7: patterns of rapidly developing resistance of microorganisms**

Dr Saman Hussain Shahid

**Objective/Hypothesis:** To find out the resistance and sensitivity of different gram positive and gram negative microorganisms from patients specimens.

**Materials and Methods:** In this study Disc Diffusion method on Mueller Hinton Agar was employed to test the antibiotic susceptibility pattern of two gram positive and nine gram negative bacteria isolated from various samples taken from 1st Jan 2024 to 30 June 2024. All the antimicrobial discs were employed according to CLSI 2024

**Results:** Gram positive bacteria show hope to vancomycin and linezolid antibiotics. E.coli, Klebsiella, Enterobacter and Proteus are susceptible to carbapenems and colistin. Salmonella, Pseudomonas and Providencia are becoming extremely antibiotic resistant. Citrobacter and Acinetobacter show some sensitivity to colistin

**Conclusion/Recommendations:** The antibiotic resistance is due to decreased compliance of antibiotics. The increasing antibiotic resistant strains of microorganisms is due to over the counter availability of antibiotics.

**Keywords:** susceptibility pattern, antibiotic, microorganisms, resistance, compliance

## **BSO-8: Molecular Analysis of Carbapenem and Aminoglycoside Resistance Genes in Carbapenem-Resistant *Pseudomonas aeruginosa* Clinical Strains: A Challenge for Tertiary Care Hospitals**

Dr Nakhshab Choudhry

**Objective/Hypothesis:** Carbapenem-resistant *P. aeruginosa* strains have become a global threat due to their remarkable capability to survive and disseminate successfully by the acquisition of resistance genes. As a result, the treatment strategies have been severely compromised. Due to the insufficient available data regarding *P. aeruginosa* resistance from Pakistan, we aimed to study the local circulation of resistance genes (carbapenemases, AMEs and RMT resistance genes) and the molecular mechanisms that are responsible for rapidly evolving CRPA isolates from Pakistan.

**Materials and Methods:** we aimed to investigate the resistance mechanisms of 249 *P. aeruginosa* strains by antimicrobial susceptibility testing, polymerase chain reaction for the detection of carbapenemases, aminoglycoside resistance genes, extended-spectrum beta-lactamases (ESBLs), sequence typing and plasmid typing. Furthermore, we tested silver nanoparticles (AgNPs) to evaluate their in vitro sensitivity against antimicrobial-resistant *P. aeruginosa* strains

**Results:** We observed higher resistance against antimicrobials in the general surgery ward, general medicine ward and wound samples. Phenotypic carbapenemase-producer strains comprised 80.7% (201/249) with 89.0% (179/201) demonstrating genes encoding carbapenemases: blaNDM-1 (32.96%), blaOXA48 (37.43%), blaIMP (7.26%), blaVIM (5.03%), blaKPC-2 (1.12%), blaNDM-1/blaOXA48 (13.97%), blaOXA-48 /blaVIM (1.68%) and blaVIM /blaIMP (0.56%). Aminoglycoside-modifying enzyme genes and 16S rRNA methylase variants were detected in 43.8% (109/249) strains: aac(6')-Ib (12.8%), aac(3)-IIa (12.0%), rmtB (21.1%), rmtC (11.0%), armA (12.8%), rmtD (4.6%), rmtF (6.4%), rmtB/aac(3)-IIa (8.2%), rmtB/aac(6')-IIa (7.3%) and rmtB/armA (3.6%). In total, 43.0% (77/179) of the strains harbored carbapenemases and aminoglycoside resistance genes with 83.1% resistant to at least 1 agent in 3 or more classes and 16.9% resistant to every class of antimicrobials tested. Thirteen sequence types (STs) were identified: ST235, ST277, ST234, ST170, ST381, ST175, ST1455, ST1963, ST313, ST207, ST664, ST357 and ST348. Plasmid replicon types IncFI, IncFII, IncA/C, IncL/M, IncN, IncX, IncR and IncFIIK and MOB types F11, F12, H121, P131 and P3 were detected. Meropenem/AgNPs and Amikacin/AgNPs showed enhanced antibacterial activity.

**Conclusion/Recommendations:** We reported the coexistence of carbapenemases and aminoglycoside resistance genes among carbapenem-resistant *P. aeruginosa* with diverse clonal lineages from Pakistan. Furthermore, we highlighted AgNP's potential role in handling future antimicrobial resistance concerns.

**Keywords:** *Pseudomonas aeruginosa*; carbapenem resistance; carbapenemases; aminoglycoside-modifying enzyme genes; 16S rRNA methylase variants; sequence types; silver nanoparticles; Pakistan

**BSO-9: Clinical audit on Hand Hygiene in Medicine Ward of Northwest General Hospital**

Dr Rija Sohail

**Objective/Hypothesis:** To Evaluate Hand Hygiene Of Healthcare Workers In Medicine Ward Of Northwest General Hospital, Peshawar. To Assess Our Practice Of Hand Hygiene Within Medicine Department To Maintain Best Medical Practice. To Overcome The Deficiencies In Hand Hygiene In Our Health Care Set Up According To Standard Guidelines

**Materials and Methods:** Sample size of 60 Prospective data collection

**Results:** First Cycle of the audit showed that 5 moments of hand hygiene according to WHO guidelines were not thoroughly followed by healthcare workers in medicine ward of Northwest general hospital While the second audit showed improvement due to measures taken to adhere to the guidelines

**Conclusion/Recommendations:** Dress Code Implementation. Awareness Campaigns Should Be Done To Encourage Hand Hygiene Restrictions On Wearing Rings, Wrist Watches And Bracelets. Restrictions On Long Hair Or To Make Sure They Are Tied.

**Keywords:** Hand hygiene 5 moments of hand washing WHO guidelines Clinic Audit

**BSO-10: Relation Of High Sensitivity C-Reactive Protein With Acute Myocardial Infarction In Patients With Type-2 Diabetes Mellitus**

Dr Munir Hussain

**Objective/Hypothesis:** To study the correlation of high sensitivity C- reactive protein with acute myocardial infarction in patients with and without type 2 diabetes mellitus/ Diabetes mellitus is associated with increased levels of high sensitivity C- reactive protein due to enhanced low grade inflammation which can lead to accelerated atherosclerosis and consequently acute myocardial infarction and its adverse outcomes.

**Materials and Methods:** A non-probability consecutive sampling techniques was followed. A total of 90 subjects from both genders who presented with acute MI in tertiary care hospitals of Peshawar were selected for the study. Patients were divided into group 1 and 2. Group 1 subjects were patients with Type 2 diabetes mellitus and acute MI while group 2 individuals were patients having acute MI but no diabetes mellitus. Hs-CRP was measured by Immunoturbidometric method using Abbott's FDA approved kit. Mean age and BMI of both the groups were compared by using independent t test. Gender distribution was compared by using Chi Square test. Hs-CRP levels were compared by using Mann Whitney U test.

**Results:** Mean age of male subjects was greater than female subjects. Similarly the age of group 1 ( $59.18 \pm 8.45$ ) individuals was significantly greater than that of group 2 subjects ( $54.82 \pm 14.48$ ). Median Hs-CRP levels were significantly greater in group 1 individuals ( $2.20 \pm 7.85$ ) as compared to group 2 patients ( $0.60 \pm 1.35$ ). Out of total 90 subjects presenting with acute MI, 38 patients developed complications. Hs-CRP levels of subjects with complications were significantly raised as compared to those without complications.

**Conclusion/Recommendations:** Those subjects who presented with acute MI and diabetes had increased levels of Hs-CRP than those without diabetes and were therefore more prone to develop post MI complications and their sequelae.

**Keywords:** Type 2 diabetes mellitus, coronary artery disease, Hs-CRP, atherosclerosis, low grade inflammation.

## **BSO-11: Prevalence of Antibiotic resistance of Salmonella species in Pakistan: a systematic review and meta-analysis**

Mr Aftab Ullah

**Objective/Hypothesis:** This study synthesizes the existing literature to determine the pooled prevalence of antibiotic resistance among *S. typhi* and para typhi strains across Pakistan in the past decade.

**Study Design:** systematic review and meta-analysis

**Graphic attachments (i.e. tables, illustrations and pictures):**

**Materials and Methods:** A literature search was performed in six databases from January 2014 to December 2024. Studies were screened for relevance, and data on antibiotic susceptibility among human *Salmonella typhi* and para typhi isolates were extracted. Quality was assessed using the JBI checklist. The random-effects model was employed using R statistical software (V 4.4) to calculate the pooled resistance rates.

**Results:** Thirty-one studies met the inclusion criteria after full-text screening. The analysis revealed significant resistance rates to commonly used antibiotics for *Salmonella Typhi* including Nalidixic acid (92%; CI: 88-95%), Ampicillin (80% CI: 66-89%), Ciprofloxacin (64% CI:48-77%), Azithromycin (7% CI; 3-16%) and Meropenem (2% CI;1-3%) with notable variations across different cities. Similarly for *Salmonella Para Typhi*, Nalidixic acid shown (91% CI:82-96%), Ampicillin (34% CI;21-50%), Ciprofloxacin (51% CI;25-77%), Azithromycin (4% CI;1-12%), Meropenem (2% CI;1-5%) resistance, respectively. In *S. typhi* multidrug resistance reported as (29% CI;21-41%) and extensively drug resistance (25% CI:12-44%). *S. para typhi* with MDR (9% CI;2-28%) and XDR (2% CI; 1-7%).

**Conclusion/Recommendations:** The findings revealed the alarming prevalence of antibiotic-resistant *Salmonella* in Pakistan and the need for updated treatment guidelines. Public health strategies must focus on improving antibiotic use and developing alternative treatment options to mitigate the rising threat of resistant *Salmonella* strains. Continued research, policy intervention, and national and international cooperation are essential to safeguard public health and ensure effective management of enteric fever.

**Keywords:** *Salmonella Typhi*, *Salmonella para typhi*, antibiotic resistance, enteric fever, antibiotic susceptibility.

**BSO-12: Reflective practices among postgraduate medical students to improve their learning outcomes - A Qualitative exploratory study**

Dr Sahar Muft

**Objective/Hypothesis:** To explore the elements that affect postgraduate students' adoption of reflective learning and its significance towards their professional and personal growth

**Materials and Methods:** A Qualitative study was conducted. Semi-structured interviews were carried out with a purposive sample of nine postgraduate students. All the interviews were audio recorded and transcribed onto otter.ai. Confidentiality and anonymity were guaranteed due to the sensitive nature of the data. Thematic analysis was done and primary codes were obtained. Coding was done manually. The codes merged to create categories and themes. To achieve analytical triangulation, the codes and themes were discussed with the supervisor and were agreed upon.

**Results:** : The results of this qualitative study shed light on the transformative potential of reflective writing in a variety of contexts. Three themes along with eight sub-themes were identified from data analysis. Individuals perceived reflective writing as a tool for self-improvement through documenting personal growth and learning. Reflective practice has encouraged the participants to re-think their own thoughts, beliefs, and experiences in a more meaningful and structured manner

**Conclusion/Recommendations:** This study concluded that reflective writing is an effective tool that can enhance postgraduate students' learning outcomes personal and professional development. However, it is important to be cognizant of the challenges associated with reflective practice and to provide students the assistance they require to be successful.

**Keywords:** Reflection, reflective practice, postgraduate medical students, metacognition, professional growth

## 6. Students Research

### **STO-1: Assessment of patient satisfaction in the inpatient department of obstetrics in Private Teaching Hospitals of Peshawar , a comparative study**

Aleena Farooq

**Objective/Hypothesis:** To assess patients satisfaction in obstetrics ward in private teaching hospitals.

**Materials and Methods:** A cross-sectional comparative-study involving 175 participants from 9 different private teaching hospitals in peshawar in obstetrics wards using the validated questionnaire PSQ-18 ( patient satisfaction questionnaire) using a multi stage proportionate sampling . The data collection was interview based. The duration of the study was 4 months after the approval. Data was analysed through spss version 20.

**Results:** A total of 175 patients (171 are married , 3 are divorced and 1 is widowed) participated in this study from 9 private teaching hospitals of peshawar . In which patients satisfaction is divided into 7 subgroups. In which top three hospitals with highest mean score is selected in each category. General satisfaction mean score is highest in NWGH , RMI , Mercy teaching hospital. Technical quality mean score is highest in NWGH , RMI , PIMS. Interpersonal anner mean score is highest in Jinnah teaching hospital ,kuwait teaching hospital, MMC . Communication highest mean score is of RMI , muhammad college of medicine , Naseer teaching hospital. Financial aspect mean score is highest in NWGH, jinnah teaching hospital, mercy teaching hospital. Time spent with doctor mean score is highest in jinnah teaching hospital , RMI , naseer teaching hospital. Accessibility nd convenience mean score is highest in NWGH , RMI , kuwait teacher hospital. In demographics uneducated women(63) were satisfied in 4 subgroups while educated women( 112) were satisfied in 3 subgroups , in employment status doctors and teachers are more satisfied as compared to housewife candidates.

**Conclusion/Recommendations:** Through this research we want to turn the health care provider attention towards this to insure better health care services with time.

**Keywords:** Patients satisfaction , obstetrics , private teaching hospitals ,inpatient department



## **STO-2: Can Sehat Sahulat Program Bridge The Gap Towards Universal Healthcare? A Proposed Study Of Patient Satisfaction And Hospital Finances**

**Yashma Sherawan**

**Objective/Hypothesis:** This study aims to evaluate the effectiveness of the SSP in enhancing healthcare accessibility, improving patient satisfaction, and ensuring the financial sustainability of healthcare institutions.

**Materials and Methods:** A cross-sectional survey was conducted, collecting data from 471 patients and analyzing financial records from the participating hospital. Patient satisfaction was assessed through a structured questionnaire, while the financial performance of hospitals was evaluated based on revenue, costs, and readmission rates associated with the SSP.

**Results:** The results indicate that 83.4% of patients expressed high satisfaction levels regarding the quality of care provided under the SSP, particularly appreciating the quality of treatment and the reduction in costs. However, a notable 45.9% of patients were unaware of the specific costs covered by the SSP. Financial analysis revealed that a private tertiary care hospital experienced a 38% increase in revenue due to the SSP, with the Sehat Card Secondary generating Rs543.9 million and the Sehat Card Tertiary generating Rs361.5 million. The readmission rates were 52.6% for secondary care and 6.3% for tertiary care, indicating areas that require further improvement in patient care.

**Conclusion/Recommendations:** The findings suggest that the Sehat Sahulat Program serves as an effective mechanism for advancing UHC in Khyber Pakhtunkhwa, Pakistan. By significantly enhancing patient satisfaction and supporting the financial stability of hospitals, the SSP has the potential to move the healthcare system closer to universal coverage. However, persistent challenges related to regional healthcare disparities and the performance of public hospitals must be addressed to achieve long-term UHC goals.

**Keywords:** Sehat Sahulat Program, Universal Health Coverage, Sehat Insaf Card, Patient Satisfaction, Hospital Financial Performance, Pakistan Healthcare.

### **STO-3: Perceived Stigma Among Psychiatric And Non-Psychiatric Patients In D.I.Khan Division: A Comparative Study**

Dr Muhammad Nauman

**Objective/Hypothesis:** Objectives: To find the stigma among both psychiatric and non-psychiatric patients of D.I.Khan division (D.I.Khan, Tank and South Waziristan district) and then compare the levels of stigma experienced by these two groups.

**Materials and Methods:** A sample of 786 patients was calculated using Rao-Soft Software. Data was collected through face-to-face interviews using a structured questionnaire from each patient. All the questions were asked in the patient's mother-tongue (Pashto, Saraiki and Urdu). Data were analyzed using SPSS, with Chi-square tests for categorical variables and independent samples t-tests for continuous variables.

**Results:** Higher levels of perceived stigma was reported in psychiatric patients compared to non-psychiatric patients. In non-psychiatric patients, those patients with tuberculosis exhibited the highest stigma scores, even more than psychiatric patients. Notably, tuberculosis patients had a mean stigma score of 13.28, compared to 10.41 for psychiatric patients and 6.5 for general medical patients. Similarly, both psychiatric and non-psychiatric patients in wards had relatively higher stigma scores (13.78, 7.70 respectively) compared to those in OPDs (9.86, 6.40 respectively).

**Conclusion/Recommendations:** This study reveals significantly higher levels of stigma among psychiatric and tuberculosis patients compared to other non-psychiatric conditions. Targeted interventions are needed to reduce stigma in these groups, potentially improving treatment adherence and health outcomes.

**Keywords:** psychiatric patients, non-psychiatric patients, perceived stigma, tuberculosis, D.I.Khan Division.

## **STO-4: Frequency And Associated Risk Factors Of Urinary Tract Infections Among General Population Of Peshawar; A Cross-Sectional Study**

Hurria Fatima

**Objective/Hypothesis:** 1. To identify the frequency of UTI among the general population of Peshawar. 2. To determine the severity of UTI.

**Materials and Methods:** A cross-sectional study was conducted among the general population of Pakistan from February 2024 to June 2024. People from the age 18 to 37 years old were evaluated. Recurrent UTI patient questionnaire was used. All patients affected with urinary tract infections filled the questionnaire which consisted of demographics, frequency and association symptoms related questions. The 95% confidence interval and 5% of error and Microsoft excel, Microsoft office and IBM SPSS Statistics 27 were used for data analysis.

**Results:** A total of 392 medical residents of Peshawar, consisting of 214 males and 178 females were evaluated for frequency and associated symptoms of urinary tract infections among the patients of UTI. According to our research, most of the patients got 1 urinary tract infections in the past 6 months (71.7%). In the past 12 months, the majority of UTI patients experienced either one (52%) or two (47%) urinary tract infections. Blood in urine and constipation were found to be significantly associated with urinary tract infections. Among the participants, 53.1% reported having blood in their urine, while 49.2% experienced constipation as a related symptom. Among the risk factors for urinary tract infections (UTIs), kidney stones had the highest association, with a frequency of 27.3%. This was followed by a history of UTIs in childhood (15.6%), diabetes (13.6%), and previous kidney operations (12.8%). Other notable risk factors included the use of urinary catheters (10.5%) and long-term steroid use (12.5%). No significant association was found between UTI and age, socioeconomic class and use of antibiotics.

**Conclusion/Recommendations:** The study documents statistically that majority of the patients had experienced at least one UTI (71.7%) in the past six months. Among the symptoms associated with UTI burning and stinging sensation was found to be the most common one. A recommendation for the providing adequate information and proper hygiene counseling should be established.

**Keywords:** Urinary tract infection, kidney stones, burning and stinging.

## **STO-5: Self-Medication Practices And Rational Drug Use Among Medical Students**

Irsa Irfan

**Objective/Hypothesis:** The aim is to assess the prevalence, determinants, and risks associated with self-medication among medical students in Pakistan and find an association between year knowledge of RUD among medical students.

**Materials and Methods:** The cross-sectional study surveyed 120 students from Foundation University Medical College and Shifa College of Medicine using convenience sampling and a modified and validated questionnaire. Data analysis included chi-square performed with SPSS 26.

**Results:** Self-medication among medical students is 43.7%, with painkillers (44.5%) being the most common, followed by vitamins (18.5%), eye drops (7.6%), and antibiotics (5.9%). While 69.7% are aware of the rational use of antibiotics, 43.7% use them without a prescription. Final-year students show higher awareness (87.5%) and a better understanding of drug use compared to first-year students i.e. 22.2% awareness of drug prospectuses and 37% knowledge of rational use.

**Conclusion/Recommendations:** The high rate of self-medication among medical students in Pakistan highlights the need for targeted education interventions. Despite good knowledge of rational drug use, first-year students' practices often diverge. Improved early education on drug safety and responsible antibiotic use is essential for better outcomes.

**Keywords:** Self-medication, antibiotics, Education, Attitude

## **STO-6: Impact of Alexithymia and Emotional well being on Self efficacy of Medical Students; a Cross Sectional Study**

Aamna Imran

**Objective/Hypothesis:** • To investigate the impact of alexithymia, anxiety and depression on self-efficacy of students in academic settings

**Materials and Methods:** the study is being conducted on medical students of 4 different medical colleges of Punjab using non probability convenience sampling. Data was collected using the modified Toronto Alexithymia Scale, Self-Efficacy Scale, and GHQ-28. Analysis involved chi-square, t-test, and ANOVA, with all statistical work performed using SPSS 26.

**Results:** Pearson correlation coefficients revealed negative significant relationships between alexithymia and student self-efficacy (-0.35), negative significant relationship between anxiety/depression and student self-efficacy (-0.26) and a positive significant correlation between anxiety/depression and alexithymia (0.70). A backward multiple regression analysis revealed that alexithymia was a negative significant predictor of self-efficacy in medical students ( $B=0.347$ ,  $P<0.005$ ). The prevalence of alexithymia was 37.3%.

**Conclusion/Recommendations:** As alexithymia is prevalent in medical students and self-efficacy of medical students is affected by alexithymia and anxiety/depression, we suggest it should be routinely evaluated by mental physicians at universities and efforts should be made towards finding measures to reduce these factors for the better performance of medical students and to avoid psychological problems in the future.

**Keywords:** Alexithymia, Emotional well-being, Self-efficacy.

## **STO-7: Revolutionizing Emergency Care: Healthcare Professionals' Perspectives and Awareness on Rapid Response Team and Automated Alert System Activation in Khyber Pakhtunkhwa's Leading Hospitals**

Aiman Gulalay

**Objective/Hypothesis:** Introduction: Rapid Response Teams and Automated Alerting Systems, implemented globally, have shown benefits in gynecological emergencies, such as at Fujian Maternity and Child Health Hospital. In Pakistan, RRTs and AAS are present in select hospitals like Aga Khan University Hospital and Shaukat Khanum Memorial Cancer Hospital, but are not yet widespread in Khyber Pakhtunkhwa (KPK). Objectives This study evaluates the perceptions and awareness of gynecologists and administrative staff on the implementation and feasibility of RRTs and AAS in tertiary care settings in KPK.

**Materials and Methods:** An exploratory qualitative study was conducted with purposive sampling of gynecological wards in KPK. Semi-structured interviews with 15 doctors and 6 administrative staff were held from April 26, 2024, to June 4, 2024. Each interview was audio-recorded, transcribed, and analyzed thematically using NVivo 14 software.

**Results:** Key challenges in the current emergency protocols within the hospitals identified include delays in ICU transfers due to reliance on a written call system and issues with Sehat card activation. Inadequate emergency resources, such as portable defibrillators, and unclear job descriptions during crises were also highlighted. The complexity of multidisciplinary team involvement further strained the current system, highlighting the need for RRTs and AAS. Awareness of RRTs and AAS varied, with some familiarity stemming from international experience or media, while others had limited knowledge. RRTs and AAS were anticipated to improve emergency management and enhance patient outcomes. Concerns with implementation involved resource limitations, training challenges, and technical issues such as integration with existing Hospital Management Information Systems (HMIS) that were promised to be addressed by the administrative staff.

**Conclusion/Recommendations:** These systems are seen as crucial for improving emergency care. Future research is needed to evaluate the effectiveness of RRTs and AAS while addressing the identified challenges to optimize emergency management.

**Keywords:** Rapid response team, automated alerting system, leading hospitals of Khyber pakhtunkhwa, perceptions and awareness, gynecological emergencies

**STO-8: Interplay of AI in healthcare: Attitudes and knowledge shaping future specialty choice, a cross-sectional study**

Ayesha Tahir

**Objective/Hypothesis:** To assess the knowledge and attitude of the medical students toward Artificial intelligence and its role in selecting radiology as their future specialty

**Materials and Methods:** A cross-sectional study was conducted among 453 medical students/interns from 8 cities of Pakistan from August 2023 to June 2024. The data collection was performed using a pre-validated questionnaire. The categorical variables were recorded using descriptive statistics and the chi-square test and Mann-Whitney U test were used for significance testing

**Results:** A total of 453 medical students were included in the study. The majority (62.5%) of the respondents were male. Around 55% of them had exposure to radiology. More than two-thirds (68%) of the participants responded that they were less inclined to pursue a career in radiology. Exposure to radiology ( $p = 0.03$ ) and background education ( $p = 0.01$ ) in computer science were significant factors affecting the participants' future choice of specialty. However, gender ( $p = 0.58$ ), year of medical school ( $p = 0.41$ ), and training/teaching in AI ( $p = 0.32$ ) had a nonsignificant impact on considering radiology as a desired specialty for training in the future. Around 41% of the participants mentioned that AI could replace radiology in the future, thus they are less likely to consider it as a desired specialty choice.

**Conclusion/Recommendations:** Exposure to radiology and background education in computer science significantly affect the medical students'/interns' decision to pursue radiology as a desired specialty choice. It is the need of the hour to optimize the use of radiology along with the training of medical students to improve patient care.

**Keywords:** Keywords: Artificial intelligence, radiology, medical students

**STO-9: Minimal Invasive Extracorporeal Circulation versus Standard Cardiopulmonary Bypass for Aortic Valve Replacement: A Systematic Review and Meta-analysis of Randomized Controlled Trials**

Fazia Khattak

**Objective/Hypothesis:** This systematic review and meta-analysis aims to critically evaluate the efficacy and safety of MiECC compared to standard CPB for AVR.

**Materials and Methods:** We conducted an extensive search on PubMed, Embase, Cochrane Database of Systematic Reviews, and ClinicalTrials.gov, using MeSH terms and relevant keywords for “Aortic valve,” “Extracorporeal Circulation,” and “Cardiopulmonary Bypass” from inception to July 26,2024. Inclusion criteria focused on RCTs comparing MiECC and standard CPB for AVR. Primary outcomes were mortality and major neurological events (stroke); secondary outcomes included myocardial infarction (MI), ventilation time, and ECC time. A random effects model was used to aggregate risk ratios (RR) for dichotomous outcomes and mean differences (MD) for continuous outcomes, with 95% confidence intervals (CI).

**Results:** Of 4,173 articles, after removing duplicates and irrelevant studies, 10 RCTs involving 1,418 patients met the criteria. The majority of participants were male (62.9%). MiECC was associated with a lower risk of mortality (Risk Ratio [RR] 0.36, 95% CI 0.12-1.13,  $p=0.08$ ,  $I^2=0$ ) and major neurological events (RR 0.71, 95% CI 0.38-1.31,  $p=0.27$ ,  $I^2=24\%$ ), though these results were not statistically significant. However, myocardial infarction, ventilation time, and extracorporeal circulation (ECC) time showed significant improvements in favor of MiECC over CPB. MiECC demonstrated a reduced risk of MI (RR 0.29, 95% CI 0.13-0.65,  $p=0.003$ ,  $I^2=0$ ), shortened ventilation time (MD -1.62, 95% CI -2.65 to -0.59,  $p=0.002$ ,  $I^2=0$ ), and decreased ECC time (MD -5.14, 95% CI -8.95 to -1.34,  $p=0.008$ ,  $I^2=0$ ) compared to CPB.

**Conclusion/Recommendations:** MiECC offers notable benefits over standard CPB by reducing MI, ventilation time, and ECC time during aortic valve replacement. Further research is needed to verify its effectiveness in enhancing clinical outcomes for AVR procedures.

**Keywords:** Aortic valve replacement, MIECC, CBP, Meta-analysis



## **STO-10: The Relationship Between Personality Traits, Emotional Intelligence and Decision-Making Styles Among Medical Students: A Cross-Sectional Study**

Maryam Abdul Moeed

**Objective/Hypothesis:** To assess the relationship between personality traits, emotional intelligence (EI), and decision-making styles among medical students.

**Materials and Methods:** Non-probability convenience sampling was adopted in this cross-sectional study to acquire data from medical students of 3 medical colleges of Pakistan, from May of 2024 to September 2024. Data was collected using the Big Five Personality Trait Questionnaire, the Quick Emotional Intelligence Self-Assessment Scale and the Scott and Bruce General Decision-Making Style Inventory. Analysis involved descriptive statistics and Kendall's tau b for correlations, with all statistical work performed using SPSS 26.

**Results:** Kendall's tau b correlation coefficient revealed that the personality trait of extraversion strongly correlates positively with both systematic ( $p=0.02$ ) and dependent decision-making styles ( $p=0.01$ ). Agreeableness is strongly positively correlated to dependent ( $p=0.02$ ) and avoidant styles ( $p=0.04$ ), while conscientiousness shows strong positive correlation with systematic ( $p=0.00$ ) and dependent styles ( $p=0.00$ ). Neuroticism shows a strong positive correlation with systematic ( $p=0.00$ ), intuitive ( $p=0.01$ ), dependent ( $p=0.00$ ), and avoidant styles ( $p=0.41$ ). Openness is strongly and positively associated with systematic decision-making ( $p=0.00$ ). Additionally, emotional intelligence correlates positively with systematic ( $p=0.00$ ) and dependent styles ( $0.03$ ) but negatively with avoidant decision-making ( $p=0.46$ ).

**Conclusion/Recommendations:** Our study reveals the correlation between personality traits, decision-making styles, and emotional intelligence (EI) in medical students. To foster the development of highly skilled and emotionally intelligent healthcare professionals, we recommend integrating EI training and targeted interventions into medical curricula.

**Keywords:** Personality Traits, Decision-Making Styles, Emotional Intelligence, Pakistan.

## **STO-11: Association Of Learning Style With Academic Achievement In Medical Students Of Peshawar Medical College**

Faiz Ul Hassan Gillani

**Objective/Hypothesis:** To determine the correlation of learning styles in summative assessment of undergraduate medical students.

**Materials and Methods:** It was a Cross-sectional descriptive study and included all five years of MBBS students of Peshawar Medical College. Data was collected from 250 students through a pre-validated VARK strategies questionnaire. Their final professional results were taken from the Department of Medical Education and were classified into Uni-modal, Bi-modal, tri-modal, and Quad modal on several learning styles that students preferred to use. The data was analyzed taking through descriptive statistics using SPSS 26.0.

**Results:** Out of 250, 224 students filled and returned the proforma while 26 were dropped out. 92 were male while 132 (58.9%) were female. 10 (4.4 %) students used Uni-modal, 86 (38.3%) used Bimodal, 110 (49.1%) used Tri-modal and 18 (8%) used quad modal. Female students (52.2%) prefer trimodal while males (45%) prefer bimodal. The highest marks mean percentage was in the students using the Quard model 78.79% followed by the Tri-modal 75%, the Bi-model 73%, and the Uni-modal 71%.

**Conclusion/Recommendations:** The Quad modal may suggest that the VARK style is useful among the other learning styles for achieving the highest score in an exam.

**Keywords:** Learning style, VARK, Academic performance, Quad modal.

**STO-12: Drugs rehabilitation program evaluation and factors contributing to relapse in Peshawar. An exploratory in-depth qualitative perspective of rehabilitation patients**

Hamza Farooq

**Objective/Hypothesis:** To find out the perspective and main problems that drug addicts are facing during their rehabilitation phase and main reasons behind their relapse after receiving treatment through qualitative interviews.

**Materials and Methods:** Data was collected through In-depth Interview guide based on literature review and expert opinion. Total 25 in-depth interviews were conducted from three rehabilitation centers of Peshawar; The Haq Awaz, Dost welfare and save life.

**Results:** The Saldana guidelines were employed to conduct an inductive thematic analysis for coding the transcripts. Total of 25 drug addicts from Govt and private sector were interviewed, selected based on the stay in the rehabilitation centers for more than two weeks. The sample size was determined by reaching a 95% similarity in responses, at which point further interviews were ceased. In the initial coding cycle, approximately 169 codes emerged, consolidated into 35 distinct categories and finally 5 themes emerged. 1. Perceptual Insights of drug abuser regarding addiction and rehabilitation facilities. 2. Neurobiological and psycho-social barriers in addiction recovery. 3. Relapse precursors in post-rehabilitation settings. 4. Mitigating addiction in society: evidence based strategies and policy recommendations and 5. Societal support for addiction: assessing needs and resources.

**Conclusion/Recommendations:** The rehabilitation services for drug addicts in Peshawar lack adequacy. Government-run drug rehabilitation centers often result in treatment failure and a high rate of relapse.

**Keywords:** Drug addicts; Rehabilitation centers; Relapse; Thematic analysis.

### **STO-13: Awareness of Neural Tube Defects and Prevention Through Folic Acid Use Among Women of Child Bearing Age in Peshawar, Pakistan; A Descriptive Cross-Sectional Study**

Muhammad Haleem Nasar

**Objective/Hypothesis:** Neural tube defects (NTDs) occur at a rate of 12-14 per 1,000 live births in Pakistan. Folic acid (FA) supplementation reduces the risk of NTDs by up to 70%, yet awareness of NTDs and the benefits of using FA remains inadequate among women of childbearing age in Pakistan. This study aimed to assess the level of awareness among women regarding FA and its role in preventing NTDs.

**Materials and Methods:** A survey through an interview-based questionnaire was conducted among 338 women of childbearing age attending the Gynecological outpatient department of a public sector tertiary hospital in Peshawar, Pakistan. Questions concerning demographic information, awareness of FA, knowledge of NTDs, FA's role in preventing NTDs, and the recommended FA dosage were included in the questionnaire. Statistical analysis was performed using SPSS version 26.0. Chi-square and Mann-Whitney tests were conducted to evaluate association between awareness and sociodemographic factors.

**Results:** Of the participants, 62.1% had heard of folic acid (FA), but only 13.0% were aware of neural tube defects (NTDs), and 12.4% understood FA role in preventing NTDs. Just 13.0% of respondents correctly identified the recommended daily dose. Additionally, 26.0% knew that FA should be taken throughout the first trimester, while only 17.5% were aware that it should also be taken before conception. Furthermore, only 12.7% knew about the interaction between green tea and FA absorption. Awareness of FA and NTDs was significantly influenced by household income, education level, and area of residence ( $P < 0.001$ ). Knowledge of NTDs was also strongly associated with knowledge of FA and the participant's education level ( $P < 0.001$ ).

**Conclusion/Recommendations:** Despite the well-known benefits of FA supplementation, significant gaps in awareness and knowledge persist among women of childbearing age in Peshawar. Targeted educational interventions and public campaigns are needed, along with FA fortification in foods, to ensure improved intake and reduce NTDs prevalence.

**Keywords:** Neural tube defects (NTDs), Folic acid (FA), Awareness, Prevention, Women of Child bearing age, Peshawar, Pakistan

## **STO-14: Strategies For Passing The Fellow Of College Of Physicians And Surgeons Of Pakistan (FCPS) Fellowship Entrance Examination: Qualitative Study Of The Views Of The Doctors In Residency Training**

Syed Abdullah Faisal

**Objective/Hypothesis:** 1.To explore the factors leading to success in FCPS examination from the resident's perspective after failure in their first attempt . 2.To identify the barriers involved in achieving success in the first attempt and how to overcome those barriers

**Materials and Methods:** A qualitative study was conducted by interviewing ten participants selected through purposive sampling. The sample included participants who had passed FCPS examinations in two or more attempts. The participants were asked about their preparation strategies, motivations, challenges faced, and suggestions for improvement. The responses were coded, categorized, and analyzed to identify common themes and patterns.

**Results:** The themes identified were "success factors" and "challenges". Success factors included book selection, study resources and schedule, time management, senior support, and motivation. Challenges faced were time constraints and distractions. Whereas a strategic approach, clear goals and pathways, strong basics, and conceptual understanding were suggested as strategies for juniors to improve their pass rate.

**Conclusion/Recommendations:** The findings underscore the multifaceted nature of success in FCPS examinations, highlighting the need for comprehensive preparation, effective time management, and a resilient mindset. The study also emphasizes the importance of peer support, mentorship, and clear career goals in navigating the challenges associated with these examinations.

**Keywords:** FCPS Examination, Medical Professionals, Success Factors, Preparation Strategies, Qualitative Study.

## **STO-15: Health-Related Quality Of Life Among Hospital Employees: A Statistical Study Of Hospitals In Kohat Divison**

Sara Khan

**Objective/Hypothesis:** Assessing the Health-Related Quality of Life (HRQOL) among Government Hospital and Private Hospitals... Comparing HRQOL Between Government and Private Hospital Employees

**Materials and Methods:** A cross-sectional analytical approach was applied among employees. Cochran sample size for method used for sample size determination. A stratified random sampling method with proportional allocation used to choose 480 participants in total. Data was collected using the self-administered WHO quality of life survey questionnaire (WHOQOL-BREF). SPSS version 26.00 was used for analysis. T-test was applied to determine association between HRQOL and independent variables. One way ANOVA was used between dependent variable and selected demographics and P-value of  $< 0.05$  was considered as significant.

**Results:** . The results revealed that overall HRQOL was good in the participants up to (75.63%) and less participants have poor overall HRQOL (24.38%). The study evaluated that demographic variables five percent change into HRQOL which is very less change in the HRQOL. The model justified that these demographics variable is predicting change but not significant association for overall HRQOL. The policymaker should work on the residency types and those healthcare personnel who were living in their own and rented houses have very poor HRQOL. Mostly respondents have poor HRQOL and less respondents were satisfied from their overall HRQOL. Moreover, health insurance was not covered by most respondents. In conclusion, health insurance coverage has no significant association with overall HRQOL. As a result, healthcare personnel were not satisfied with their quality of life, which should be the focus of the future researchers.

**Conclusion/Recommendations:** The study recommended that public and private hospital administration should work on the personnel to improve their residency. It is recommended to the policymakers that improve HRQOL of the rent house living personnel because they have very poor HRQOL. The psychological condition of the employees was not up to the mark due to work stress and less rest. The administration of the hospitals should decrease long hours duties of the respondents. There commendation was put forward to the policymakers that health insurance should be provided to the healthcare personnel because it can improve their HRQOL. The health status of the employees was not up to the mark and private as well as public organization should improve it for the future generation. It is recommended that job experience of the respondents was not good in both public and private organization. As result the organization administration should give more good environment to the employees in the hospitals. The overall HRQOL of the doctors were good but paramedics and nurses have not overall HRQOL. The policymakers should make flexible duties for paramedics and especially nurses for their future HRQOL.

**Keywords:** WHOQOL-BREF, Health related quality of life, Healthcare professionals

## **STO-16: Low-cost Peer-Led Virtual Research Workshops for Medical Students in Pakistan: An Innovative, Scalable, and Sustainable Strategy for Advancing Student Research**

Zahoor Ahmad Khan

**Objective/Hypothesis:** This study aimed to assess the effectiveness of low-cost, peer-taught virtual research workshops in enhancing research knowledge and skills among medical students in Pakistan.

**Materials and Methods:** A quasi-experimental study was conducted with 482 medical students from 36 colleges in Pakistan, involving eight virtual workshops on Microsoft Teams led by peer-teachers. The workshops covered various research modules. Participants' research skills were assessed through pre- and post-workshop quizzes and self-efficacy scores. Inclusion required completion of both pre- and post-webinar forms, and a follow-up survey three months later evaluated long-term impact.

**Results:** Confidence in structuring a research proposal increased from a pre-webinar mean of 5.23 (SD = 2.41) to 7.27 (SD = 1.77), and confidence in developing a research questionnaire rose from 5.16 (SD = 2.41) to 7.21 (SD = 1.77) ( $p < 0.001$  for both). Familiarity with statistical analysis techniques improved significantly from 3.77 (SD = 2.44) to 6.99 (SD = 1.90) ( $p < 0.001$ ). Confidence in structuring a manuscript improved from 3.64 (SD = 2.45) to 6.79 (SD = 2.05) ( $p < 0.001$ ), and in designing engaging presentations, from 4.60 (SD = 2.72) to 7.35 (SD = 1.97) ( $p < 0.001$ ). Significant gains were also observed in confidence for delivering a research presentation (4.71 to 7.27,  $p < 0.001$ ) and selecting appropriate journals (3.73 to 6.98,  $p < 0.001$ ). Significant improvements were observed in familiarity with proposal components (45% to 76%,  $p < 0.001$ ), interpreting statistical results from 33% to 71% ( $p < 0.001$ ), familiarity with the peer review process from 28% to 68% ( $p < 0.001$ ). Post-webinar, 99.2% of participants felt confident in conducting research, with 71.4% initiating new research projects ( $p < 0.001$ ).

**Conclusion/Recommendations:** The research workshops significantly enhanced research knowledge and skills among medical students in Pakistan, demonstrating substantial improvements in key areas of research, offering a viable solution to improve research capacity in similar contexts.

**Keywords:** Virtual Research Workshops, Medical Students, Research Education

## STO-17: Obstructive Sleep Apnea as a Consequence of Gross Motor and Neurological Dysfunction in Children with Cerebral Palsy in Peshawar

Muhammad Maaz Bin Zahid

**Objective/Hypothesis:** Objectives: 1) To find the association between OSA and patients' demographics 2) To assess the strength and direction of correlation between OSA and gross motor and neurological dysfunction. Hypothesis: We hypothesized that OSA is strongly and positively correlated with both the dysfunctions.

**Materials and Methods:** A descriptive cross-sectional study was conducted in Peshawar in June 2023 on 250 patients suffering from cerebral palsy. For the assessment of obstructive sleep apnea (OSA), we used the pediatric sleep questionnaire(PSQ). For the assessment of both gross motor and neurological dysfunction, we used the GMFCS scale. The collected data was analyzed and managed in SPSS v.27.0. OSA was associated with demographics through chi-squared test. For the determination of strength, direction and probability of association between OSA and gross motor and neurological dysfunction, multinomial logistic regression analysis was used. A p-value of <0.05 was considered significant.

**Results:** Out of the 250 patients, 146(58.4%) were male and 104(41.6%) were female. 94(37.6%) patients belonged from the age category of 6- <12 years. 170(68%) patients belonged from urban areas. There were 43(17.2%) cases of cesarean deliveries. 168(67.2%) patients had a gestational age of 9 months. The frequency of consanguinity was 143(57.2%). 68(27.2%) of the patients had a family history of CP. 121(48.4%) of the patients suffered from OSA. 82(32.8%) patients had GMFCS 5 level of motor dysfunction. The highest cases of neurological dysfunction were moderate, having 111(44.4%) patients. The factors associated with OSA were gestational age ( $\chi^2=12.79$ ,  $p=0.025$ ), mode of delivery ( $X^2=1.14$ ,  $p=0.02$ ), consanguinity ( $\chi^2=5.05$ ,  $p=0.025$ ), and family history of CP ( $\chi^2=4.06$ ,  $p=0.044$ ). The independent risk factors of OSA were highest level of motor dysfunction, like GMFCS 5 ( $p=0.026$ ); OR: (95%CI), 2.970: (1.14-7.73), and highest level of neurological dysfunction, like severe ( $p=0.003$ ); OR: (95%CI), 2.970: (1.46-6.01).

**Conclusion/Recommendations:** Our study suggests a strong, significant and positive relationship between OSA and gross motor and neurological dysfunction. Further risk factors deduced from our study are gestational age, consanguinity and family history of CP. Health-care providers are encouraged to arrange local programs like awareness sessions through social media or in hospitals so they can educate the mothers about the risk factors of CP and OSA, and how to prevent them.

**Keywords:** Obstructive sleep apnea; Motor dysfunction; Cerebral Palsy



## **STO-18: A Comparative Analysis of Traditional Classroom Learning VS Online Learning Resources Among Medical Students of Khyber Pakhtunkhwa, Pakistan**

Aban Masaud Mian

**Objective/Hypothesis:** To perform a comparative analysis of online educational resources versus traditional classroom learning among students of public and private medical institutions in Peshawar, KP.

**Materials and Methods:** Data was collected from 291 medical students at five medical colleges during a cross-sectional survey conducted from May to July 2023. Structured surveys were used to determine student preferences and assess the efficacy of both learning methods. Data was analyzed using SPSS version 26.

**Results:** Among 291 participants, 166 (57%) preferred online resources, 61 (21%) preferred in-person classes, and 64 (22%) saw both as equally valuable. A robust relationship between these preferences and improved conceptual understanding, as well as exam performance, was revealed by bivariate analysis. Students were particularly drawn to online learning features such as flexibility, ease of reviewing lectures, and time savings. These results align with the results of several worldwide studies confirming the benefits of online learning.

**Conclusion/Recommendations:** Our study shows that although most students prefer online learning resources and these students do well on their professional examinations, there are also a good number of students that prefer traditional classroom learning. This implies that a mixed learning strategy may be more helpful. Our recommendations include providing students with reliable internet access, subscriptions to diverse online educational resources, incorporating blended learning into the curriculum, training educators on online teaching platforms, and urging medical schools to adopt Learning Management Systems (LMS) for streamlined organization and delivery of online instruction. The findings of this study are useful for educational stakeholders seeking to maximize medical education delivery in accordance with current student preferences and worldwide educational trends.

**Keywords:** Online Learning Resources, Traditional Classroom Learning, Medical Education, Comparative Study, Peshawar Medical Colleges, Digital Education Platforms

## **STO-19: Trends in Chronic Renal Failure Associated Mortality in the United States: An Analysis of Racial, Gender, and Geographic Disparities (1990-2020)**

Touba Azeem

**Objective/Hypothesis:** Globally, chronic renal failure (CRF) affects over 800 million people, with significant regional and geographic variations. Mortality trends associated to CRF have received scant attention.

**Materials and Methods:** Death certificates from the Centers for Disease Control and Prevention Wide-Ranging Online Data for Epidemiologic Research database with ICD-10 codes (N18.0-N18.5, N18.8 and N18.9) were used to investigate trends in CRF mortality. Crude and age adjusted mortality rates (AAMR) per 100,000 persons were retrieved, and the annual percentage changes (APCs) in age-adjusted mortality rate with 95% confidence intervals for race, gender, census regions, and urbanization were estimated using Joinpoint version 5.2.0

**Results:** Total number of deaths due to chronic renal failure spanning from 1999-2020 was 1938505. AAMR remained relatively stable from 1999 to 2009 with APC of 0.05 (95% CI - 7.59 to 2.48), followed by a substantial rise in AAMR from 2009 to 2012 with APC value 17.10\*(95%CI 5.57 to 25.38). After this period, till 2015 AAMR showed a sharp decrease with an APC value of -15.60\* (95% CI -21.35 to -6.18), but a rising trend was seen again from 2015 to 2020 with APC value 7.17\*(95%CI 2.11 to 22.45). Males had higher total AAMR than females (34 vs. 21.2). African Americans exhibited the highest AAMR (54.5). Highest AAMR (35.3) was seen in the West Virginia.

**Conclusion/Recommendations:** CRF mortality has increased dramatically during the last two decades, notably since 2009. Identifying high-risk demographic groups is critical for early detection and targeted management options to decrease CRF-related mortality and improve patients' quality of life.

**Keywords:** Chronic renal failure; Mortality trends; Racial disparities; Geographical disparities. Epidemiology; Public Health

## **STO-20: Satisfaction Of Doctors And Patients From Services Provided On Sehat Card Plus In Tertiary Care Hospitals Of Peshawar, A Cross Sectional Survey**

Saif Ullah

**Objective/Hypothesis:** This study assesses patient satisfaction with the SCP services and gathers feedback from healthcare providers

**Materials and Methods:** A cross-sectional, descriptive type of study was conducted in three tertiary care hospitals of Peshawar namely Khyber Teaching Hospital, Hayatabad Medical Complex, and Lady Reading Hospital. Data was collected from 300 hundred patients using the sehat sahat card and 197 patients providing treatment services on the sehat sahat card. Non-probability convenient sampling was used on a Pre-tested structured questionnaire to collect data. For analysis, the Statistical Package for the Social Sciences (SPSS) software version 22 was used.

**Results:** The results show high patient satisfaction, with 97.6% finding the SCP financially beneficial and 92% satisfied with the treatment received. The majority were pleased with the ease of registration (89.4%), guidance provided by doctors (94%), timely treatment (94%), and hospital facilities. However, only 47% were satisfied with hospital staff behavior. On the other hand, doctors reported increased patient loads (86%), stress (62%), and dissatisfaction with delayed payments (50.7%) and resource shortages (69.8%).

**Conclusion/Recommendations:** Patients generally expressed high satisfaction with the SCP, particularly regarding financial benefits and the quality of care. However, doctors reported significant challenges, including increased workload, delayed payments, and resource constraints, raising concerns about the program's sustainability and its ability to achieve universal health coverage.

**Keywords:** 1. Health Insurance: It is a type of insurance that covers medical expenditures that arise due to a disease or injury. 2. Sehat card plus: It is Micro-health Insurance Program for all the citizens of KPK which provide free of cost treatments to the citizens admitted to hospitals. 3. Health system:

## **STO-21: Exploring The Omnipresence Of Diverse Migraine Triggers And The Non-Pharmacological Therapeutic Approaches To Address Them Accordingly: A Qualitative Study**

Aleena Salahuddin

**Objective/Hypothesis:** 1. To assess the diversity of multiple migraine triggers among diagnosed migraine patients. 2. To identify the non-pharmacological therapeutic approaches opted by the patients to tackle their migraine headaches. 3. To identify the most prominent self-therapy practiced for overcoming the most common trigger among the patients.

**Materials and Methods:** Twenty diagnosed migraine patients were carefully selected through purposive sampling, reaching saturation to capture a broad range of experiences and management strategies. Data collection involved semi-structured interviews lasting 5 to 20 minutes, where participants discussed their specific triggers and non-pharmacological methods for relief. The recorded audios was transcribed, and thematic analysis was applied to identify and categorize key themes and patterns within the data.

**Results:** Common reported triggers were stress, light sensitivity, weather changes, sleep disturbances, and dietary factors. Participants used various non-pharmacological methods, with responses highly individualized. Stress was managed through distraction or physical activity, while light sensitivity was alleviated by retreating to dark spaces. Cooling methods like cold showers helped with weather-induced migraines, and head massage or relaxation techniques addressed sleep disturbances. Dietary adjustments were versatile, aiding in management of triggers like bloating or missed meals. Interestingly, what triggered one person could act as a therapy for another.

**Conclusion/Recommendations:** This study highlights the personalized approach to migraine management, demonstrating that customized non-pharmacological therapies can be effective. Integrating these patient-driven methods into standard care could improve overall treatment. Future research should confirm these findings with larger studies and assess the long-term effectiveness of these interventions.

**Keywords:** Qualitative Research, Migraine with aura, Headache.

**STO-22: Exploring the knowledge, attitude and practices of health care providers regarding surgical management of hemophilia in Peshawar: A qualitative study**

Husna Shinwari

**Objective/Hypothesis:** To evaluate the knowledge, attitude and practices of surgeons working in different specialities of hospital.

**Materials and Methods:** This was a qualitative phenomenological study based on in-depth interviews (IDIs) with 15 surgeons from various specialties at three major hospitals (KTH, HMC, LRH) in Peshawar, Pakistan.

**Results:** The study found that the majority of participants had a basic understanding of hemophilia and supported the development of local protocols to improve care. Despite lacking particular protocols in hospitals, still multiple disciplinary team is arranged, preoperative lab tests are done. FFPS and factor concentrates are administered preoperatively and postoperatively to ensure minimal blood loss. During surgery hemostasis effectiveness is monitored

**Conclusion/Recommendations:** Participants have a basic understanding of hemophilia but are unaware of its prevalence and protocols. They support local guidelines and psychological assessments prior to surgery. The study recommends healthcare providers to develop standard protocols and educate practitioners

**Keywords:** Knowledge, attitude, practice, surgical protocols, Hemophilia, bleeding disorder

**STO-23: Assessing Healthcare Professionals' Knowledge about Hemophilia and their Adherence to Preoperative Guidelines, a cross sectional study**

Muhammad Shayan

**Objective/Hypothesis:** 1. To assess the knowledge level of healthcare professionals about hemophilia 2. To assess healthcare professionals' knowledge and adherence towards the standard protocols for pre operative hemophilia management

**Materials and Methods:** This study was conducted in three tertiary care hospitals of Peshawar which were selected through non probability convenient sampling technique. A self administered semi structured questionnaire was used as a data collection tool and the data was collected from healthcare professionals in surgical specialties of the mentioned hospitals. The specialties were selected through purposive sampling technique.

**Results:** Of 223 healthcare professionals who were surveyed, 91% and 78% were aware of the type of factor deficient in hemophilia types. Majority of the participants mentioned spontaneous bleeding as a complication, with notable mentions of hemarthrosis, epistaxis and abnormal uterine bleeding. There was a deficit in knowledge regarding standard protocols, evident from 129 participants skipping the questions. Protocols such as establishment of multidisciplinary team, a hematologist opinion, blood bank availability and psychological assessment before surgery were followed by most participants while there was little adherence to protocols such as coagulation profile, hemophilia center and FFP and MDT arrangements.

**Conclusion/Recommendations:** CONCLUSION: The results showed a gap in knowledge of standard protocols and adherence to them. Authorities should focus on protocols standardization and establish quality improving and monitoring initiatives. Hospitals must establish specialized hemophilia centers to combat this potentially fatal bleeding disorder.

**Keywords:** hemophilia, Preoperative, healthcare professionals,

## **STO-24: Spectrum of endoscopic findings in patients with persistent vomiting**

Noor Afsar

**Objective/Hypothesis:** To access the cause behind persistent vomiting via endoscopy

**Materials and Methods:** A retrospective study was conducted on 114 patients in HMC having Endoscopy for persistent vomiting and were fulfilling the inclusion criteria were included. Adult patients of either gender having age 15 to 75 years were included. All those patients whose data was incomplete, had malignancies, chronic liver disease (CLD) were excluded. For data analysis the SPSS-27 version was used.

**Results:** The results indicated mean age of patients in the study was 40+/-17.52. Mean BMI of patients was 20.86+/-1.98. Female to male ratio was 1.24. The patients having persistent vomiting for more than two weeks were included which led to an interesting output. Out of 114 patients, 45 patients (39.5%) had normal EGD while 69(60.5%) patients had endoscopic abnormalities. Most common pathologies were gastritis, malignancy, gastric ulcer and hiatus hernia. Gastric ulcer diseases was noted in 5(4.4%) patients, duodenal ulcer was noted in 4(3.5%), gastritis was noted in 11(9.6%) patients, malignancy in 9 (7.9 %) patients. Hiatus hernia was noted in 7(6.1%) patients. Reflux esophagitis in 2 individuals (1.8%). miscellaneous findings were in 31 patients (27.2%).

**Conclusion/Recommendations:** The study highlight the importance of EGD as a diagnostic tool and persistent vomiting a notable cause of several abnormalities.

**Keywords:** Persistent vomiting, gastritis, peptic ulcer, endoscopy

## Section B: Poster Presentations

### 1. Medicine and Allied

#### MP-1: Cushing's disease secondary to pituitary hyperplasia

Dr Ayesha Durrani

**CASE HISTORY:** A 22 years old male patient from Afghanistan, presented 2 years back with features of weight gain, hypertension, headache, insomnia. On examination he had moon face, buffalo hump, central obesity and pinkish abdominal striae on abdomen. He was investigated and diagnosed as a Case of Cushing's disease. On MRI brain with pituitary protocol he had a 2mm lesion in pituitary gland. He was advised Inferior petrosal sinus sampling as 2mm lesion cannot cause such overt signs and symptoms. At that time, he was unaffordable so IPSS could not be done. He was prescribed ketoconazole 1200mg per day. He took ketoconazole for almost 10 months and there was improvement in his symptoms. Cortisol levels also improved but were not normalized. He came back for follow up after almost 1 year. Now he was ready for IPSS. Desmopressin was not available so Prolactin corrected ACTH ratio was done. It came out to be 1.09. CT chest, abdomen and pelvis was normal so ectopic source of ACTH was excluded. MDT meeting was conducted between endocrinology and neurosurgery department. It was decided to operate him. Trans sphenoidal resection was done and one third of anterior pituitary gland was removed and sent for biopsy in 2 different hospitals. Frozen section showed adenomatous changes but histopathology report showed pituitary hyperplasia.

**DISCUSSION:** Corticotroph hyperplasia is diagnosed by the presence of significantly expanded acini with preserved architecture on reticulin staining and predominant staining of ACTH on immunohistochemistry. For even trained clinicians corticotroph hyperplasia may explain some diagnostic uncertainty in patients with cushing's disease. There is a connection between enhanced promoter activity and sensitivity to CRH, in which the CRH promotes the neoplastic condition associated with a USP8 mutation. Corticotroph hyperplasia cannot simply be the "normal" response of the pituitary to the specific needs of the body (e.g., undertreated hypocortisolism) or increased hypothalamic CRH drive as in primary corticotroph hyperplasia. This patient had all the features of cushing's disease but MRI findings were not consistent with pituitary adenoma as the lesion was very small. Morning cortisol, Urine free cortisol and ACTH levels were very high. Overnight dexamethasone suppression test was done, which was not suppressed. So IPSS was done after a trial of ketoconazole. IPSS showed successful catheterization. Desmopressin was not available so Prolactin corrected ACTH ratio was done. It came out to be 1.09. As this value was more than 0.3 so ectopic source of ACTH was excluded. Still CT chest abdomen and pelvis was done which came out to be normal. Half of anterior pituitary gland was removed and sent for biopsy. Biopsy report showed pituitary hyperplasia. After MDT meeting and Endocrine club meeting, it was decided to do complete hypophysectomy. Studies have shown that imaging and operative findings can be ambiguous as compared to pituitary adenomas, but surgical approach is more appropriate for sustained remission.



## **MP-2: Seasonal influenza like illness, observation of a tertiary care hospital during the year 2023-24**

Dr Naveed Ali

**Objective/Hypothesis:** To know the demographic pattern of the disease including age, gender, comorbidities. To know the use of prior antibiotics among patients with influenza-like illness before presenting to hospitals.

**Materials and Methods:** Method: This cross-sectional study was conducted during the flu season at MTI-Bacha Khan Medical Complex Swabi Pakistan starting from November 2023 to March 2024 and comprised of all adult patients who fulfilled the WHO case definition of influenza like illness and were managed as inpatients during the course of the disease .All patients underwent nasopharyngeal or oropharyngeal swab by trained health care workers and were tested for influenza and COVID-19 by using rapid antigen testing as an institutional post pandemic protocol. Both males and females of all age groups were included. Data analysis was done through spss20.

**Results:** Results: A total of 416 patients from different geographical locations of Swabi and its surrounding catchment districts who presented to the hospital during seasonal influenza fulfilling the inclusion criteria for ILI were enrolled and tested for influenza type A and B by ICT. Patients who are treated as an (outpatient n=196) were excluded from study as their medical record was not available in detail. Among those who are admitted in wards and having a clear picture on chest radiograph suggestive of bacterial etiology like lobar pneumonia and having neutrophilic leukocytosis on complete blood count and labeled as community acquired pneumonia were also excluded from study (n=20). 200 patients were included in the analysis. The patients who are having co-morbidities were affected more. Fifty-six percent of the patients were male and forty-four percent were female. Among the study group 87% of patients used prior antibiotics before coming to the hospital for ILI. Two percent of patients were vaccinated for influenza for this season while ninety-five percent were vaccinated for COVID-19 before this admission. The rapid antigen test for influenza type A by ICT was positive in 28 percent of patients with ILI while no case of Influenza B was detected. Only five percent of them used oseltamivir for the illness and no difference in outcome was observed in patients who used oseltamivir compared to those who did not. 2% of patients died having comorbidities as their primary disease was exacerbated by flue like illness.

**Conclusion/Recommendations:** A substantial number of patients used prior antibiotics. There was no difference in outcome of patients noted who used Oseltamivir compared to those who did not. The majority of the patients with seasonal ILI were not vaccinated for influenza. Rapid antigen test for influenza type A was positive in thirty percent of patients with ILI.

**Keywords:** Antibiotics, Influenza-like illness, Oseltamivir, Influenza vaccination, RAT.

### **MP-3: Detection of Malignant lesion in Contralateral Breast in Newly Diagnosed Patients of Unilateral Carcinoma Breast on MRI**

Dr Ghazala Wahid

**Objective/Hypothesis:** To determine the diagnostic performance of MRI in detecting malignant lesion in contralateral breast in newly diagnosed patients of unilateral carcinoma breast

**Materials and Methods:** In this study total 150 newly diagnosed patients of unilateral breast cancer with normal mammographic and clinical examination of other breast were included. Study was conducted in Radiology department, Hayatabad Medical Complex Peshawar from Jan 2017 to March 2020. MRI scan of normal breast was done on a 1.5 Tesla magnet with multi-channel breast coil. For evaluating the breast lesions, administration of IV contrast and high spatial resolution is necessary. The malignant lesions of breast found on MRI were confirmed histo-pathologically.

**Results:** In 5 out of total 150 women included in study, MRI detected occult breast cancer in the opposite breast in whom clinical examination and mammography was normal (3.3%). 18 women (12.5 %) out of total 150 with positive findings on MRI underwent biopsy, and 5 specimens turned out to be carcinoma (27%).

**Conclusion/Recommendations:** MRI is very useful and helpful to detect occult malignancy in opposite breast which are not detected clinically or by mammography at the time of the initial diagnosis of carcinoma breast

**Keywords:** Breast Magnetic Resonance Imaging, Mammography, Carcinoma.

#### **MP-4: Reasons for Intensive care unit admission and its outcomes**

Mahmood Jan

**Objective/Hypothesis:** 1) To determine the reasons for admission in the intensive care unit, 2) To find out ICU's admissions outcome

**Materials and Methods:** Cross-sectional study using the prospective approach and all those patients who fulfilled the ICU admission criteria at public sector tertiary care hospitals in Peshawar Khyber Pakhtunkhwa, were included in the study. The data were collected through Checklists developed by Amtachew and were analyzed using SPSS version 24.

**Results:** The analysis included 211 admissions with most prevalent age group was individuals aged 18-30 years, comprising 46% males and 54% females. The most common reasons for admission were post-operative, pre-eclampsia and eclampsia disease patients, accounting for 59.7% of cases and followed by respiratory diseases patients. The overall mortality rate was 46.9% among the studied patients. In which post-operative, pre-eclampsia and eclampsia disease mortality were 54.4% followed by respiratory diseases, representing 12.1% of mortality.

**Conclusion/Recommendations:** Post-operative diseases, pre-eclampsia and eclampsia disease, accounting for 59.7% of cases, were the most common reasons for admission. The most common causes of death were post-operative diseases, pre-eclampsia and eclampsia diseases collectively 54.4% of cases, followed by respiratory conditions at 12.1%.

**Keywords:** ICU, admission, morbidity, mortality, causes of death, outcome

## **MP-5: Determination And Analysis Of Frequency Of Modifiable Risk Factors Among Patients Suffering From Myocardial Infarction Presenting To Peshawar Institute Of Cardiology**

Mr Muhammad

Irfan

**Objective/Hypothesis:** n/a

**Materials and Methods:** This is a hospital based study which enrolled 323 patients on the bases of convenience Sampling. Patients with Known cases of Myocardial infarction admitted in Peshawar Institute of Cardiology. Those with elderly age group who is unconscious or unable to speak or having Valvular heart disease and Pediatric patients were excluded. Data analysis carried via excel and SPSS.

**Results:** The study, based on a sample of 323 patients, reveals a male predominance with 197(61.0%) male patients and female is 126 patients (39.0%) among cardiac patients presenting to the Peshawar Institute of Cardiology (PIC), with a mean age of 49.9 years. Approximately 185(57%) patients had a history of myocardial infarction, while 138(43%) suffered from other cardiac problems without MI. The most common wall of the heart affected by MI was the anterior wall (37.8%), followed by the inferior wall (36.8%) and the lateral side (20.0%). Comorbidities such as smoking (61.6%), diabetes mellitus (57.0%), and hypertension (61.6%) were prevalent among the participants. Regarding previous history of risk factors Smoking is 61.6% (199 patients), diabetes is 57% (184 patients) and hypertension was 61.6% (199 patients) the common risk factors. Regular exercise practiced by 131 patients (40.6%) while 138 patients (42.7%) had obesity and 155 patients (48.0%) were having Hyperlipidemia. Fatty foods consumption was reported by 181 patients (56.0%) while Vegetables and fruit were weekly used by 178 patients (55.1%) and 130 patients (40.2%).

**Conclusion/Recommendations:** Risk factors included smoking, diabetes, hypertension, sedentary lifestyle, obesity, and hyperlipidemia. The most common walls affected by ischemic conditions were the anterior and inferior walls. Obese individuals had a higher prevalence of MI compared to non-obese individuals.

**Keywords:** MI- Myocardial Infarction, PIC- Peshawar Institute of Cardiology,

**MP-6: Efficacy and Safety of Laquinimod for Relapsing-Remitting Multiple Sclerosis: A Systematic Review and Meta-analysis of Randomized Control Trials.**

Dr Toubia Azeem

**Objective/Hypothesis:** Relapsing-remitting multiple sclerosis affects 85% of patients of multiple sclerosis. Laquinimod is a novel oral immunomodulator. This systematic review and meta-analysis examines the safety and efficacy of 0.6 mg laquinimod compared to placebo in treating relapsing-remitting multiple sclerosis.

**Materials and Methods:** We estimated the risk ratio (RR) for dichotomous outcomes and mean differences (MD) for continuous outcomes, each with 95% confidence intervals (CIs). Hazard ratios (HR) were calculated for time-to-event outcomes. Heterogeneity was assessed using the  $I^2$  statistic.

**Results:** Meta-analysis of data from 4 trials showed laquinimod was superior to placebo, with a MD of -0.08 (95% CI: -0.12 to -0.04,  $P=0.0002$ ,  $I^2=0\%$ ) in terms of annualized relapse rate. For disability progression confirmed at 3 months, laquinimod showed advantage over placebo, with a HR of 0.75 (95% CI: 0.59 to 0.96,  $P=0.02$ ,  $I^2=25\%$ ) while for disability progression confirmed at 6 months, laquinimod was comparable to placebo, with a hazard ratio of 0.69 (95% CI 0.45 – 1.06;  $p = 0.09$ ). In the analysis of relapse-free patients during the study, laquinimod was superior to placebo, with a RR of 1.14 (95% CI: 1.06 to 1.22,  $P=0.0004$ ). Regarding the safety profile, laquinimod was comparable to placebo in terms of serious adverse events with an RR of 1.06 (95% CI: 0.81 to 1.39,  $P=0.68$ ,  $I^2=33\%$ ). However, laquinimod was associated with a higher risk of elevated alanine transaminase levels, with an RR of 1.86 (95% CI: 1.53 to 2.27,  $P<0.00001$ ,  $I^2=31\%$ ).

**Conclusion/Recommendations:** These findings support the efficacy of laquinimod, but the increased risk of elevated liver enzymes necessitates careful monitoring during treatment.

**Keywords:** laquinimod, multiple sclerosis, meta-analysis

## **MP-7: A Challenging Diagnosis of Huntington's Disease: Case Report**

Aban Masud Mian

**Objective/Hypothesis:** To enhance our understanding of Huntington's disease.

**Materials and Methods:** A 38 year old Pashtun male with no previous co-morbidities presented to the hospital with mild cognitive impairment and clumsiness for the last 1 year as well as generalized body weakness and bilateral lower limb pain for the last few days. His memory and attention were slightly impaired but he was otherwise doing well. He gave a history of symptoms similar to his current symptoms in his 7 year old son. Rest of his family history was unremarkable. On neurological examination, he was found to have chorea of the upper face and head. There was head bobbing and random irregular blinking of the eyes along with enlarged palpebral fissures, elevation of the eyebrows, and marked contraction of the frontalis muscle. He was unable to perform the tandem gait and had reduced arm swing while walking.

**Results:** An MRI with contrast of the Brain/Foramen Magnum revealed dilation of the frontal horns of the lateral ventricles, secondary to atrophy of the caudate nuclei, more marked on the right side as compared to the left. Genetic testing revealed >40 CAG trinucleotide repeats thus confirming the diagnosis of Huntington's disease. There is no curative treatment for this condition, and based on the patient's mild symptoms accompanied by the fact that they did not cause any distress to the patient, he was discharged without any medication prescription in order to avoid causing side effects.

**Conclusion/Recommendations:** This case highlights the importance of keeping a high clinical suspicion for HD in its initials stages, paying special attention to family history and taking a multi-disciplinary approach to the diagnosis of HD, and further reinforces the hypothesis that missed diagnosis might be the reason for HD's lower prevalence in some parts of the world. Further research is required in order to determine the true prevalence of HD in Asia.

**Keywords:** Huntington's disease, Neurology, Case Report

## MP-8: A Case Report Of Paediatric Craniopharyngioma

Dr Syeda Ghazala Shahnawaz

**Objective/Hypothesis:** A craniopharyngioma is a rare brain tumor derived from pituitary gland embryonic tissue that occurs most commonly in children, even in the prenatal and neonatal periods, but can also affect the adults. The peak incidence rates are at 5–14 years and then at 50–74 years. People may present with bitemporal inferior quadrantanopia leading to bitemporal hemianopsia, as the tumor may compress the optic chiasm. It has a point prevalence of around 2/1,000,000. A six years old male child presented at the eye OPD of Khyber Teaching Hospital, Peshawar in September, 2023 with gradual and progressive loss of vision, and diplopia in his left eye for the last few weeks. His recent medical history revealed fever (on/off), loss of weight and esotropia of the left eye.

**Materials and Methods:** The patient's visual acuity was 6/6 in the right eye and 'perception to light positive (PL+VE)' in the left eye. His pupil examination revealed Relative Afferent Pupillary Defect (RAPD) in left eye, and also restricted eye movements in the left lateral gaze. The right eye movements were intact. Orthoptic assessment was done which confirmed left lateral rectus palsy. The other anterior segment examination was normal.

**Results:** No cataract or vitreous pathology was found. Upon fundus examination, the right eye showed pale disc and left eye showed optic disc atrophy. A CT scan of the brain and orbit (with and without contrast) was advised by the ophthalmologist which reported "craniopharyngioma". MRI scan (with contrast) and further histopathological correlation were advised by the radiologist.

**Conclusion/Recommendations:** The patient was then referred to the neurosurgical unit for further management. The patient's Hess chart and visual field were planned to be done. As the patient now became one-eyed, proper follow-up was required, making this an important case to report therefore.

**Keywords:** Paediatrics, Craniopharyngioma, Visual acuity, Progressive loss of vision, Relative Afferent Pupillary Defect (RAPD).

## **MP-9: Management Strategies and Rare Dermatological Features in a Classic Case of Kindler Syndrome: A Pediatric Case Study**

Dr Toubia Azeem

**Objective/Hypothesis:** Kindler Syndrome (KS) is a rare autosomal recessive genodermatosis characterized by skin fragility, blistering, photosensitivity, and progressive poikiloderma due to mutations in the FERMT1 gene encoding kindlin-1. First described in 1954, over 250 cases have been reported worldwide, with a notable incidence in consanguineous populations. KS remains challenging to diagnose and manage, particularly in resource-limited settings where genetic testing is often inaccessible.

**Materials and Methods:** We describe a unique case of KS in a 6-year-old male born to consanguineous parents. The patient presented with chronic skin eruptions from 3 days of age, including erythematous plaques, hemorrhagic crusting, purulent discharge, and progressive poikiloderma. Notable clinical features included reticular hyperpigmentation, telangiectasias, lanugo hair growth, and well-defined hyperpigmented macules on the abdomen, a rare finding not commonly described in existing literature. Systemic symptoms included fever and constipation. Family history revealed a deceased sibling with similar symptoms, indicating a genetic predisposition. Due to resource constraints, genetic testing was not performed; diagnosis was based on clinical features and family history.

**Results:** This case underscores the complexity of KS, particularly in distinguishing it from other blistering disorders. The unique presentation, including the abdominal hyperpigmented macules, highlights the need for careful differential diagnosis. The patient's consanguinity and family history stress the importance of genetic counseling. Laboratory findings such as elevated alkaline phosphatase and anemia further complicate the clinical picture, necessitating a comprehensive management approach.

**Conclusion/Recommendations:** This case enhances understanding of KS and underscores the importance of a multidisciplinary approach in managing this rare disorder. It emphasizes the need for genetic testing and counseling to guide diagnosis and treatment, especially in resource-limited settings. Addressing the dermatological, nutritional, and genetic aspects of KS is crucial for improving patient outcomes and informing future management strategies.

**Keywords:** Kindler syndrome, FERMT1 gene, dermatology, skin, case report



## **MP-10: Severe Actinomycotic Discitis Osteomyelitis and Bacteremia in an Immunocompetent Adult Following Dental Cleaning: A Case Report**

Dr Toubia Azeem

**Objective/Hypothesis:** Actinomycotic osteomyelitis is rare in adults, particularly involving the vertebral column. Although Actinomyces species are commonly found in the oral cavity, primary vertebral osteomyelitis due to these bacteria is exceptionally uncommon, especially in immunocompetent individuals.

**Materials and Methods:** We present a case of severe vertebral osteomyelitis caused by Actinomyces odontolyticus in a 46-year-old healthy woman with no predisposing conditions, who developed acute back pain and fever following a routine dental cleaning. Despite initial treatment with penicillin, which is typically effective against Actinomyces, her condition worsened, affecting multiple spinal segments from cervical to lumbar regions. Extensive imaging and microbiological investigations eventually confirmed the diagnosis. The patient underwent a series of treatments including intravenous antibiotics, biopsy, and ultimately transitioned to intravenous ertapenem, which led to gradual clinical improvement.

**Results:** **Clinical Findings** The patient presented with exacerbated chronic back pain, fever, and signs of discitis and osteomyelitis on MRI. Blood cultures identified Actinomyces odontolyticus, and subsequent imaging revealed progression of the infection despite initial antibiotic therapy. **Management and Outcome** The patient was initially treated with high-dose penicillin, followed by a switch to ceftriaxone and later to ertapenem due to persistent symptoms and imaging evidence of disease progression. The patient's condition stabilized with improved ambulation and reduced infection markers, leading to her discharge and continued outpatient antibiotic therapy.

**Conclusion/Recommendations:** This case underscores oral bacteria's rare but serious potential to cause severe vertebral osteomyelitis in an otherwise healthy individual following dental procedure. It highlights the importance of considering Actinomycotic infections in differential diagnoses of back pain with recent dental interventions and the need for effective multidisciplinary management strategies.

**Keywords:** Actinomycotic Osteomyelitis, Immunocompetent, Dental Cleaning, Antibiotic Therapy

## **MP-11: Isolated Cognitive Behavioral Changes with Distinctive MRI Findings in a Patient with Cerebral Small Vessel Disease: A Diagnostic Challenging Case Report**

Waqas Inayat

**Objective/Hypothesis:** CSVD can present with unusual symptoms, making it hard to diagnose without advanced imaging.

**Materials and Methods:** A 30-year-old male with hypertension presented with fever, nausea, weakness, gait disturbances, and cognitive changes. Examination showed normal vital signs, positive Romberg's test, and mild cerebellar dysfunction. Laboratory tests (CBC, ESR, CRP, lipid profile) were normal. MRI revealed white matter hyperintensities and enlarged perivascular spaces, leading to a diagnosis of cerebral small vessel disease (CSVD). The patient was treated with antihypertensives, aspirin, lifestyle modifications, and regular follow-up.

**Results:** This case highlights the diagnostic challenges of atypical CSVD presentations, where cognitive functions were minimally affected. MRI played a pivotal role in diagnosing CSVD. The patient's history of hypertension and hyperlipidemia was critical in managing the disease and preventing its progression. Effective blood pressure control and cognitive rehabilitation are vital in managing CSVD.

**Conclusion/Recommendations:** CSVD is a prevalent yet often underdiagnosed condition with significant clinical implications. Recognizing diverse clinical manifestations and risk factors is essential for timely diagnosis and intervention. A multidisciplinary approach is crucial for comprehensive CSVD management. Ongoing research is necessary to refine our understanding and develop more effective therapeutic intervention

**Keywords:** Cerebral small vessel disease, White matter hyperintensities, Lacunar stroke, Vascular cognitive impairment

## MP-12: Hemiplegic Migraine versus Stroke due to Arterial Dissection: A Case Report

Dr. Syed Wahab Ali Zaidi

**Objective/Hypothesis:** To highlight the importance of a detailed medical history in differentiating between hemiplegic migraine and internal carotid artery dissection, a potentially serious condition that can mimic migraine symptoms.

**Materials and Methods:** The patient presented with a headache, binocular visual disturbance, and left-sided weakness. A CT angiogram revealed ICA dissection and an acute right middle cerebral artery (MCA) infarct. She was treated with dual antiplatelet therapy and monitored with repeat imaging, which later showed a new vertebral artery dissection in V3 and V4 segments.

**Results:** Repeat imaging at three months revealed resolution of the right ICA dissection and persistent left vertebral artery dissection. The patient showed significant improvement in the neurological deficits following treatment.

**Conclusion/Recommendations:** Our management of this case signifies the importance of taking the history of headache presentation in migraine patients. If the headache features are different and there are acute focal or lateralising neurological symptoms, especially if presenting as an index event, we should always exclude other causes before diagnosing hemiplegic migraines. Prompt specialist referrals and more detailed imaging are essential. An MDT approach should guide ongoing investigations and management for the patient.

**Keywords:** Internal Carotid Artery Dissection, Hemiplegic Migraine, Stroke, Antiplatelet Therapy, Cerebral Infarction.

**MP-13: Rare Case of Refractory Hypokalemia in a Patient with Acute Myelomonocytic Leukemia (AML M4): A Case Report from Khyber Pakhtunkhwa Region**

Dr Muhammad Muneeb Khan

**Abstract:** This case reports a 39-year-old man who was recently diagnosed with Acute Myelomonocytic Leukemia (AML M4 subtype). He presented with all the common AML symptoms (including anemia, bleeding, and generalized weakness), but what makes this case report interesting is the presence of severe refractory hypokalemia. His serum potassium remained low at 2.4mmol/L despite aggressive potassium replacement. Urinary electrolyte analysis showed renal potassium wasting, likely due to activation of the renin-angiotensin-aldosterone system (RAAS). Elevated serum renin levels supported this mechanism. In addition, the patient also had acute kidney injury and electrolyte abnormalities potentially caused by excessive lysozyme secretion by monocytes, as described in a prior case report. Refractory hypokalemia in AML M4 is rare and has a poor prognosis. Early recognition and management of hypokalemia is crucial to prevent complications and improve patient outcomes. This case highlights the importance of monitoring electrolytes and the need for further research on ideal management protocols for refractory hypokalemia in AML M4.

## 2. Surgery and Allied

### SP-01: Immediate Effects of Thyroid Surgery on the Pulmonary Dynamics of the Upper Airway

Nazneen Liaqat

**Objective/Hypothesis:** Given the anatomical proximity of thyroid to the upper airways, surgical interventions involving the thyroid can affect the pulmonary dynamics. This current study was conducted to quantify the immediate effects of thyroid surgery on the upper airway.

**Materials and Methods:** From January to December 2023, forty adult patients undergoing thyroid surgery at the Department of Otolaryngology, Khyber Teaching Hospital, Peshawar, Pakistan, were included in the study. Pulmonary function tests, including FVL and spirometry, were performed preoperatively and within 24 hours postoperatively. Key parameters measured included forced vital capacity (FVC), forced expiratory volume in one second (FEV1), the FEV1/FVC ratio, Peak expiratory flow (PEF) along with the FVL curve.

**Results:** Preoperative FVC and FEV1 decreased in the immediate postoperative period ( $2.98 \pm 0.75$  vs  $2.54 \pm 0.74$ ,  $p=0.001$ ;  $2.36 \pm 0.63$  vs  $2.01 \pm 0.63$ ,  $p=0.003$ ), but their ratio FEV1/FVC, showed no significant change ( $p= 0.089$ ). Preoperative PEF reduced, in a similar way, post-operatively ( $5.14 \pm 1.44$  vs  $3.23 \pm 1.27$ ,  $p=<0.01$ ). While, Empey's and Expiratory Disproportionate Indices (EDI) increased significantly ( $7.65 \pm 2.16$  vs  $10.58 \pm 2.45$ ,  $p=<0.01$ ;  $49.08 \pm 13.23$  vs  $60.93 \pm 16.46$ ,  $p=0.001$ ). Regarding the FVL, a significantly higher number of patients exhibited fixed upper airway obstruction patterns postoperatively. (19 vs 26,  $p=<0.01$ ).

**Conclusion/Recommendations:** Thyroid surgery significantly affects pulmonary dynamics of the upper airway causing obstruction in the immediate postoperative period. Thus, postoperatively, careful respiratory monitoring is needed. Further research is required to determine the role of rehabilitative measures in mitigating these effects in post-thyroidectomy patients.

**Keywords:** Thyroid surgery, Spirometry, Flow-volume loop, pulmonary dynamics, Thyroidectomy, upper airway.

**SP-02: Tympanic Cavity Packing in Tympanoplasty Type 1. Is it necessary? A Meta-analysis**

Nazneen Liaqat

**Objective/Hypothesis:** Packing of tympanic cavity is generally considered an essential step in myringoplasty. However, each packing material comes with inherent side effects. The objective was to systematically review the level 1 evidence regarding tympanoplasty type 1 done with versus without packing of tympanic cavity.

**Materials and Methods:** Pubmed, Cochrane database, Embase, Google scholar and clinicaltrials.gov were searched using ‘Tympanoplasty OR Myringoplasty AND packing’ as search query. All RCTs/quasiRCTs comparing tympanoplasty type 1 with packing (control) versus without packing (intervention) of tympanic cavity were included. Risk of bias assessment was done. For dichotomous and continuous outcomes, relative risks (RR) and mean differences (MD) were calculated, respectively, with 95% confidence interval. Heterogeneity was assessed using I<sup>2</sup> statistics. Publication bias was checked using funnel plot and Egger’s test, if applicable. Quality of evidence was assessed for each outcome using GRADE approach.

**Results:** 11 studies were deemed eligible. For graft uptake and functional success rate, RR of 1.01 and 1.05 were obtained, respectively, showing no significant differences between the intervention and control group. At 1st and 3rd post-operative month, no packing group showed 3.86dB and 2.08dB better Air-Bone Gap (ABG) closure than packing group, respectively. Also, intervention with no packing was 9.28 minute shorter procedure. With RR 0.35, no-packing had significantly lesser post-operative aural fullness.

**Conclusion/Recommendations:** Type 1 tympanoplasty done with or without packing show comparable results in terms of graft uptake and functional success rate. However, if performed without packing, it takes shorter time, provides early hearing improvement and causes less aural fullness.

**Keywords:** Tympanoplasty type 1, packing, gelfoam, no packing, meta-analysis, endoscopic.

**SP-03: Endoscopic third ventriculostomy in the management of obstructive hydrocephalus: Success and failure**

Sohail Amir

**Objective/Hypothesis:** Objective: To determine if endoscopic third ventriculostomy (ETV) is effective in the treatment of obstructive hydrocephalus.

**Materials and Methods:** Eighty Five patients underwent endoscopic third ventriculostomy (ETV) for obstructive hydrocephalus all patients with obstructive hydrocephalus of any gender and age more than 6 months were included in the study. Patients age less than 6 months, recurrent cases and those refuse to opt for ETV were excluded from our study. The information regarding patient demographic, etiology, complications of procedure were documented in proforma. Data was analyzed using SPSS version 20.0 and presented in form of tables.

**Results:** In the current study out of 85 patients, 48(56.4%) were male and 37(43.5%) were females with male to female ratio=1.23. ETV had successful outcome in 66(77.6%) patients. The sign and symptoms of raised intracranial pressure resolved in all patients after ETV. Overall complication rate in our study was 22(25.8%). The commonest complication was inadequate ventriculostomy in 10(11.7%), per operative significant bleeding in 4(4.7%) of patient, seizure in 3(3.5%) of patients, CSF leak and intraventricular hemorrhage in 2(2.35%) respectively.

**Conclusion/Recommendations:** ETV is minimally invasive, safe, effective mode of treatment for obstructive hydrocephalus. Success rate is higher in children below 5 years of age. The overall success rate varies from 70-80% in various studies.

**Keywords:** Complication, Endoscopic Third Ventriculostomy, Obstructive Hydrocephalus.

**SP-04: The risk factors of traumatic brain injury patients admitted in intensive Care unit**

Mahmood Jan

**Objective/Hypothesis:** 1) To identifying risk factors that contributes to the occurrence of TBI, 2) To identify the severity of TBI and there outcome evaluations.

**Materials and Methods:** Cross sectional study using prospective approach. Included those patient who admitted in intensive care units of public sector tertiary care hospital of Peshawar Khyber Pakhtunkhwa and older than 14 years with Glasgow coma scale of 3-12. The data were collected through modified questionnaire and analyzed through SPSS.

**Results:** Total patients including in this study are 60, 73% are male and 27% are female with high incidence of road traffic accident (RTA) 65%, fall 20%, Blast 8.3 %, Domestic accidents 5% and industrial accidents 1.7%. 58 % patients had not used any type of protective gears, 8% patients used protective gears and 28.3% patient not provided data about any protective gears. 88.3% patients Glasgow Coma Scale (GCS) is 3-8 and 11.7% patients GCS is 9-12 at the time of Admission. 40% patient are Discharged, 35% are staying in ICU, 18.3% patients are died and 6.7% patients are referred to other hospital.

**Conclusion/Recommendations:** RTA is the dominant cause of TBI, with a higher incidence in males attributed to cultural norms. Fall is second highest cause which encompassed diverse causes ranging from accidents involving electricity poles, trees, construction buildings and kite-flying. Blasting incidents are third highest cause of TBI. The work-related TBI is very low as compared to without work. The TBI incident is high in those who do not use any protective gears.

**Keywords:** Risk factors, Traumatic brain injury, Intensive care unit, Admission, Fall, Road traffic accident.



## **SP-05: Enhancing Sterile Surgical Glove Donning Practices Among Surgical Trainees: A Quality Improvement Project**

Muhammad Waqas

**Objective/Hypothesis:** The objectives of this study are to evaluate the initial adherence of surgical trainees to WHO guidelines for donning sterile surgical gloves in the operating theatre and to assess the efficacy of targeted educational interventions through measurements of compliance rates post-intervention.

**Materials and Methods:** This clinical audit, conducted in the Department of Urology, assessed compliance with World Health Organization (WHO) guidelines for sterile surgical glove donning in the operating theatre among surgical trainees. Participants were discreetly observed both before and after an educational intervention, which included video demonstrations, individual training sessions, and the display of a pictorial guide in operating rooms. Data were collected using online Google Forms and analyzed using SPSS version 23.0.

**Results:** 43 surgical trainees were evaluated for adherence to WHO guidelines on donning sterile surgical gloves. Initially, compliance was recorded at 77.74%, which significantly increased to 94.67% following targeted educational interventions, representing a noteworthy 16.93% improvement. Step 6 of the WHO-recommended technique for donning sterile gloves showed a significant improvement, with compliance increasing by 41.80%. Compliance also improved by 32.50% for Steps 5 and 9, 27.90% for Step 7, and 25.90% for Step 5. Additionally, Steps 3, 4, 12, and 14 achieved 100% adherence in both the initial and subsequent phases of the study, as all participants consistently followed these steps correctly.

**Conclusion/Recommendations:** Findings before and after the intervention revealed significant improvements in compliance rates with WHO-recommended sterile surgical glove donning techniques. This study demonstrates the effectiveness of educational interventions in enhancing adherence to essential surgical protocols. Regular clinical audits and education are crucial for maintaining adherence to guidelines and improving patient outcomes.

**Keywords:** Sterile surgical gloves donning, WHO guidelines, Clinical audit, Quality Improvement

**SP-06: Accessing the necessity and utilization of post-operative intensive care in hepato-pancreatico-biliary( HPB) surgeries. Is it time to change our practice?**

Asad Ullah Khan

**Objective/Hypothesis:** This study aims to better allocate resources, decrease needless ICU admissions, and improve patient outcomes by assessing the necessity, effectiveness, and utilization of ICU admissions following elective hepatic-pancreatic-biliary (HPB) surgeries.

**Materials and Methods:** We retrospectively analyzed data from 254 patients who underwent elective HPB surgery between April 2021 and April 2024, examining patient demographics, surgical variables, and post-operative outcomes.

**Results:** Among 254 patients, 180 (70.86%) were treated in the ICU. Of these, 159 (88.33%) received observation only during ICU care. ICU readmission (4.44%, n=8/180) and intensive medical treatment (11.66%, n=21/180) were significantly associated with prolonged surgeries (>6 hours) (7.78%, n=14), age > 60 years (6.11%, n=11), comorbidities (e.g., DM, HTN, Renal impairment) (9.44%, n=17), intraoperative transfusions (9.44%, n=17), perioperative morbidities (2.22%, n=4), intraoperative use of inotropes (3.33%, n=6), and BMI > 29 (1.11%, n=2) and < 17 (1.67%, n=3). These factors were significantly associated with the need for interventions in ICU such as supplemental oxygen therapy, Electrolytes replacement, Transfusions, Hemodialysis, and longer postoperative stays in the ICU and hospital, and hospital mortality.

**Conclusion/Recommendations:** Our study demonstrated that low-risk patients undergoing major HPB surgeries can be safely managed on the ward without the need for postoperative ICU/HDU care. However, a subset of patients who underwent prolonged surgeries, had pre-existing comorbidities, received intraoperative transfusions, or experienced perioperative morbidities, and with extreme BMI values and those who required inotropes during surgery, should be monitored in ICU/HDU until stability is ensured. These findings suggest that targeted ICU/HDU care can be optimized, leading to improved resource allocation and patient outcomes. This will lead to further study on a larger scale to validate these results and reform clinical practice.

**Keywords:** HPB= hepato-pancreatico-biliary, ICU= intensive care unit, HDU= high dependency unit

### **SP-07: Brain abscess: a clinical experience in a tertiary care hospital**

Sohail Amir

**Objective/Hypothesis:** The objective of this study is to determine etiology, nature, clinical features, and outcome of brain abscess.

**Materials and Methods:** This is a descriptive study on 48 patients with brain abscess in the Department of Neuro-surgery, Pakistan Institute of Medical Sciences from February 2010 to July 2011. All patients admitted with brain abscess were included in the study. Patients age, gender, source of abscess, type of abscess, location of abscess clinical manifestation, type of surgical procedure were documented on pre designed Proforma. Outcome was measured on Glasgow outcome scale. Data analyzed using SPSS version 20.0 and presented in form of tables.

**Results:** Out of 48 patients 28(58.3%) were male and 20(41.6%) were female with male to female ratio=1.5/1. Age distribution was 8 to 60 years with mean age was 34.25 + 2.54 years. The most common neurological sign and symptoms observed in our study were headache 38(79.1%), nausea and vomiting in 15(31.2%), altered state of consciousness in 7(14.5%) and fever in 25(52.0%) patients. 40(83.3%) patients underwent surgical procedures. Single burr hole aspiration done in 31(64.5%) and craniotomy and excision of abscess in 9(18.75%) of patients. In our study a total of 38(79.1%) had good outcome which include 18(37.5%) in good recovery and 20(41.6%) had moderate disability.

**Conclusion/Recommendations:** Brain abscess is common in middle age group with male predominance. Early diagnosis, timely surgical intervention and use of proper antibiotics are essential for good outcome.

**Keywords:** Brain abscess, altered state of consciousness, Etiology, Burrhole aspiration, Outcome, craniotomy.

## **SP-08: Enhancing Clinical Outcomes Across Successive Generations Through Standardized Training Programs**

Dr. Mariam Asad

**Objective/Hypothesis:** To evaluate the long-term impact of standardized training programs on clinical outcomes and determine their effectiveness in sustaining high-quality care across generations of practitioners.

**Materials and Methods:** A longitudinal study was conducted across multiple healthcare institutions implementing a standardized training program. Data on clinical outcomes, including patient satisfaction, treatment efficacy, and error rates, were collected and analyzed. Successive cohorts of trainee's data were analyzed to assess the durability of the training's impact on clinical outcomes.

**Results:** Mentor AP (n=263) trained 3 fellows (n=116), who later trained 2 fellows (n=238). All the parameters including 30-day morbidity and mortality, lymph node harvest, major complications and R 1 resection rate was comparable among all 3 generations of surgeons, while length of stay and conversion to open surgery was significantly better in the 3<sup>rd</sup> generation of surgeon's clinical outcome.

**Conclusion/Recommendations:** Standardized training programs are crucial for achieving and sustaining persistent clinical improvements. Their ability to influence successive generations of healthcare professionals reinforces the need for continued investment in such programs to ensure ongoing advancements in patient care and clinical outcomes.

**Keywords:** Standardized training programs clinical improvements across successive generations of healthcare professionals.

## **SP-09: Outcomes Of Ulnar Nerve Decompression Under Local Anaesthesia With Topical Anaesthetic Enhancement**

Dr. Sher Ali

**Objective/Hypothesis:** To know about the effectiveness of ulnar nerve release under local anesthesia with augmented topical anesthesia

**Materials and Methods:** After approval from the hospital ethical committee, we did a retrospective analysis of all the patients operated for cubital tunnel syndrome between January 2019 till August 2024, all patients who underwent ulnar nerve decompression under local anesthesia with topical anesthetic enhancement were included, while those performed with general anesthesia were excluded. Patients were evaluated pre-operatively using clinical assessment and electrodiagnostic tests, and the procedure was performed under local anesthesia by a single surgeon. During surgery, a topical anesthetic agent was used to augment the procedure and relieve pain. The patients were either discharged home the same day or retained for 24 hours. Follow-up was done on 14 day and patients were evaluated for pain and any signs of infection. Data was entered and analyzed using SPSS version 25 and expressed in tables and charts.

**Results:** 24 patients were operated on during study period and the majority of the patients were female ( 17/24) and age ranged from 21-45 years, all were done under local anesthesia (lignocaine with adrenaline in a ratio of 1:200,000) with topical agent only as lignocaine. All patients tolerated the procedure well; even two patients did not require the topical anesthetic during manipulation. Out of 24 patients, only one needed a repeat surgery, and transposition was done under GA later.

**Conclusion/Recommendations:** Ulnar nerve decompression is an effective surgical procedure for ulnar nerve entrapment syndrome that results in an improvement in patient's symptoms like sensations, motor functions(grip strength) and quality of life.

**Keywords:** Cubital Tunnel syndrome Nerve

**SP-10: Pancreatic insulinoma: Diagnosis and treatment of a rare tumor masquerading as epilepsy – A case report**

Dr. Javeria Shah

**Objective/Hypothesis:** To add into literature the varied and unusual presentation of insulinoma and its surgical management

**Materials and Methods:** We took this case of young male who presented with early morning seizures and fasting hypoglycemia and after prompt history and physical examinations we ran a series of biochemical and imaging investigations which led to his diagnosis of insulinoma. which was surgically treated.

**Results:** Tumor was enucleated surgically leaving the patient asymptomatic in the post operative period

**Conclusion/Recommendations:** Rare occurrence and varied presentations often makes the diagnosis of insulinomas challenging which leads to misdiagnosis and mismanagement of patients. Therefore, clinicians should have a high index of suspicion for this condition in patients with history of recurrent neuropsychiatric symptoms, particularly if they are resolved after eating.

**Keywords:** Insulinoma; Hypoglycemia; Neuroendocrine tumor; Seizure; Case report

### **SP-11: Flexi-Rigid Bronchoscopy; A Successful Removal Of Sharp Foreign Body From The Secondary Bronchus: A Case Report**

**Introduction:** Foreign body aspiration leading to tracheobronchial airway obstruction is a potentially life-threatening condition that needs immediate intervention through bronchoscopy. Flexible bronchoscopy is primarily a diagnostic procedure as it helps reach the distal airways with better visualization of the foreign body. The rigid bronchoscopy is preferred for removing foreign bodies allowing easy handling. A combination of these i-e, Flexi-rigid bronchoscopy has been reported here for removal of difficult aspirated foreign bodies..

**Case Presentation:** The authors report a case of a 7-year-old girl who was presented with complaints of aspiration of a sharp foreign body. It was impacted at the bifurcation of the secondary bronchus lying in the medial-basal segment (lower lobe) of the left lung. Initially, the rigid and flexible bronchoscopies proved futile when utilized separately. Later on, a combined flexi-rigid approach proved successful. Under inhalational anesthesia, the rigid bronchoscope was passed down the airway along with a flexible bronchoscope. The flexible bronchoscope localized the pin lodged at the bifurcation of the secondary bronchus at the proximal end of the tertiary bronchus, with its pointed sharp end embedded in the tissue and head lying distally. A rigid bronchoscope grasper was used to dislodge the pointed end from the bronchial mucosa and then removed successfully. Care was taken while retrieving the straight pin from the trachea and bronchus to avoid possible damage to the airways. No intra-operative or post-operative complications occurred. The entire procedure took approximately half an hour.

**Conclusion/Recommendations:** In the future designs of rigid bronchoscopes, incorporating a fibre-optic camera at its distal end would significantly enhance procedural precision and safety by providing better visualization. Until such innovative technology is developed, a combined approach flexi-rigid bronchoscopy is an efficient method for removing aspirated foreign bodies in surgically challenging cases.

**Keywords:** Bronchoscopy; Foreign Body; Aspiration

## **SP-12: Bilateral Rhegmatogenous Retinal Detachment in a Young Adult with Neurofibromatosis 1: A Case Report**

Shafaq Tanveer

**Objective/Hypothesis:** To describe and analyze an atypical presentation of retinal detachments (RD) and associated ocular complications in a patient with neurofibromatosis type 1 (NF1), and to explore potential underlying mechanisms linking NF1 with these retinal abnormalities.

**Materials and Methods:** A 33-year-old male with a clinical diagnosis of neurofibromatosis type 1 underwent a comprehensive ocular examination as part of a routine check-up. The examination included visual acuity assessment, slit-lamp biomicroscopy, indirect ophthalmoscopy, and optical coherence tomography (OCT). Findings of bilateral retinal detachments with superonasal retinal cysts and inferior retinal dialysis were noted. These findings were compared with previously documented cases of NF1-related RD, focusing on differences in presentation and potential pathophysiological mechanisms. The case report also includes a review of relevant literature to correlate the clinical findings with existing knowledge of NF1 and its ocular manifestations.

**Results:** This case underscores the significance of thorough routine ocular examination in NF1 patients, emphasizing the need for a heightened suspicion of unusual ocular manifestations. Moreover, it contributes to the expanding body of literature on atypical ophthalmic presentations in NF1 patients and suggests a potential link between suboptimal fibroblastic function in NF1 and the development of retinal complications, proposing a mechanism involving faulty collagen production and subsequent vitreous base avulsion leading to retinal dialysis and detachment.

**Conclusion/Recommendations:** This case report highlights the rare association of bilateral spontaneous RDs in patients with NF1 and underscores the diverse nature of NF1 associated ocular pathology. The absence of a history of ocular trauma emphasizes the insidious nature of retinal complications in NF1 patients, urging clinicians to maintain a high index of suspicion during routine examinations. Moreover, the case emphasises on the importance of vigilant ophthalmic examinations for early detection of ocular manifestations, even in asymptomatic patients for preserving ocular health and minimising morbidity.

**Keywords:** Ophthalmology, Medicine, Neurofibromatosis



### **SP-13: Approach to a Child with Bilateral Proptosis as a Rare Presentation of Acute Myeloid Leukemia**

Shafaq Tanveer

**Introduction:** This is a case report detailing an unusual presentation of AML with bilateral proptosis. The study includes a clinical overview of the patient's presentation, diagnostic evaluation, and subsequent management, contributing to the understanding of rare ocular manifestations in hematological malignancies.

**Case & Discussion:** A 6-year-old girl presented with a 2-month history of sudden onset, painless, progressively increasing bilateral proptosis, accompanied by palpable lymphadenopathy and skin pallor. Diagnostic workup included a full blood count revealing bicytopenia, an elevated erythrocyte sedimentation rate (ESR), and a computerized tomography (CT) scan showing bilateral lacrimal gland enlargement. A bone marrow biopsy confirmed the diagnosis of M2 acute myeloid leukemia (AML). The patient was initiated on symptomatic treatment and referred to a pediatric oncologist for induction chemotherapy and tumor lysis syndrome (TLS) management. The case underscores the need for ophthalmologists to consider hematological malignancies in patients presenting with unusual ocular symptoms and discusses the significance of early diagnosis in improving patient outcomes.

**Results:** This case report emphasizes on the low threshold for hematological malignancies in the presentation of bilateral proptosis. Ophthalmologists should be cognizant of the unusual ophthalmic manifestations of haematological malignancies, as they are a diagnostic challenge but knowledge about the rare extramedullary manifestations of AML facilitates early diagnosis and thereby improves prognosis.

**Conclusion/Recommendations:** Ophthalmologists should be cognizant of the unusual ophthalmic manifestations of haematological malignancies, as they are a diagnostic challenge but knowledge about the rare extramedullary manifestations of AML facilitates early diagnosis and thereby improves prognosis.

**Keywords:** Ophthalmology, Paediatrics

## **SP-14: Pacemaker Wires Induced Superior Vena Cava Obstruction - A Case Report**

Ghazala Wahid

**Objective/Hypothesis:** To Discuss A Very Interesting Case Of Superior Vena Cava Obstruction Caused By Pace Maker Wire

**Materials and Methods:** A 76-year-old male with a history of dual-chamber permanent pacemaker implantation secondary to complete AV-node block, presented to medicine clinic with edema and swelling of the face and neck that had progressed over the past three months. The patient originally had a right ventricular permanent pacemaker placed in 2013 that was upgraded to a dual-chamber pacemaker in 2020. Physical exam was notable for facial edema, clavicular fullness, and jugular venous distention. Computed tomography of the chest with intravenous contrast was ordered to evaluate for SVC syndrome. The results showed chronic central venous occlusion with an extensive network of well-established collateral veins providing venous return to the right atrium

**Results:** The results showed chronic central venous occlusion with an extensive network of well-established collateral veins providing venous return to the right atrium

**Conclusion/Recommendations:** SVC syndrome is an uncommon but important potential complication to consider when caring for patients who have indwelling venous devices, particularly central venous catheters and pacemakers. As our patient population ages, we will treat more patients with pacemakers, and early recognition of SVC syndrome as a complication of pacemaker leads will help reduce morbidity associated with the syndrome. Mortality due to SVC syndrome is extremely rare, and therapy is typically aimed at symptom relief or treating the underlying cause, as is the case in malignant SVC syndrome.

**Keywords:** SVC OBSTRUCTION ,PACEMAKER WIRE.

## **SP-15: An Interesting Case of an Idiopathic Intra-Thyroid Abscess with Literature Review**

Ahsan Nadeem Malik

### **Materials and Methods:** Case report

**Case Presentation:** We present a case of a male patient, aged 41, who had a history of upper respiratory tract infection that presented with a tender left-sided neck swelling. The left thyroid lobe had a fluid accumulation with retrotracheal extension, as shown by an ultrasound and CT scan. Intravenous antibiotics were initially administered to the patient, but no improvement was seen, and he subsequently underwent surgical drainage. Consequently, the patient's abscess was completely eliminated with no recurrence on follow-up.

**Conclusion/Recommendations:** When presented with cases of tender anterior neck swellings, though rare, thyroid abscess should be ruled out as a possible diagnosis. To ensure successful outcomes and avoid life-threatening effects, early identification and prompt treatment with drainage and targeted antibiotic therapy are crucial.

**Keywords:** thyroid abscess, thyroid surgery, acute suppurative thyroiditis.

## **SP-16: Posaconazole as treatment of Mucormycosis**

Sameedullah Qureshi

**Objective/Hypothesis:** To determine the performance of Posaconazole as a salvage therapy in patients with rhino-orbital-cerebral mucormycosis.

**Materials and Methods:** After the ethical committee gave its approval, this cross-sectional study was performed at the Northwest General Hospital & Research Centre, Peshawar, Pakistan. It comprised of data of patients diagnosed with mucormycosis from January 2018 to June 2021. All the patients underwent surgical intervention and were given Posaconazole either as salvage therapy or along with Amphotericin B for the treatment of mucormycosis. Convenient sampling was used and a structured format was used for data collection. SPSS 21 was used for data analysis.

**Results:** Out of the 13 patients, 11 patients improved with Posaconazole with reduction in the lesions. All 13 patients underwent surgical procedure for debridement and given both Amphotericin and Posaconazole. One patient deceased due to sepsis, another patient died due to COVID-19 infection. The remaining 10 patients recovered from the surgery, one patient was lost on the follow up, and one patient suffered a re-infection, but improved with Posaconazole.

**Conclusion/Recommendations:** The study highlights the benefit of using of Posaconazole as either combined therapy, single use or as a step down therapy for mucormycosis with minimal side effects.

**Keywords:** Posaconazole, mucormycosis, fungal, infection, rhinosinusitis

## **SP-17: Endoscope Assisted Suturectomy For Craniosynostosis In A Resource Limited Setting. A Pilot Case Study In Peshawar**

Adil Ahmed, Bashir Ahmad

**Introduction:** Unicoronal craniosynostosis is a congenital condition where one of the coronal sutures in the skull fuses prematurely, leading to asymmetric head shape and facial deformities. This condition often results in a noticeable abnormality in head and facial features, which can impact both appearance and neurological development if not treated on time.

**Case Presentation:** We present a case of a 4-month-old female infant with left-sided unicoronal craniosynostosis who presented to Northwest General Hospital and Research Centre with abnormal head shape. After clinical examination showed unicoronal craniosynostosis which was investigated with a 3D CT scan that confirmed the diagnosis. She underwent endoscope-assisted suturectomy, a less invasive technique compared to traditional open surgery. A 3 cm incision was made, followed by resection of a 1.5 cm wide strip of bone from Anterior fontanelle down to the squamosal suture. Post-operatively, she spent 24 hours in the pediatric ICU as part of protocol, received IV fluids, pain management, and antibiotics. She was discharged the next day. Two weeks following the surgery Helmet therapy was started which was continued for six months resulting in significant improvement in her head shape and facial asymmetry.

**Conclusion:** Unlike the traditional approach, which requires longer scalp incisions and results in longer operative time, longer hospital stays, higher blood loss, and increased risks of complication, the endoscopic method involves entirely the opposite of those, a smaller incision, lesser operative time, hospital stay, bleeding, and low risks of complication. This minimally invasive approach allows for quicker recovery, shorter hospital stays, and improved cosmetic outcomes and to the best of our knowledge endoscope assisted suturectomy for craniosynostosis has not been done in this region before.

**Keywords:** craniosynostosis, neurosurgery, ucs, endoscope

### 3. Paediatrics

#### PP-01: Celiac Disease With Exocrine Pancreatic Insufficiency And Dilated Cardiomyopathy In Pediatric Patient: A Rare Case Report

Dr Sabir Shah

**Objective/Hypothesis:** To describe a rare case of a pediatric patient with celiac disease, exocrine pancreatic insufficiency, and dilated cardiomyopathy - To highlight the importance of considering rare coexisting conditions in patients with celiac disease who display atypical symptoms - To emphasize the need for prompt identification and treatment of conditions like exocrine pancreatic insufficiency and dilated cardiomyopathy in patients with celiac disease  
**Hypothesis:** - We hypothesize that the concurrent presence of exocrine pancreatic insufficiency and dilated cardiomyopathy in a patient with celiac disease is a rare but significant association that requires prompt recognition and treatment. - We also hypothesize that treatment with pancreatic enzyme supplements and a strict gluten-free diet can lead to significant improvement in clinical and laboratory outcomes in such patients

**Materials and Methods:** Case report of a 5-year-old boy with celiac disease, exocrine pancreatic insufficiency, and dilated cardiomyopathy - Medical history and clinical presentation of the patient - Laboratory investigations, including: - Complete blood count (CBC) - Blood chemistry tests (e.g., liver function tests, electrolytes) - Pancreatic enzyme levels (e.g., fecal elastase) - Celiac disease serology (e.g., tissue transglutaminase antibodies) - Echocardiography report - Treatment and management plan, including pancreatic enzyme supplements and gluten-free diet - Follow-up data, including clinical and laboratory outcomes  
**Methods:** 1. Case selection: A 5-year-old boy with celiac disease, exocrine pancreatic insufficiency, and dilated cardiomyopathy was selected for this case report. 2. Data collection: Medical history, clinical presentation, laboratory investigations, and treatment plans were collected from the patient's medical records. 3. Laboratory investigations: Laboratory tests were performed according to standard protocols, including CBC, blood chemistry tests, pancreatic enzyme levels, and celiac disease serology. 4. Echocardiography: Echocardiography was performed to assess cardiac function and structure. 5. Treatment and management: The patient was treated with pancreatic enzyme supplements and a strict gluten-free diet. 6. Follow-up: The patient was followed up regularly to monitor clinical and laboratory outcomes. 7. Data analysis: Data were analyzed descriptively, and relevant literature was reviewed to provide context and insights into the case. **Ethics:** - Informed consent was obtained from the patient's parents for publication of this case report. - The study was approved by the Institutional Research and Ethical Review Board of Khyber Medical College Peshawar, in accordance with the Declaration of Helsinki (2013).

**Results:** The results of this case report study are: Clinical Presentation: - A 5-year-old boy presented with chronic diarrhea, vomiting, and failure to thrive despite a strict gluten-free diet. - Physical examination revealed pale skin, low volume pulses, pedal edema, and clubbing of fingers. Laboratory Investigations: - Severe deficiency of pancreatic enzymes (fecal elastase < 9.20 ug/ml) - Elevated liver enzymes (ALT 121.8 U/L) - Hypoalbuminemia (albumin 1.36 g/dL) - Electrolyte imbalances (hypokalemia, hypocalcemia, hypomagnesemia) - Elevated Troponin-I (9.29 ng/mL) - Echocardiography revealed dilated cardiomyopathy

with biventricular dysfunction and moderate to severe mitral regurgitation. Treatment and Outcome: - Treatment with pancreatic enzyme supplements and a strict gluten-free diet led to significant improvement in clinical and laboratory outcomes. - Resolution of diarrhea and vomiting - Improvement in growth and weight gain - Normalization of liver enzymes and electrolyte levels - Improvement in echocardiography findings (ejection fraction increased to 55%) Conclusion: - This case report highlights the importance of considering rare coexisting conditions in patients with celiac disease who display atypical symptoms. - Prompt recognition and treatment of exocrine pancreatic insufficiency and dilated cardiomyopathy are crucial to prevent complications and improve outcomes in patients with celiac disease.

**Conclusion/Recommendations:** Conclusion: This case highlights the significance of considering uncommon coexisting conditions in children with celiac disease who display atypical symptoms, this is crucial because it can result in life-threatening situations. Consequently, it is essential to promptly identify and treat conditions such as exocrine pancreatic insufficiency and dilated cardiomyopathy and screen these patients for celiac disease in order to enhance patient outcomes.

**Keywords:** Key words: Celiac disease; gluten free diet; pancreatic insufficiency; dilated cardiomyopathy; pancreatic enzyme supplements.

#### 4. Obstetrics and Gynaecology:

##### OGP-01: Audit Of Obstetric Referred Cases In Tertiary Care Hospital Of Peshawar

Dr. Maimoona Qadir

**Objective/Hypothesis:** The aim of study was to find out the characteristics of obstetric referrals and their causes.

**Materials and Methods:** This prospective observational study was conducted in Gynae B unit, Khyber Teaching Hospital, Peshawar from 1st January 2021 to 31st December 2021. All obstetric cases referred to this hospital during the study period were included. Detailed clinical history including the age, parity, period of gestation if antenatal, place of referral were recorded. Thorough general physical and obstetrical examination was performed and required investigations sent. Management of patient whether delivered vaginally or by caesarean section, or put on conservative management was documented. Data analysis was done using SPSS 22.0.

**Results:** Total obstetric admissions during the study period were 5242, and total referrals for obstetric indications were 1678, which makes it 32% of all obstetric admissions. 1241 (74%) of cases fall in the age group of 20-30 years, whereas 234 (14%) were less than 20 years of age and 201 (12%) were more than 30 years. 588 (35%) of patients were primigravidas, 453 (27%) were multi and 335 (20%) were grandmultigravidas. 56% of the patients presented in the antenatal period, whereas 604 (36%) arrived in intrapartum and 302 (18%) in postpartum period. Mode of transport used by the referred patients was ambulance in 369 (22%) and private vehicles in 1308 (78%) cases. Haemorrhagic (28%) and hypertensive disorders (18%) were the commonest reasons for obstetric referrals.

**Conclusion/Recommendations:** It is determined that a variety of intricate obstetric cases are sent to our tertiary care facility. Aside from several additional factors, the most frequent reasons of obstetric referrals are hemorrhagic illnesses, hypertensive disorders, anemia, lack of access to OTs, obstetricians, and blood, as well as prior cesarean sections.

**Keywords:** Haemorrhagic Disorders, Hypertensive Disorders, Anemia, Caesarean Section, Eclampsia, Obstructed Labor.



## **OGP-02: Effectiveness of Intracervical Foley's Catheter with PGE2 Versus PGE2 Alone for Induction of Labour at Term Pregnancy**

Dr Romana Bibi

**Objective/Hypothesis:** To compare the effectiveness of intracervical foley catheter with prostaglandin E2(PGE2) and PGE2 alone in

**Materials and Methods:** This Comparative cross-sectional study was conducted in the Department of Obstetrics and Gynaecology, Khyber Teaching Hospital Peshawar, and Combined Military Hospital, Peshawar from January to December 2021. It included 388 pregnant women with singleton, term, cephalic presentation, admitted for induction of labor. The patients were divided into two groups, with one group (group A) comprising patients undergoing induction of labor with a foley catheter and prostaglandinE2 combined, whereas Group B consisted of patients having ProstaglandinE2 tablet only, as the mode of induction. The primary outcome was the mode of delivery, whereas secondary outcomes were induction to delivery interval and neonatal Apgar score.

**Results:** In Group A, 176 (90.7%) patients showed effective results in achieving vaginal while in Group B, 172 (88.7%) patients delivered vaginally (P-value 0.504). Mean induction to delivery interval was 12.5+2.7 hours in group A and 13.6 + 3.7 hours in Group B. (Mean difference 1.1 hr, p-value:0.04, CI :0.9-1.9). There was no significant difference in neonatal Apgar score in the two groups(p-value: 0.816).

**Conclusion/Recommendations:** This study demonstrated that intracervical foley catheter with PGE2 application resulted in a significantly

**Keywords:** Term Pregnancy, Induction of Labour, intracervical Foley's Catheter, PGE2.

## 5. Basic Sciences:

### **BSP-01: Glycine Mitigates lipopolysaccharide induced Neurotoxicity via Inhibition of TLR-4 Signaling Pathway in in developing mice brain**

Dr Amin Jan

**Objective/Hypothesis:** To investigate the potential use of glycine inhibition of TLR-4 receptor to reduce LPS induced neurodegeneration in the developing brain of post-natal day 7 mice.

**Materials and Methods:** A total of 12 PND-7 mice were included in this experimental study from Feb. 2023 to May 2023 at NMMRC, Peshawar. PND-7 mice were randomly distributed into four groups, a control group, a LPS group, LPS+Gly group and Gly group. LPS (250 $\mu$ g/kg) was administered to LPS group. Glycine (1g/kg) was injected after LPS administration to LPS+Gly group and Gly group mice. After 4hr of the drug treatment, all the PND-7 mice were sacrificed for Western blot analysis. ImageJ software was used for the densitometry of the blots. One way ANOVA and post-hoc tukey tests through Prism graph-5 were applied for statistical analysis. P-value $\leq$ 0.05 was considered statistically significant.

**Results:** Significant differences were observed in the assessed markers in of PND 7 mice brains. Post hoc tukey test revealed significant changes ( $p < 0.01$ ) in the TLR-4 along with BAX, Casp-3, PARP-1 and Bcl-2 levels in LPS group. However, significant decrease was observed in TLR-4 levels along with successful amelioration of BAX, Bcl-2, Casp-3 and PARP-1 level in LPS + Gly group as compared to LPS group.

**Conclusion/Recommendations:** Glycine administration significantly improved LPS induced neurodegeneration in brain of the PND-7 mice.

**Keywords:** Lipopolysaccharide; Glycine; Neurodegeneration; TLR-4 signaling pathway; Caspase-3; PARP-1; Apoptosis.

**BSP-02: Anatomical Variation in Sphenoidal Sinus in Adults: An anatomical review**

Dr Sana Saleem

**Objective/Hypothesis:** This study is aimed at finding the pneumatization of the sphenoid sinus and its correlation with the adjacent important structures.

**Materials and Methods:** Five articles were selected and shortlisted from Google Scholar and PubMed in relation to the chosen topic on sphenoid sinus to write up the critical appraisal. These articles were available in full text, English language, published in international journals in past 5 years relevant data related to sphenoid sinus was filtered and selected.

**Results:** The development of the sphenoid sinus is important regarding brain tumour surgeries especially of pituitary tumours when performed via the endoscopic approach. The sellar was the most common variety overall, while conchal being the least common.

**Conclusion/Recommendations:** Anatomical variation of the sphenoid sinus is significant in populations from various regions and pre-operative CT scan aids in identifying the various anatomical variation and preventing complications during transsphenoidal surgery.

**Keywords:** Anatomical Variation, Sphenoid Sinus, CT scan.

### **BSP-03: Insight into use and safety of mosquito repellents; an online survey**

Dr Qurat ul Ain

**Objective/Hypothesis:** To determine the public attitude regarding safe use of mosquito repellents and their knowledge about commercial and natural mosquito repellents as well as their side effects.

**Materials and Methods:** An online survey was conducted using a twelve questions questionnaire created on google forms. Public awareness about mosquito repellents and their safe use and side-effects was assessed. The data was collected anonymously using social media platforms. The form was distributed using social media among individual. We got 278 responses for the questionnaire. The survey results were downloaded from google forms in the Excel spread sheet. Similar answers for each question were identified and grouped.

**Results:** The results showed that 86% of the respondents used commercial mosquito repellents while 61% of the participants did not have idea about natural mosquito repellents. 63% respondents were using commercial mosquito repellents in well-ventilated space and for 6-8 hours duration. 75% were females who suffer from any kind of side effects after use of mosquito repellents in which 58% were allergic reaction due to mosquito repellents while 61% of the respondents have headache following use of mosquito repellents.

**Conclusion/Recommendations:** It is concluded from this survey that mosquito repellents can cause some adverse effects in general public. Therefore, people should practice using these repellents in well-ventilated space up to 6-8 hours duration of time. Public health interventions are needed to minimize exposure to mosquito repellents and public awareness programs should be conducted.

**Keywords:** Mosquito repellents, toxicity, online survey, side-effects.

## **BSP-04: Knowledge And Attitude of the General Population Towards E-Cigarette Use in Khyber Pakhtunkhwa**

Mr Muhammad Haris Khan

**Objective/Hypothesis:** To find out the knowledge, attitude, and practices of e-cigarettes by the general population of Khyber Pakhtunkhwa and to compare the knowledge, attitude and practices with gender and level of schooling

**Materials and Methods:** A cross-sectional survey was carried out from October to December 2023 after getting ethical approval from the Institutional Research and Ethical Review Board (IREB) of Khyber Medical College, Peshawar. The sample size of our study was 385 which was determined using Cochran's formula. Using non-probability convenience sampling, we collected data from a total of 403 individuals. A pre-validated questionnaire from a study done in Karachi was adopted for our study which had 4 portions. The first portion dealt with demographics, the second with knowledge of using e-cigarettes, and the third and fourth with attitudes and practices around using e-cigarettes. The chi-square test was used to compare the knowledge, attitude, and practices of e-cigarette users with gender and level of schooling. To assess the socioeconomic status of the participants and ascertain the percentage of e-cigarette users in each socioeconomic class, we also utilized the Kuppuswamy scale, which has been authorized for use in Pakistan.

**Results:** Of those surveyed, the majority (n = 340, 84.4%) knew what e-cigarettes were. Although most respondents (n=228,56.6) knew about the various compounds and ingredients in e-cigarettes, they had little idea about the different amounts of nicotine in them. The vast majority of participants (n=216,53.6%) expressed that they "definitely will not" try e-cigarettes, even if a close friend were to ask them to, and they didn't believe they would even if their guardian approved. Most participants (n=379,94%) would not recommend or encourage the usage of e-cigarettes. Only 38 people (9.4%) in our study acknowledged using e-cigarettes. The association between the knowledge, attitude, and practices of e-cigarettes with gender and level of education are given in Tables 1 and 2 respectively.

**Conclusion/Recommendations:** The purpose of this study was to find out what the general people knew and thought about using e-cigarettes. Our results demonstrate that most people do not have enough knowledge about electronic cigarettes, as seen by their rejection of their use. It was also observed that the views of men and women towards e-cigarettes were similar. However, the majority of e-cigarette users these days are men because it is socially unacceptable for women to smoke in Pakistan. The majority of e-cigarette users in our study were young individuals and those from higher socioeconomic backgrounds, likely as a result of their greater exposure to e-cigarette marketing.

**Keywords:** Attitude, Electronic Cigarettes, e-Cigarettes, Khyber Pakhtunkhwa, KPK, Knowledge, Nicotine, Pakistan, Practices, Public Health, Vapes.

**BSP-05: Assessment of Causative Factors of Patent Ductus Arteriosus in Premature Infants: A Cross-Sectional Study in KPK**

Dr Haseeba Mukhtar

**Objective/Hypothesis:** To evaluate the impact of prematurity and low birth weight on the occurrence of PDA in children. To assess the association between maternal illnesses and the development of PDA in children.

**Materials and Methods:** This descriptive cross-sectional study was conducted using medical records of infants diagnosed with Patent Ductus Arteriosus (PDA) from Peshawar Institute of Cardiology (PIC) and Lady Reading Hospital (LRH) in Peshawar. The study sample comprised premature infants (born in <37 weeks of pregnancy), diagnosed with PDA after birth between January 2020 and December 2023. Data were collected from hospital records using a standardized research proforma, which included variables such as patient age, gender, family history, term of pregnancy, mode of delivery, maternal health conditions, and maternal drug use during pregnancy. The proforma was distributed to various hospitals, and co-investigators collected the data in person from both institutes. These hospitals provided the necessary data from their already recorded patient databases. Descriptive statistics, including frequencies and percentages, were used to summarize and describe the demographic characteristics of the sample and quantitative data. To identify the most frequent causes of PDA and determine the association between different variables, data were analyzed using the Chi-square test. This statistical method assessed the relationships between categorical variables, including gender, birth weight, gestational age, maternal health conditions, and mode of delivery. A p-value of less than 0.05 was considered statistically significant, indicating a meaningful association between the variables and the occurrence of PDA.

**Results:** The results showed that 34.9% of the infants were male and 65.1% were female, with a higher prevalence of PDA observed in females. Prematurity was a significant factor, as 81.3% of the infants were born prematurely, with a strong association between lower gestational age and a higher incidence of PDA. Infants with birth weights under 500 grams were at a notably higher risk for PDA, reflecting the vulnerability of very low birth weight infants due to their underdeveloped cardiovascular systems. Maternal illnesses, including gestational diabetes and rubella infections, were identified as significant risk factors for PDA, likely due to their impact on overall fetal health and development.

**Conclusion/Recommendations:** Our study identified several key risk factors for Patent Ductus Arteriosus (PDA) in infants, including prematurity, low birth weight, and low gestational age, with preterm infants being particularly vulnerable. Maternal factors such as living at high altitudes, infections (notably rubella), and family history also contribute to increased PDA risk. Additionally, elective C-sections without labor are linked to higher PDA prevalence due to the absence of natural physiological preparation for birth. It is thus recommended to enhance prenatal care for high-risk pregnancies, particularly those with complications like hypertension or infections. Targeted screening for PDA should be performed for premature infants and those with low birth weight, especially those born before 32 weeks or with a family history of PDA. Maternal education on prenatal care, vaccinations, and health check-ups is also important. Furthermore, healthcare providers should carefully

consider the mode of delivery, avoiding elective C-sections when possible to support natural labor processes. Further research is needed to explore genetic and environmental factors influencing PDA to develop more effective prevention and treatment strategies.

**Keywords:** Patent Ductus Arteriosus (PDA), Premature Infants, Low Birth Weight, Bronchopulmonary Dysplasia (BPD), Risk Factors for PDA.

**BSP-06: Exploring the prevalence of Acne Vulgaris and its association with Academic Stress in undergraduate medical students of Peshawar**

Dr Nadia Qazi

**Objective/Hypothesis:** To determine the prevalence of acne vulgaris and its association with stress levels among undergraduate medical students

**Materials and Methods:** This was a cross-sectional study conducted on undergraduate medical students of NWSM, KMC, RMC, and PIMS. A non-probability sampling technique was used with a sample size of 384. This study used the global acne grading system (GAGS) to assess acne severity of stress using the Perceived Stress Scale (PSS). The questionnaire also included some confounding factors involved in acne severity. Data was evaluated by using SPSS 27.0 version software.

**Results:** A total of 384 students were included in this study. Most participants were females (59%) while 41% included males. The majority of the participants (78%) have stress at a moderate level, 11% have stress at a low level and 11% at a high level. Out of 384 students, 261 have some inflammatory lesion, which shows that the prevalence of acne is 68%.

**Conclusion/Recommendations:** A statistically significant association (0.023) was found between the prevalence of acne and academic stress

**Keywords:** Acne Vulgaris, Academic Stress, Prevalence, Undergraduate Medical Students.



**BSP-07: Frequency of Aberrencies in Adolescent and Young Adult Precursor B -Cell Acute Lymphoblastic Leukemia and its Correlation with Cytogenetic Abnormalities**

Dr Munawwar Ali Shah

**Objective/Hypothesis:** To Determine the Frequency of Aberrencies in Adolescent and Young Adult Precursor B -Cell Acute Lymphoblastic Leukemia patients and its Correlation with Cytogenetic Abnormalities

**Materials and Methods:** In the present study clinical data of 123 consecutive AYA pre-B-ALL patients, 18-39 years old, enrolled and treated in adult hematology-oncology unit from December 2014 to April 2019 was analyzed.

**Results:** Overall 26% of patients showed aberrant expression of myeloid or T- cell lymphoid antigens. As a whole genetic abnormalities were found in 52.8% of patients. When we analyzed genetic abnormalities in patients with aberrant expression, this was in 53%. Most frequent aberrant expression was of CD33 making 46.9% of total, followed by CD7(15.6%), CD13(9.4%), CD2(9.4%), CD5(3.1%), CD11b(3.1%), CD117(3.1%) respectively. Double aberrant expression was present in (CD33 and CD7)6.2% and (CD33 and CD13)3.1% of patients.

**Conclusion/Recommendations:** Most common aberrant expression in AYA Pre-B ALL is CD33 followed by CD7. There is no significant difference in genetic abnormalities between the patients with or without aberrant expression.

**Keywords:** Aberrant expression, genetic abnormalities, CD33 and CD7, adolescent and young adults, precursor b cell acute lymphoblastic leukemia.

## **BSP-8: Exploring Local Community And Health Managers Perspectives Regarding Determinants For Poor Maternal Health In Kyberpakhtunkhwa: A Mixed Methods Approach**

Waqar Ahmad Tahir, Wahab Zia, Muhammad Saad Waqas

**INTRODUCTION:** The basic indicators to judge any country's quality of life and socioeconomic situation are its mother and child mortality rates. Reference to life expectancy, maternal and child mortality status: the Pakistan's figures are somewhat discouraging as compared to other regional countries.

**AIMS AND OBJECTIVES:** This study aims to discover the reasons for the failure to meet SDG target by interviewing the local population and health managers regarding poor maternal health.

**METHODOLOGY:** A mixed methods approach was used. Using Semi-structured questionnaire, the quantitative data was collected from 324 ladies visiting primary health care facilities in rural areas of Peshawar. The qualitative data was collected by interviewing 12 health managers from DGHS office and Health Secretariat. The data was analysed via SPSS version 22 and interviews were analysed via manual thematic analysis. The study was conducted from April 2023 till Oct 2023.

**RESULTS:** The response rate of the local community was 73%. Out of the total 281 participants, 29.54% of participants had a positive history of miscarriage/abortion. Statistically significant associations was found between Gravidity and history of miscarriage/abortion and between education and antenatal consultations. The health managers highlighted issues pertaining to stewardship role, HR, Finances, Health Infrastructure, Logistics supply and Health information system.

**CONCLUSION:** Target 3.1 set by SDG is to reduce the global maternal mortality ratio to less than 70 per 100,000 live births by 2030. The MMR in Pakistan was 186 per 100,000 live births in 2019 which is still very high.

**Keywords:** Maternal health, Health services accessibility, Maternal mortality

## 6. Students Research:

### STP-01: Imposter Syndrome Among Medical Students Of KPK

Ahmad Mustafa Khalid

**Objective/Hypothesis:** The main objective of this research is to evaluate the prevalence of imposter syndrome among medical students, to recognize the factors contributing to imposter syndrome and to assess the impact of imposter syndrome on the mental wellbeing of medical students

**Materials and Methods:** This cross sectional study was conducted from March, 10th 2023 to May, 23rd 2024. Data was collected from Medical Students of KPK Medical Colleges using convenient non-probability sampling technique through an online questionnaire and analyzed through SPSS. Data was analyzed both descriptively and statistically. A sample of 353 was calculated using Rao Soft calculator with Confidence level of 95% with margin of error 5% and response rate of 50%. An online questionnaire was formed having two portions. One portion consists of sociodemographic data, having variables (sex, type of student, type of college and residence) and other portion consists of questions related to imposter syndrome. The variables were categorical nominal. For Inferential statistics Chi square test was used for association between sociodemographic and research variables. The results having p value less than 0.05 were considered significant.

**Results:** The prevalence of imposter syndrome was assessed using Clance Imposter Phenomenon Scale (CIPS). A score of 40 or less was considered indicative of few imposter characteristics; if the score is between 41 and 60, the respondent has moderate IP experiences; a score between 61 and 80 means the respondent frequently has impostor feelings; and a score higher than 80 means the respondent often has intense IP experiences. In our sample population 18 students had few imposter characteristics (5.1%), 165 students with moderate Imposter characteristics (47.1%), 28 with frequent imposter characteristics (8%) and 139 (39.7%) students indicating intense Imposter characteristics. Chi-square tests were conducted to examine the associations between Socio-demographic variables and the prevalence of imposter syndrome where it was found that there exists statistically significant association between imposter syndrome and demographic variables except residence

**Conclusion/Recommendations:** Imposter Syndrome study among medical students in Khyber Pakhtunkhwa (KPK) reveals a prevalent issue where greater proportion of students exhibits moderate imposter characteristics followed by intense and fewer imposter characteristics.

**Keywords:** Imposter Syndrome, Medical Students, prevalent Factor.

## **STP-02: Medical Students Mental Health in Digital Age Facts: Fears and Future Challenges**

Ahmad Saeed

**Objective/Hypothesis:** To investigate the impact of digital technology on the mental health of medical students, examining both the potential benefits and drawbacks, and to identify effective strategies for promoting mental well-being in the digital age

**Materials and Methods:** This cross-sectional study took place between May to August. Data was collected through Questionnaire which was distributed among medical students of different medical colleges of KPK ,Students from all academic years were included in the study provided that they participated in the study. A Total of 272 responses were received and Data was analyzed using SPSS v.25

**Results:** A Total of 272 responses were collected where 141(51.5%) male and 131(48.5%) were female. The majority of participants were in their 20s ranging from 20 to 29 years of age (81.7%). Approximately 70% of medical students experience heightened levels of stress, anxiety, or depression due to factors exacerbated by the digital age. Over 80% of medical students report feeling pressured by social media, contributing to feelings of inadequacy and comparison. Nearly 60% of medical students express concerns about keeping up with rapidly advancing healthcare technologies, leading to heightened stress level. Around 75% of medical students anticipate increased mental health challenges in the future.

**Conclusion/Recommendations:** In conclusion, medical students face heightened mental health challenges in the digital age, influenced by academic demands and social media pressures. Addressing these requires proactive mental health support, promoting healthy digital habits, and preparing students for evolving healthcare technologies.

**Keywords:** Mental Health, Digital Age, Social media.

### **STP-03: Bone Density Unveiled: Investigating the Effects of Beta-Thalassemia Major on Growing Children and Adolescents**

Arfa Khan

**Objective/Hypothesis:** To evaluate the Bone mineral density (BMD) of pediatric beta-thalassemia patients using dual-energy X-ray absorptiometry (DXA) scans.

**Materials and Methods:** : This cross-sectional study included 281 Beta Thalassemia Major patients, aged 2-18 years, who were referred to the Hematology Clinic at Peshawar General Hospital from January - August 2024. BMD was assessed using a DEXA scanner at the lumbar spine (L1-L4), proximal femur, and distal radius. Z-scores were calculated. Data were statistically analyzed using SPSS V25.0, keeping  $p \leq 0.05$  as significant.

**Results:** The study included 176 males and 105 females with a mean age of 6.92 years. The average bone mineral density (BMD) was 0.585 g/cm<sup>2</sup> for the proximal femur, 0.528 g/cm<sup>2</sup> for the lumbar spine, and 0.349 g/cm<sup>2</sup> for the distal radius. Corresponding Z-scores were -0.41 for the proximal femur, -0.48 for the lumbar spine, and -2.99 for the distal radius. The prevalence of low bone mass was 18.9% at the proximal femur, 16.4% at the lumbar spine, and 62.3% at the distal radius. Significant negative correlations were found between age and Z-scores at both the proximal femur ( $r = -0.267$ ,  $p < 0.001$ ) and distal radius ( $r = -0.192$ ,  $p = 0.034$ ). Additionally, males exhibited higher BMD and Z-scores at the proximal femur compared to females, with a proximal femur Z-score of -0.19 versus -0.75 ( $p = 0.037$ ).

**Conclusion/Recommendations:** This study highlights significant reductions in bone density, particularly at the distal radius, in pediatric beta thalassemia major patients. The negative correlation between age and bone density underscores the importance of early and continuous bone health monitoring in these patients.

**Keywords:** Beta-thalassemia, Bone mineral density, Osteoporosis, Dexa Scan.

## **STP-04: Assessing Postgraduate Educational Environment Perception: A Cross-Sectional Study Of Residents Of Khyber Teaching Hospital Utilizing Postgraduate Hospital Educational Environment Measure Criteria**

Armaghan Gul

**Objective/Hypothesis:** This study aimed to assess the perception of role autonomy, teaching, and social support among residents of Khyber Teaching Hospital (KTH), Peshawar, utilizing PHEEM criteria. It also aimed to identify the strengths and weaknesses of the postgraduate educational environment at KTH and determine the association between residents' perceptions and various demographic features.

**Materials and Methods:** A cross-sectional study was conducted from February to June 2024, involving 117 residents of KTH. Participants completed a Likert scale-based 40-item PHEEM questionnaire, with a maximum score of 160. The questionnaire includes subscales for role autonomy (maximum score 56), teaching (maximum score 60), and social support (maximum score 44). Data were analyzed using SPSS version 26. Mean scores were calculated, and the Chi-square test determined associations between perceptions and demographic features. A p-value of <0.05 was considered significant.

**Results:** The mean scores for perception of role autonomy, teaching, and social support were 33.42, 38.81, and 24.58, respectively, with an overall mean PHEEM score of 96.83. This indicates a generally positive perception of the educational environment, though areas for improvement were noted. Key weaknesses included insufficient information on work hours, lack of an informative junior doctor's handbook, excessive workload, poor on-call accommodation, a blame culture, and inadequate catering facilities. Strengths included opportunities for continuity of care, appropriate levels of responsibility, and a sense of teamwork. Significant associations were found between role autonomy and gender ( $p=0.031$ ) and between social support and age ( $p=0.08$ ).

**Conclusion/Recommendations:** Postgraduate trainees at KTH generally perceived their educational environment positively. Areas needing improvement were identified, suggesting targeted interventions to enhance the postgraduate educational experience

**Keywords:** Postgraduate hospital educational environment measure (PHEEM), Residents, Perception.



**STP-5: Beyond the convention: Urogenital Manifestation of complex partial seizure**

Javeria Khan

**INTRODUCTION:** Epilepsy is a neurological condition characterized by recurrent seizures, altered consciousness level, perceptual symptoms and psychomotor signs such as automatism, grimacing, repetitive and some complex stereotype behaviours(1) Urogenital manifestations including fondling with genitalia and scratching them are a rare phenomenon which were found in a 6 years old boy suffering from complex partial seizures.

**CASE PRESENTATION:** A 6 years old boy who had delayed milestones and a history of fits when he was 15 days, presented to us, the parents complaining about unusual behaviour like suddenly scratching his genitalia with profuse sweating, lip smacking, followed by unresponsive spells. During this if his parents would ask him questions he wouldn't respond to them and his genitalia would become red and swollen. These episodes lasted for 4-5 mins then he would fall asleep. His mother has used sodium valproate during pregnancy and has thrown him several times when he was an infant, his father was a drug addict and his grandparents were the primary care givers. MRI brain shows generalized epileptiform discharges showing poly spikes- wave complex.

**DISCUSSION:** Complex partial seizures affect approximately 6.5% of epilepsy patients and they experience purposeless movements and oral and genital mutilations(3) The child's history of fits during fever, and mother's use of sodium valproate during pregnancy and child's scratching of genitals and profuse sweating all lead to diagnosis of epilepsy (4) 3. Psychiatrists Kaufman ' S Clinical Neurology for. 4. Roffman JL, Stern TA. A Complex Presentation of Complex Partial Seizures.

**CONCLUSION:** This case report highlights the phenomenon of urogenital manifestations of complex partial seizures i.e. presentation of genital automatisms. The case emphasized the need for comprehensive evaluation of the child's presentation because early management can improve the quality of life for such children.



## STP-6: Efficacy and Safety of Fexuprazan vs Esomeprazole in Erosive Esophagitis: A Systematic Review and Meta-Analysis

Fatima Sajjad

**Objective/Hypothesis:** The objective was to compare fexuprazan vs Esomeprazole for Erosive Esophagitis healing at 4 and 8 weeks.

**Materials and Methods:** Methods: A comprehensive search was conducted in PubMed, Cochrane CENTRAL, and Ovid databases up to July 22, 2024, using MeSH terms for erosive esophagitis, fexuprazan, and esomeprazole. Randomized controlled trials (RCTs) comparing fexuprazan to esomeprazole were included. Study quality was assessed with the Cochrane Risk of Bias Tool. Data on healing rates at 4 and 8 weeks, adverse events (AEs), and treatment-emergent adverse events (TEAEs) were extracted and analyzed. Risk ratios (RRs) with 95% confidence intervals (CIs) were calculated using a random-effects model.

**Results:** Results: The meta-analysis included three RCTs with a total of 826 patients (mean age 53-55 years; 45-55% male). At 4 weeks, no significant difference was observed in healing rates between fexuprazan and esomeprazole (RR 1.02, 95% CI 0.97–1.09), with low heterogeneity ( $I^2 = 0\%$ ). At 8 weeks, healing rates were also similar (RR 1.00, 95% CI 0.98–1.02), with no significant heterogeneity ( $I^2 = 0\%$ ). For adverse events, the pooled RR was 0.99 (95% CI 0.82–1.18), and for TEAEs, the pooled RR was 1.14 (95% CI 0.57–2.27), with low heterogeneity observed in both cases ( $I^2 = 0\%$ ).

**Conclusion/Recommendations:** Conclusion: Fexuprazan demonstrates comparable efficacy to esomeprazole in the treatment of erosive esophagitis at both 4 and 8 weeks, with similar safety profiles. These findings endorse fexuprazan as a viable alternative to esomeprazole for managing erosive esophagitis.

**Keywords:** Erosive Esophagitis, Fexuprazan, Esomeprazole, Proton Pump Inhibitors, Meta-analysis, Healing Rates, Adverse Events.

## **STP-7: Vagal Nerve Stimulation for the Management of Long COVID Symptoms**

Fatma Afridi

**Objective/Hypothesis:** Objective: To evaluate the efficacy of Vagal Nerve Stimulation (VNS) as a therapeutic intervention for alleviating long COVID symptoms.

**Materials and Methods:** Literature searches across PubMed, Embase, and Web of Science were conducted to assess VNS efficacy in alleviating long COVID symptoms.

**Results:** Dysfunction of the vagus nerve or brainstem is a potential neurological factor contributing to cognitive impairments associated with long COVID, and impaired vagal activity has been observed in individuals suffering from long COVID. The use of VNS to modulate cholinergic anti-inflammatory pathways in the treatment of inflammatory diseases and sepsis suggests that VNS could be a promising therapeutic option for managing the inflammatory processes associated with COVID-19 infection.

**Conclusion/Recommendations:** Conclusion: The invasion of the vagus nerve by COVID-19 infection causes an imbalance between the sympathetic and parasympathetic systems. VNS help alleviate the symptoms of long COVID by the inhibition of airway constriction via parasympathetic-sympathetic reflex arc, the activation of cholinergic anti-inflammatory pathways to regulate the immune response to COVID-19, reduction of systemic inflammation, cerebral blood flow enhancement, and restoring normal autonomic function. Further research is imperative to validate the use of VNS in managing long COVID symptoms.

**Keywords:** Long COVID; COVID-19; Invasive Vagal Nerve Stimulation; Non-invasive Vagal Nerve Stimulation; transcutaneous auricular VNS; transcutaneous cervical VNS.

## **STP-8: Exploring the Interplay between Anxiety and Academic Procrastination: An Institution-Based Cross-Sectional Study from Pakistan**

Hamna Noor

**Objective/Hypothesis:** The main purpose of this study was to examine how anxiety and procrastination interact among medical students, particularly focusing on their reciprocal influence.

**Materials and Methods:** This descriptive cross-sectional study included 311 MBBS students from Khyber Medical College (KMC), Peshawar, recruited through simple convenient sampling. Data were collected using a standardized, self-administered questionnaire. Procrastination was assessed with the Irrational Procrastination Scale (IPS) and anxiety with the Generalized Anxiety Disorder 7-item (GAD-7) scale. Data analysis was conducted using SPSS version 27, with Chi-square tests, Pearson correlation, and linear regression to explore the relationships between procrastination, anxiety, and their subcategories. Statistical significance was set at  $p < 0.05$ .

**Results:** A total of 311 medical students participated in the study. Pearson correlation revealed a significant, low positive correlation between anxiety and procrastination ( $r = 0.346$ ,  $p < .001$ ). Subcategories within the Irrational Procrastination Scale showed correlations with anxiety from negligible to high. Chi-square analysis found a significant association of anxiety with procrastination ( $p < 0.001$ ), as well as gender ( $p < 0.038$ ), but no significant link of anxiety or procrastination with the year of study was observed. Linear regression showed that anxiety significantly predicted procrastination ( $B = 0.354$ ,  $p < 0.01$ ) and vice versa ( $B = 0.339$ ,  $p < 0.01$ ), explaining 12% of the variance.

**Conclusion/Recommendations:** This study found a weak yet significant positive correlation between anxiety and procrastination. It was concluded that the relationship could be bidirectional, where procrastination can both cause and result from anxiety. However, the cross-sectional design and reliance on self-reported data highlight the need for further longitudinal and experimental research to better understand these dynamics.

**Keywords:** Procrastination (D000075682) Anxiety (D001007), Students, Medical (D013337) Behavioral Symptoms (D001526) Stress, Psychological (D013315).

## **STP-9: Attitudes and perceived relevance of basic sciences during clinical years among undergraduate Medical students: A cross sectional survey**

Mishal Younis

**Objective/Hypothesis:** The main objective of this study is to assess the attitudes of medical students towards basic science courses taught to them in the preclinical years and the applicability of these courses to current clinical practice. It also aims to evaluate gender disparities in opting Basic sciences as a post graduate option and the effectiveness of problem-based learning in enhancing the integration of basic sciences knowledge into clinical scenarios.

**Materials and Methods:** A total of 135 questionnaires were distributed out of which 129 completely filled questionnaires were received back from the students. The questionnaire comprised a 14-item scale designed to gather information regarding students' attitudes and their perceptions of basic sciences as a general educational asset, the perceived importance of basic science education, the applicability of basic sciences within a clinical context, basic science with vast syllabus and suggestions to bridge the gap between theoretical classes and clinical training. All opinions are rated using a five point Likert scale, which ranges from “strongly disagree” to “strongly agree”. Data analysis is done on SPSS version 22.0 and chi square test was done on categorical variables.

**Results:** Out of 129 participating 4th year medical students, 72 (55.8%) were females and 57 (44.2%) were males. The responses demonstrate that 50.4% students agree that their knowledge of basic sciences is applicable in clinical rotations. However 44.2% of the students feel that they cannot recall previous knowledge during relevant clinical discussions and 40.3% face challenges in applying basic science concepts to real clinical cases. More than 53.5% of the students agree that a solid understanding of basic science is essential for comprehending clinical concepts, while 45.7% strongly disagree with the notion that a physician can effectively treat patients without knowledge of the underlying biological processes. To improve the relevance of basic sciences, 43% of medical students support the inclusion of PBL/CBL into their curriculums. Also there exists a significant gender disparity in the choice of Basic science as a post graduate option ( $p < 0.05$ ).

**Conclusion/Recommendations:** Our study highlights the positive attitudes of 4th year medical students towards basic medical sciences. The students were more in favor of improving their learning experience significantly through the integration of innovative teaching methods, such as Problem Based Learning and Case Based Learning and there exists a significant gender disparity towards inclination of students for opting basic sciences as post graduate option

**Keywords:** Basic Science , PBL , Attitudes and relevance

## **STP-10: Knowledge, Attitude And Practice among Healthcare Professionals Regarding Use of Personal Protective Equipments at Tertiary Care Hospitals in Peshawar**

Muhammad Adeel

**Objective/Hypothesis:** To assess knowledge, attitude and practice of healthcare professional regarding use of PPE.

**Materials and Methods:** Study Settings: 1. Northwest Teaching & General Hospital Peshawar 2. Hayatabad Medical Complex Peshawar Sampling Technique: Simple random sampling technique Sample Size: It was calculated using openepi software. It is free and open source software for epidemiologic statistics. It can be run from a web server or downloaded and run without a web connection. The sample size calculated was:  $n=260$  Study Duration: 6 months Inclusion Criteria: Doctors, House officers (HOs), Medical officers (MOs), training medical officers (TMOs), nurses at Emergency (ER)/casualty, operation theatre, intensive care unit (ICU), High dependency unit (HDU), Medicine ward, Paeds ward, NICU, Surgery, Oncology, gynecology and obstetrics in our study settings. Exclusion Criteria: Those who do not want to participate

**Results:** The mean knowledge score for doctors was 6.8 (SD=1.2) while for nurses it was 6.3 (SD=1.4). There was no significant association between the profession and the knowledge level of the participants ( $p=0.16$ ), and association between gender and knowledge was also non significant ( $p=0.08$ ). There was slight positive correlation between increasing years of practice and knowledge regarding PPE (Pearson correlation = 0.017) The mean attitude score for doctors was 35 while for nurses were almost similar (35.7). There was no significant association between the profession and attitude level of the participants. ( $p=0.49$ ) and association between gender and attitude was also non significant ( $p=0.56$ ). There was slight positive correlation between increasing years of practice and attitude (Pearson correlation = 0.035) The mean practice score for doctors was 7.4 while for nurses were almost similar (7.74). There was no significant association between the profession and practice level of the participants. ( $p=0.45$ ) and association between gender and practice was also non significant ( $p=0.82$ ). There was positive correlation with increasing years of practice and practice of PPE (Pearson correlation=0.147) and there was also significant association (0.018) between increasing years of practice and practice of PPE.

**Conclusion/Recommendations:** This study shows that healthcare professionals have good knowledge and positive attitude towards using PPE. Knowledge, attitude, and practice have a positive correlation with experience with increasing age. There are still gaps in the practice of PPE due to inconvenience after donning and most of the healthcare professionals think that donning and doffing are more hyped than they should be. Healthcare management institutions are suggested to arrange proper training seminars to help healthcare professionals protect themselves and their patients from infectious diseases.

**Keywords:** PPE=personal protective equipment IERB Institutional Ethical Review board.

## **STP-11: The Influence of Gender, Family Dental History, and Previous Dental Treatment experience on Dental Anxiety Levels in Undergraduate Students of KPK, Pakistan: A Correlational Study**

Muhammad Anas

**Objective/Hypothesis:** This study aims to investigate the influence of gender, family dental history, previous dental treatment experience, and dental anxiety levels among undergraduate students in KPK, Pakistan.

**Materials and Methods:** A cross-sectional survey was conducted among undergraduate students in KPK, Pakistan. Participants completed a self-reported questionnaire featuring the Modified Dental Anxiety Scale (MDAS), a validated tool for assessing dental anxiety. Data analysis was performed using SPSS with both descriptive and analytical statistics

**Results:** This study assessed dental anxiety among 214 participants (mean age:  $22.02 \pm 7.2$  years), including 127 males (59.3%) and 87 females (40.7%). The mean DAS score was  $15.73 \pm 4.48$  which is quit higher This study evaluated dental anxiety among 214 participants (mean age:  $22.02 \pm 7.2$  years), consisting of 127 males (59.3%) and 87 females (40.7%). The average DAS score was  $15.73 \pm 4.48$ , which is relatively high. Females exhibited significantly higher anxiety ( $P = 0.016$ ). Participants with prior dental treatment had significantly lower DAS scores ( $P = 0.046$ ). Family dental history showed no significant impact on DAS scores ( $P = 0.172$ ). The highest anxiety was related to "Local anaesthetic injection in gums," while "Going to the dentist tomorrow" elicited the lowest anxiety.

**Conclusion/Recommendations:** Dental anxiety is prevalent among undergraduate students in KPK, Pakistan, with females showing higher anxiety levels than males. Prior dental treatment is associated with lower anxiety, while family dental history has no significant impact. Targeted interventions are needed to reduce anxiety and improve dental care outcomes.

**Keywords:** Dental anxiety, Modified dental anxiety scale, Undergraduate students, Family dental history, Previous dental treatment experience.

## **STP-12: Assessing Cultural Competence And Factors Affecting Among Nurses In Tertiary Care Hospitals In Peshawar**

Muhammad Mehr Ali

**Objective/Hypothesis:** To evaluate the levels of cultural competence among nurses in Peshawar, Pakistan and to identify the factors that influence their cultural competence.

**Materials and Methods:** Data was gathered from a sample of 337 nurses across both private and government tertiary care hospitals, including Northwest General Hospital, Rehman Medical Institute, and Khyber Teaching Hospital in Peshawar, through structured questionnaire. Data were analyzed through descriptive statistics by using SPSS software version 26.

**Results:** The total sample of our study was 337 participants. Out of the total 337 participants included, 317 (94%) of the sample, showed high cultural competency, with score ranging from 76% to 100%. This percentage constituted an overwhelming majority of participants. Just two participants, or 1% of the sample, demonstrated low cultural competence, scoring between 1% and 50%. A smaller portion, consisting of 18 participants (5%) of the sample, demonstrated moderate cultural competence, with scores ranging from 51% to 75%. Factors which influence cultural competence was treating people from diverse cultural backgrounds, institution helps to develop cultural competence

**Conclusion/Recommendations:** Our study evaluated that nurses in tertiary care hospitals of Peshawar demonstrate high level of cultural competence and they are culturally aware.

**Keywords:** Cultural competence, nurses in Peshawar, tertiary care hospitals Peshawar, Peshawar.

### **STP-13: Assessing Smoking Habits, Attitudes, and Knowledge among Dental Students of Pakistan: A Survey Study**

Muhammad Usman Sultan

**Objective/Hypothesis:** This survey study aimed to assess the smoking habits, attitudes, and knowledge among dental students in Pakistan.

**Materials and Methods:** A cross-sectional study among Pakistani dental students used a self-administered questionnaire. A sample of 222 students from 25 institutes completed the survey, and data was analyzed using SPSS 27 to identify trends and patterns.

**Results:** A study of 222 dental students (mean age  $22.26 \pm 2.25$  years, 58.6% male) found that 15 (7%) were current smokers, with 60% having attempted to quit. Male students were more likely to smoke ( $p < 0.001$ ). Despite this, 96.8% recognized smoking's impact on oral health and 90.1% believed dental professionals should promote cessation. Encouragingly, 86.9% received education on smoking cessation and 64.4% felt confident advising patients on quitting. These findings suggest a positive attitude towards promoting smoking cessation, but a need for continued education to enhance confidence in providing advice. However, there was no statistical difference in smoking rates between preclinical and clinical dental students ( $p = 0.085$ ).

**Conclusion/Recommendations:** Dental students in Pakistan have a high smoking prevalence, but a positive attitude towards promoting smoking cessation. However, they need more education and training to effectively advise patients to quit smoking, emphasizing the need for strategies to promote smoking cessation in dental settings.

**Keywords:** Smoking habits, Dental students, Attitudes, Survey study, Oral health, Smoking cessation.



## STP-14: Health professionals' knowledge and attitude towards patient confidentiality and associated factors

Nawazish Ali

**Objective/Hypothesis:** This study aims to assess health professionals' knowledge, attitudes, and associated factors towards patients' confidentiality.

**Materials and Methods:** Institutional based cross-sectional study was conducted among doctors working in the Gomal medical college affiliated hospitals from April-June 2024. Stratified random sampling method was used with sample size 213, proportionate strata were made i.e AP and above, Tmos, Mos and Hos. By using SPSS version 23, Bi-variable and multivariable binary logistic regression analyses were done. Odds ratio with 95% confidence level and P value were calculated to ascertain the strength of association and to decide statistical significance.

**Results:** Among 213 participants, 71.4% had good knowledge of confidentiality. Most of doctors 175(82.2%) said that the patients' confidentiality should be maintained and governed by law. While 68.5% with adequate attitude towards patients' confidentiality. when asked about confidentiality breach, 124(58.2%) strongly agreed that it affect the patients in any way. AP and above post level with (AOR =1.86 CI= [0.30-11.56]) have good knowledge about patient confidentiality. For factors associated with doctors' attitude towards patient confidentiality, AP and above post level with (AOR=14.82, CI = [2.02-108.6]) have adequate attitude towards patients' confidentiality and was highly significant. Age between 25-35 years with (AOR=2.64, CI = [0.50-13.91]) were also significant. those having satisfactory knowledge with (AOR=0.264, CI=[0.134-0.521]) were highly significant for attitude.

**Conclusion/Recommendations:** this study revealed that participant have a limited knowledge, attitude towards patient confidentiality. Providing a continuing medical ethics training for health workers before joining the hospital and in between the working time could be recommended to enhance health professionals' knowledge and attitude towards patient confidentiality.

**Keywords:** knowledge, attitude, patient data privacy, healthcare professionals.

### **STP-15: Perception of medical students of Peshawar towards ChatGPT and artificial intelligence in learning anatomy**

Muhammad Azam

**Objective/Hypothesis:** To evaluate the attitude and perception of medical students of Peshawar towards the use of Artificial Intelligence and ChatGPT in learning anatomy.

**Materials and Methods:** A questionnaire was designed using Google Forms, and was sent out to students of 2nd professional year in medical colleges of Peshawar. It consisted of various questions targeting to assess the students' knowledge of AI and ChatGPT, and their attitudes towards Ai and ChatGPT in learning and teaching Anatomy.

**Results:** A total of 299 students participated in the survey with 168 female and 131 male students. 86% of students had basic information about advancing technologies while 62% considered themselves as tech-savvy. 62% believed that AI and ChatGPT could play a role in learning anatomy and 61% thought that ChatGPT might be used for self-assessment. 53% did not agree that AI could be a replacement of teachers and 75% students agreed that AI and ChatGPT might be misused by the students for completing their assignments.

**Conclusion/Recommendations:** It was concluded from our study that majority of the students are well aware of advancing technologies of AI and ChatGPT and it should be included in the medical education with proper guidance from the trained teachers.

**Keywords:** Artificial Intelligence, ChatGPT, Anatomy, assessment of students, Medical education.

**STP-16: Exploring Socio-demographic Factors Associated with the Prevention of Substance Use Relapse: A Multicenter Study of Rehabilitation Centers in Peshawar, Pakistan**

Saleel Ahmed

**Objective/Hypothesis:** To investigate the sociodemographic factors influencing abstinence among individuals with Substance Use Disorder (SUD) following rehabilitation therapy.

**Materials and Methods:** A cross-sectional study was conducted from April-July 2022 at three treatment centers of DOST Welfare Foundation, Peshawar on 94 male participants with SUD readmitted for relapse treatment. Interviews were conducted using a structured questionnaire. Data were analyzed using SPSS V25.0, for descriptive and comparative statistics keeping  $p \leq 0.05$  as significant.

**Results:** Commonly used drugs included cannabis (85.1%) and heroin (76.6%). Mean age of initiation was 16.8 (7.3) years, with 81.1% initiating between 10 and 20 years of age. Married individuals (44.7%) exhibited significantly longer abstinence periods ( $U = 734$ ,  $p = 0.006$ ), highlighting the role of marital support. Employed participants also showed extended abstinence ( $U = 244$ ,  $p = 0.012$ ), suggesting employment stability as protective. Surprisingly, heroin consumption was associated with longer abstinence ( $\chi^2(1) = 4.416$ ,  $p = 0.036$ ), warranting further exploration. Individuals who use Methamphetamine were younger ( $p = 0.01$ ). Family support emerged as a critical factor in maintaining abstinence, while peer pressure and "acting out" behaviors contributed to drug relapse.

**Conclusion/Recommendations:** Societal factors affecting prolonged abstinence from substance use should be considered major components in the rehabilitation of individuals with substance use disorder. Further identification of these factors may improve the effectiveness of relapse prevention strategies.

**Keywords:** Substance-related disorders, Drug rehabilitation center, abstinence, relapse, socioeconomic status, family history, addiction, Peshawar, Pakistan.

## STP-17: The Hidden Wildfire in Workplace- Investigating Burnout among Resident Physicians in Peshawar, Pakistan

Saleel Ahmed

**Objective/Hypothesis:** 1. To assess the prevalence of burnout among resident physicians working in tertiary care hospitals in Peshawar, Pakistan. 2. To compare levels of burnout among resident physicians in Public and Private sector tertiary care hospitals in Peshawar, Pakistan.

**Materials and Methods:** This cross-sectional study was conducted from 1st August to 30th October 2023 in four randomly selected Tertiary care hospitals in Peshawar district. The non-probability consecutive sampling method was employed to gather data from 200 resident doctors. The study integrated the Maslach Burnout Inventory - Human Services Survey (MBI-HSS), a comprehensive 22-item questionnaire measuring burnout across three domains: emotional exhaustion (EE), Depersonalization (DP) and Personal accomplishment (PA). Data was analyzed using SPSS version 25.0.

**Results:** The study reveals that 43.8% of residents demonstrated high Emotional Exhaustion, 46.1% had high Depersonalization, and 78.7% scored low in Personal Accomplishment. Among different specialties, gynecology residents scored higher in EE ( $30.22 \pm 12.35$ ) and lower in PA ( $25.22 \pm 8.34$ ), while surgery and allied residents reported elevated DP ( $10.92 \pm 4.97$ ). Medicine and Allied residents exhibited lower DP ( $8.83 \pm 4.45$ ) and higher PA ( $28.55 \pm 7.44$ ) scores. A positive correlation ( $r=0.16$ ,  $p=0.03$ ) emerged between EE and residency year. Significantly, DP associated with the type of employment, public sector residents scoring higher ( $p=0.02$ ), PA associated positively with private sector employment ( $p=0.04$ ) and male gender ( $p=0.01$ ).

**Conclusion/Recommendations:** This study highlights the variations in burn out among different medical specialties among public and private hospitals of Peshawar. The study results specify the need for specific interventions for resident doctors to cope up with burnout.

**Keywords:** Burnout, Resident doctors, Tertiary care hospital.

## **STP-18: Role Of Psychological Well-Being On Personality Of Undergraduate Medical And Dental Students Of Peshawar: Mediating Role Of Coping Strategies**

Sara Shuaib

**Objective/Hypothesis:** Investigate the effect of psychological wellbeing, its relationship to coping strategies and personality, also determine the mediating role of coping strategies on personality and psychological wellbeing.

**Materials and Methods:** Cross-sectional study was conducted from Oct 2023-February 2024 on 364 students of Peshawar. Participants completed questionnaires comprising of Brief Cope Inventory, Psychological Wellbeing and Big Five Personality Inventory. Data were analyzed using SPSS v.25.

**Results:** Among 364 participants, the mean age was  $21.79 \pm 1.81$  years. Majority were females (n=206, 56.6%), Pre-clinical years (n=237, 65.1%), private sector (n=321, 88.2%). Majority were 2nd born (n=98, 26.9%), more than 4 siblings (n=95, 26.1%), lives in nuclear family system (n=217, 59.6%) and belongs to middle socio-economic status (n=253, 69.5%). More than half reported Lower psychological wellbeing (n=203, 53.8%), extraversion (n=197, 54.1%), agreeableness traits (n=240, 65.9%). Majority of the students have weak psychological strength, health, have non-problem focused & emotional focused coping styles (n=246, 67.6%; n=310, 85.2%), that's why majority is having avoidant coping mechanism (n=218, 59.9%). Regression analysis suggested the dependent variable (BRIEF COPE) mediates the relationship between the independent variable (Psychological wellbeing) and outcome (p=0.000), except with Big Five personality traits (p<0.05). Significant correlation was found between psychological wellbeing with brief cope and big five inventory (p=0.000), except problem focused coping style and extraversion personality trait (p<0.05).

**Conclusion/Recommendations:** Study concluded lower psychological well-being, along with lower levels of extraversion and agreeableness traits among students

**Keywords:** Psychological well-being; Big Five Personality inventory; Brief Cope; Medical Students.

## **STP-19: Preventing Performance Dips at the Intersection of Nomophobia and Behavioral Regulation in Hospital Staff: An Experimental Study**

Shahira Suman

**Objective/Hypothesis:** Nomophobia-induced excessive and impulsive use of mobile phone affects performance of medical staff in hospitals.

**Materials and Methods:** Adopting quasi-experimental design, a sample of 159 individuals (from 6 hospitals) was tested under dissimilar conditions using a variety of experimental interventions. The data comprised 636 test performances and 5724 reactive responses on smartphones along with 642 video recordings as supplementary evidence.

**Results:** The analysis of data revealed five underlying mechanisms impacting performance of individuals: slow-down of cognitive processing, increased temptation for peripheral activities/side scrolling, widened lag between focus and refocus, depletion of short-term working memory, and reduced attention span. The strength of relationships between the mechanisms and intensity of Nomophobia significantly varied with the experimental interventions. Based on identified mechanisms, organizations were suggested certain regulatory measures to minimize negative effects of Nomophobia-induced impulsive mobile phone usage.

**Conclusion/Recommendations:** Nomophobia induces excessive use of mobile phones which propagates its effects by triggering transition of Type-1 (intuitive) cognitive process to Type-2 (reflective). The impact of Type-2 process is heavy on working-memory, cognitive processing, and attention span, therefore it affects the performance negatively. There are five main mechanisms through which performance is negatively influenced by Nomophobia: slow-down of cognitive processing; increased temptation for peripheral activities/side-scrolling; widened lag between focus and refocus; depletion of short-term working memory; and reduced attention span.

**Keywords:** Nomophobia, behavioral regulation, coping skills, dual processing, performance dips.

## **STP-20: Comparative analysis of hand hygiene knowledge, Attitudes and Practice among female medical non-medical students of Peshawar:A Cross-sectional Study**

Sobia Hina

**Objective/Hypothesis:** The study aimed to assess and compare the hand hygiene knowledge, attitudes, and practices of medical and non-medical students in Peshawar, Pakistan.

**Materials and Methods:** A cross-sectional study was conducted and data was collected from female medical and non-medical students of Peshawar by means of a validated questionnaire using convenience sampling and snowball sampling techniques. SPSS version 20 was used for data analysis.

**Results:** The overall level of knowledge, attitudes and practices of hand hygiene of both the groups was good. More medical students associated damaged skin, jewellery and artificial fingernails with germ colonization, believed in the adequacy of hand washing after environmental exposure, prioritized hand hygiene and consistently washed their hands after handling garbage and bowel movement. On the other hand, more non-medical students believed that hand washing cleans both hands and food, recognized the protective role of hand cream, washed hands only when visibly dirty and considered hand washing after coughing, sneezing or blowing the nose and drying hands after washing necessary.

**Conclusion/Recommendations:** This study highlights the differences in hand hygiene knowledge, attitudes, and practices between female medical and non-medical students in Peshawar, Pakistan. Medical students demonstrated superior knowledge and understanding of germ transmission, particularly concerning open wounds and the risks associated with wearing jewelry. In contrast, non-medical students, while generally aware of hand washing, exhibited gaps in knowledge and lacked adherence to essential practices like washing hands after sneezing. They also overestimated the protective role of hand creams despite limited evidence. The findings suggest a need for enhanced hand hygiene education, practical exercises, and role models to improve practices across both groups. Providing access to hygiene supplies and implementing continuous feedback could further refine these practices.

**Keywords:** Medical student, non-medical student, knowledge, attitude, practices.

**STP-21: Adolescent Enigma: Solid Pseudopapillary Pancreatic Tumor Case Study**

Saba Noor

**Materials and Methods:** NA

**Results:** Solid pseudopapillary pancreatic tumors (SPTs) are uncommon, low-grade malignant tumors mainly found in young women, with a female-to-male ratio of 9.8:1. First identified by Virginia Frantz in 1959, SPTs are well-encapsulated and often asymptomatic, frequently detected incidentally. They represent 0.9% to 2.7% of exocrine pancreatic tumors. Their exact origin is unclear, but they are thought to arise from pluripotent cells of the genital ridge. These tumors often feature CTNNB1 mutations, causing  $\beta$ -catenin buildup. Surgical resection is the primary treatment, with good outcomes even in recurrent or metastatic cases. Improved imaging has increased their diagnosis in recent years.

**Conclusion/Recommendations:** This case report details the unusual presentation and successful treatment of a pseudopapillary pancreatic tumor, highlighting the critical role of early detection and surgical intervention in achieving favorable outcomes. Although typically indolent, these rare tumors demand prompt management and a high level of clinical suspicion. The patient's positive response following surgery supports the effectiveness of aggressive surgical strategies in treating these neoplasms. Ongoing monitoring is essential to identify potential recurrences. This case adds valuable insight into the importance of multidisciplinary collaboration in managing rare pancreatic tumors and underscores the need for timely surgical approaches.

**Keywords:** Solid Pseudopapillary Pancreatic Tumor, Pancreatic Tumor, Cancer.



## **STP-22: The Battle Beyond Blood: Complications of Transfusion-Dependent Thalassemia in KP's Healthcare System: A Mixed Method Approach.**

Umama Malik

### **INTRODUCTION :**

Thalassemias are inherited blood disorders causing reduced hemoglobin synthesis, with alpha and beta types. In Pakistan, beta thalassemia is prevalent, affecting 5-7% of the population due to cousin marriages. Untreated thalassemia leads to complications like growth retardation and iron overload.

### **OBJECTIVES:**

1. To identify complications and management of complications .
2. To assess the current treatment regimen in patients with transfusion-dependent thalassemia.

### **MATERIALS AND METHODS:**

A mixed-methods approach was employed. Quantitative data from 86 patients in different health care settings in KP, Pakistan, was collected via a validated questionnaire and analyzed using SPSS Version 27. For qualitative data, 15 caregivers were interviewed using a narrative approach, with thematic analysis employed to explore their experiences and coping mechanisms.

### **RESULTS:**

The quantitative part of this study analyzed complications in patients receiving blood transfusions and iron chelation therapy. Among 13 splenectomized patients, over half experienced complications, mainly infections. Blood transfusion issues included extramedullary hematopoiesis, leg ulcers, fractures, splenomegaly, tachycardia, and fever. About 71% were on combined treatment with Deferasirox as the common chelator, and 28% reported gastrointestinal side effects. Calcium, hydroxyurea, and folic acid were common medications. Notably, 74% of patients were not on iron chelation therapy.

Qualitative analysis generated the following themes: Experience regarding blood transfusions, complications during and after transfusions and iron chelation, hygiene and screening of blood prior to transfusion, information sources of patients regarding thalassemia.

### **CONCLUSION :**

The study highlights that complications from blood transfusions and iron chelation therapy are common, with infections and various symptoms being significant issues. Qualitative findings focused on patient experiences, complications, blood screening, and information sources about thalassemia.

### **KEYWORDS:**

Complications, thalassemia, Iron chelation therapy, splenectomy.

**STP-23: To Evaluate the Effectiveness of MARLES and Touch Surgical Procedures in Comparison to Traditional Study Methods of Surgical Education through Primary and Secondary Outcomes at Major Tertiary Care Centers of Khyber Pakhtunkhwa**

Ahmad Kamal

**Objective/Hypothesis:** To evaluate the effectiveness of the Mobile Augmented Reality Learning Education System (MARLES) compared to traditional methods, assessing primary and secondary outcomes

**Study Design:** This Study Employs a Multi-Center Comparative Analytical study which follows a mixed method approach both qualitative and quantitative. Quantitative through the surgical skill acquisition score and qualitative through Surveys for secondary outcomes and interviews. It employed a stratified random sampling design

**Materials and Methods:** With around 416 participants (208 Males with mean age of 22.8 and 208 Females with mean age of 22.4 from four major tertiary care centers of Khyber-Pakhtunkhwa. Each hospital had 104 members divided into four groups, MARLES male, MARLES Female, TR male and TR female. Each group had 26 participants. (On a total there were 104 Males in MARLES and 104 Female in MARLES same for TR) Surgical skill score and secondary outcomes was evaluated using standardized questionnaires

**Results:** The results showed that MARLES groups demonstrated significantly higher surgical skill test scores, with an overall MARLES score of  $78.75 \pm 4.59$ , compared to the overall Traditional (TR) group score of  $55.22 \pm 5.37$ . Secondary outcomes, including confidence, stress, sleep, eye pain, dizziness, and headache, also showed significant improvements in MARLES groups. The overall MARLES group reported a confidence level of  $32.71 \pm 0.93$ , stress score of  $28.85 \pm 1.42$ , sleep index of  $22.04 \pm 1.29$ , eye pain score of  $11.39 \pm 0.86$ , dizziness score of  $6.04 \pm 0.74$ , and headache score of  $2.19 \pm 0.59$ . In contrast, the overall TR group reported lower scores across all secondary outcomes, with a confidence level of  $24.9 \pm 1.29$ , stress score of  $19.36 \pm 1.65$ , sleep index of  $17.51 \pm 1.56$ , eye pain score of  $7.33 \pm 1.04$ , dizziness score of  $9.63 \pm 1.29$ , and headache score of  $3.67 \pm 0.86$ .

**Conclusion/Recommendations:** The study found significant differences between MARLES and TR groups in all outcomes, including surgical skill test scores and secondary outcomes. These findings suggest that MARLES is a valuable tool for enhancing surgical training, resulting in improved surgical skills and reduced negative outcomes.

**Keywords:** Mobile Augmented Reality Education system (MARLES) , digital education system, Surgical study methods, Augmented Reality, Surgical Education System

## **STP-24: Effectiveness of Intramuscular Ketamine as an adjunct to standard care for reducing Emergence agitation in Nasal surgery Patients**

Ali Raza

**Objective/Hypothesis:** To examine the frequency and severity of anxiety attacks in patients having nasal surgery and to assess how well intraoperative ketamine and placebo reduced the incidence of EA.

**Materials and Methods:** This double blinded study was conducted at Bacha Khan Medical Complex in Swabi. Seventy patients undergoing nasal surgery were divided into two groups in a double-blind trial. Non-probability convenient sampling was used. One group received intramuscular ketamine, while the other group received saline. A standardized agitation scale measured the incidence and severity of postoperative agitation. The statistical software SPSS was used to conduct the analysis.

**Results:** Just 5% of patients in the ketamine group experienced EA, compared to 56.3% in the saline group ( $p \leq 0.001$ ). The risk of getting EA was 96.7% lower in those on ketamine. Also had much less discomfort following surgery ( $p < 0.001$ ). Additionally, they reported much less discomfort following surgery ( $p < 0.001$ ). There were no significant differences in postoperative nausea and vomiting across the groups.

**Conclusion/Recommendations:** After nasal operations, intramuscular ketamine administered after the procedure was quite successful in avoiding EA. Although total prevention of EA is difficult, risk factors can greatly lower the incidence of EA. Longer procedures, OSRP surgeries, and ASA II physical condition were the primary risk elements for EA.

**Keywords:** Ketamine, Postoperative Agitation, Nasal Surgery, Adjunct Therapy.

## **STP-25: Approach towards Artificial Intelligence in Medical and Dental education and clinical practice- Knowledge, attitude and practices of Undergraduate Medical and Dental students of Khyber Pakhtunkhwa, Pakistan**

Izaz Ahmad Khan

**Objective/Hypothesis:** This study aims to assess the level of knowledge, attitudes, and practices regarding AI among undergraduate medical and dental students in Khyber Pakhtunkhwa (KP), Pakistan. Additionally, it seeks to identify barriers that hinder the adoption of AI in their education and clinical practice.

**Materials and Methods:** Data were collected using a structured questionnaire covering demographics, knowledge, attitudes, practices, and perceived barriers to AI integration. Statistical analyses were performed using SPSS-25. The chi-square test is used to determine gender differences in knowledge, attitudes, and practices towards AI. For correlation between the mean score of knowledge, attitude, and practices components, Pearson correlation is computed. The internal consistency of the three composed latent variables (knowledge, attitude, and practice) was confirmed by computing Cronbach's alphas.

**Results:** Among 501 participants, the mean age was  $21.81 \pm 1.72$  years, with a nearly equal gender distribution. Approximately 79% were medical students, 21% were dental students. Almost 58.7% were from private colleges. The study revealed that around half of the participants, 46.5% had low knowledge levels, 39.52% had moderate knowledge, and only 15.96% had high knowledge of AI. Attitudes towards AI were generally positive, with more than half of the students, 61.27% expressing a positive attitude and 7.58% a very positive attitude. However, practices related to AI were limited, with 51.09% showing low engagement, 40.11% moderate, and only 8.78% high engagement. The primary barriers identified were a lack of knowledge and expertise (71.66%), lack of access to technical equipment (69.66%), and insufficient teaching centers and hands-on applications (53.89%).

**Conclusion/Recommendations:** The findings indicate a substantial gap in knowledge and practical application of AI among undergraduate medical and dental students in KP, despite positive attitudes towards its integration in healthcare. Addressing the identified barriers through targeted educational programs and improved access to AI resources could enhance the readiness of future healthcare professionals to utilize AI in their practice.

**Keywords:** Artificial Intelligence, Knowledge, Attitude and Practices, Undergraduate Medical and Dental Students.

**STP-26: Evaluating the knowledge, attitude and willingness towards thalassemia pre-marital screening among adults**

Mohammad Danial

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

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

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

**Conclusion/Recommendations:** Even though people had sufficient basic knowledge of thalassemia and understood the significance of pre-marital screening, only a minority opted to undergo the screening process.

**Keywords:** Pre-marital screening, Knowledge, Thalassemia, Awareness.

## **STP-27: Awareness And Practice Of Informed Consent Among Post Graduate Residents Of Surgical Speciality**

Dr Muhammad Hamza

**Objective/Hypothesis:** PRIMARY OBJECTIVES: 1. To determine the level of awareness of Post graduate residents of surgical and allied specialties regarding informed consent. 2. To determine the level of practice among post graduate residents regarding informed consent. SECONDARY OBJECTIVES: 1. To determine the barriers of improper informed consent.

**Materials and Methods:** It was a cross sectional descriptive survey carried out in three public sector tertiary care hospitals of Peshawar, KP. The duration of study was 3 months from 1st July – 30th September 2021. Random sampling was performed and 255 participants were included. Inclusion criteria for this study were residents training in surgery and allied specialties. The questionnaire was self-reported questionnaire. Postgraduate Residents are those trainees who are enrolled in programs recognized by the Royal College of Physicians and Surgeons. Awareness is the state of being conscious of something or to be cognizant of events. Practice of medicine is the applying of medical or surgical knowledge for the purpose of preventing, relieving or curing disease or sustaining natural functions.

**Results:** The respondent's characteristics of 255 participants showed that 63.8% of the respondents have excellent awareness, 34.6% have good awareness and 1.6% have fair awareness about informed consent. Also among these 255 participants, 92.2% have excellent practice and 7.8% have good practice of informed consent.

**Conclusion/Recommendations:** This study concluded that residents of surgical specialties have satisfactory awareness about informed consent and were practicing it. However improvement is needed which can be achieved by training the doctors at under graduate and post graduate levels.

**Keywords:** Informed Consent, Awareness, Practice, Non-Compliance.

## **STP-28: Post-Traumatic Stress Disorder among adult burn patients in tertiary care hospitals of Peshawar, Pakistan**

Muhammad Sufyan Darwesh

**Objective/Hypothesis:** The aim of our study was to investigate the prevalence of PTSD among adult burn patients in tertiary care hospitals and to find its prevalence in different age groups, genders, and socioeconomic classes so that its importance can be highlighted

**Materials and Methods:** Materials and Methods: Two hundred and seventy-five (275) adult burn patients in tertiary care hospitals in Peshawar, Pakistan, were recruited from January 2024 to July 2024. Non-cooperative, unwilling, unconscious, and severe burn injury patients were excluded from the study. A provisional diagnosis of PTSD was made by using the PTSD checklist for DSM-5, a 20-item checklist that assessed the symptoms of PTSD via a 5-point Likert scale. The Cronbach's Alpha value for all the items of PCL-5 was 0.94. The socioeconomic status was determined via a modified form of the Kuppaswamy Socioeconomic Status Scale with values ranging from 5 to 29.

**Results:** Results: The diagnosis of PTSD was made in 52% (143 out of 275) of people who suffered burn injuries. The prevalence of PTSD in males and females was 40% (59 out of 148 males) and 66% (84 out of 127 females) respectively. 62% of retirement-age and 57% of middle-aged patients were mostly affected by PTSD. Similarly, PTSD was more prevalent in lower-class patients, i.e. 69% of patients with burn injuries from lower socioeconomic backgrounds were affected.

**Conclusion/Recommendations:** An alarmingly high prevalence of PTSD was found in burn patients. It was more prevalent in females than in males. A greater percentage of retirement-age and middle-aged adults were diagnosed with PTSD. When compared to patients from various socioeconomic backgrounds, burn patients from lower socioeconomic backgrounds were found to have a higher prevalence of PTSD.

**Keywords:** Adults, Age groups, Burn injuries, Burn patients, Gender, Post-traumatic stress disorder, Socioeconomic status.

## **STP-29: Exploring The Association Between Screen Time And Sleep Quality In School-Aged Children**

Muhammad Usman Waheed

**Objective/Hypothesis:** The goal of this study is to investigate the impact of screen time on sleep patterns and quality in school-aged children and formulating evidence-based recommendations in order to promote healthier screen habits and reduce the occurrence of sleep disorders.

**Materials and Methods:** A cross-sectional study was conducted with informed parental consent on 271 children aged 5-12 in Karachi. The data collection tools comprised of a combined score, using the Children's Sleep Habits Questionnaire – Abbreviated, alongside a Screen Time Assessment. Demographic variables and behavioral factors were explored and the correlations were analyzed to determine the relationship between screen exposure and sleep outcomes.

**Results:** The results obtained revealed that the direct association between screen time and sleep quality was not statistically significant, suggesting that screen time and related behaviors alone were not robust predictors of sleep disturbance, thus highlighting the role of other moderating variables. Further analysis revealed that demographic factors like age, grade, and family structure significantly influenced screen time. It is difficult to ascertain the direct association of screen time with sleep disturbances, pointing to the role of several variables which need to be quantified for an accurate assessment.

**Conclusion/Recommendations:** This study explores the multifaceted relationship between screen time and sleep quality, highlighting the necessity of further research that focuses on content type, usage patterns, environmental factors, and demographic variables to better understand the influence of screen time on sleep health especially in pediatric populations.

**Keywords:** Sleep, Screen Time, CSHQ-A, Sleep Disturbances, Pediatric Population, Sleep Health, Sleep Habits, Children.



### STP-30: Impacts Of Social Media On Medical Students

Muhammad Uzair

**Objective/Hypothesis:** 1. To highlight the impact of social media on study aims and focus of medical students. 2. Effects of social media on daily activities of medical students. 3. Depicting if overuse of social media leads to isolation from real life interactions.

**Materials and Methods:** Commonly we used printed questionnaire to collect our data among various medical colleges of district peshawar. Students of age 18 to 25 were under observed. We collected about 300 data from students of various medical colleges of peshawar region. **METHODS:** This study was conducted in these colleges by distributing questionnaire among the students in hard form . While 22% of the data was obtained online. Each one of their responses was noted and analysed accordingly. The various data outcomes will be shown in graphical and poster representation in research conference.

**Results:** In a total of 300 students , of different medical colleges of Peshawar , ranging between ages of 18-20 (44%) , 21-23(38.3%) 24-25(17.67%) .95% of these students use social media ( 80% of these students use Instagram ,68% uses YouTube ,46% uses WhatsApp ,49% uses Facebook, 53%uses other apps) About 72% of these students use social media frequently , 15% rarely, and 7.6% dont use it at all .According to the survey, about 58% of students find social media useful for helping them with studies , 73%voted for entertainment, 33.6% for sharing common interest, and 3.6% for other uses. According to 70% students, social media has helped them improvingtheir grades . 77% students comply that they spend more time on social media than they do on their studies, and about 40% of students agree that they can't resist using social media while studying, and about 70% of students agree that they cannot focus on their studies while using social media. For 68% of medical students, these sites are a distraction them from their studies. 75.6% students agree that social media do affect their daily life. After this survey, we found out that 56% of students think that social media plays a vital role in their isolation from real-life interactions, while 14% disagreed while 30% were moderate about it . About 38.6% of students think that after watching too many videos, they become frustrated. 29.5% students believe that watching different content on social media makes them feel severely helpless and hopeless16.4% think they feel less severe, while 38.6% of the responses were moderate .

**Conclusion/Recommendations:** The findings suggest that while social media offers several benefits, such as academic support and entertainment, it also has a substantial negative impact on medical students focus, daily lives, and mental well-being. The majority struggle with balancing their time between social media and studies, with social media often acting as a distraction and contributing to feelings of isolation and frustration. Therefore, the impact of social media on medical students is both positive and negative, with a more profound influence on mental health and academic distractions.

**STP-31: Factors Leading to Drug Addiction and Quitting at the Three Rehabilitation Center of Peshawar.**

Tayyab Nawaz Khan

**Objective/Hypothesis:** This study aims to identify the factors leading to drug addiction, the factors that prompt individuals to seek rehabilitation, and the relapse rates among drug addicts.

**Materials and Methods:** cross-sectional study was conducted using quantitative methods.

**Results:** The mean age of the participants was 2.52 with a standard deviation of 1.066. The factors contributing to drug addiction among participants were as follows: Fun (25.7%), Bad Company (39.6%), Tension (24.8%), and Love (9.9%). The relapse rates among participants who visited a rehabilitation center once were 62.4%, 2-6 times were 30.2%, 7-10 times were 4.5%, and more than 10 times were 3%. The main motivating factors for quitting drug addiction were loss of honor (35.1%) and the wish of the family (54%), while side effects played a minor role (8.9%), and other factors accounted for only 2.0% of the cases.

**Conclusion/Recommendations:** Based on the findings, it can be concluded that Bad Company is the primary contributing factor to drug addiction. Additionally, most participants visited a rehabilitation center only once, and the wish of the family played a significant role in motivating drug addicts to quit their addiction.

**Keywords:** Drug addiction, Factors ,Rehabilitation.

## **STP-32: Assessing the Level of Patient Satisfaction in Telemedicine versus In-person Healthcare**

Alina Batool

**Objective/Hypothesis:** The objective of this research was to carefully evaluate and make comparisons between traditional in-person consultations and telemedicine with respect to patient satisfaction levels.

**Materials and Methods:** Inclusion criteria included adults with a variety of medical conditions who had experienced both types of treatment and were willing to provide feedback. Exclusion criteria applied to patients minors and those unable to provide feedback effectively. To ensure statistical reliability, convenience sampling was used to select 200 participants (100 per group). Data collection included developing a questionnaire based on the PSQ-18, assessing communication, accessibility, and overall satisfaction using a 5-point Likert scale administered via paper or electronic means, tailored to each group's circumstances.

**Results:** This study compared patient satisfaction with telehealth and in-person medical consultations. Personalized care scored higher on overall satisfaction (7.01 vs. 6.96), interpersonal communication (7.77 vs. 7.29), and time spent with a doctor (6.69 vs. 6.05), while telemedicine scored higher on communication (6.95 vs. 6.89), financial aspects (6.97 vs. 5.92), and accessibility/convenience (13.67 vs. 13.37). Statistical tests showed no significant differences in overall satisfaction, technical quality, communication and accessibility/convenience ( $p > 0.05$ ), except for financial aspects and time spent with the doctor, with personal care being significantly more significant. ( $p < 0.05$ ).

**Conclusion/Recommendations:** According to this study telemedicine outshines in communication and convenience, whereas in-person care in interpersonal interactions and time with physicians. It supports the idea of hybrid healthcare models that would help to meet varied patient needs and enhance healthcare delivery efficiency. Objective: the objective of this research was to carefully evaluate and make comparisons between traditional in-person consultations and telemedicine with respect to patient satisfaction levels.

**Keywords:** Satisfaction, Telemedicine, In-person Healthcare.

### **STP-33: Parental Knowledge of Developmental Milestones in Peshawar Pakistan: A Cross sectional study at Pediatric OPD of a Tertiary Care Hospital**

Bashir Ahmad, Bareera Asad, Inam Ullah, Musawaira Noor, Eman Ali,

**Objective/Hypothesis:** 1. To assess parental knowledge regarding developmental milestones in children 2. To explore factors affecting parental knowledge regarding developmental milestones 3. To explore various sources of information used by the parents

**Materials and Methods:** A cross-sectional analytical study was conducted involving 225 parents using convenience sampling at the paediatrics OPD of Northwest General Hospital, Peshawar. The study was conducted during June 2024. A structured questionnaire was employed to assess knowledge levels of the parents in various domains. The data was analyzed using SPSS v27.

**Results:** A total of 225 parents including 89 males and 136 females averaging 35.5 years of age participated in the study. 98.7% were married and more than half were working jobs or owning businesses. The mean number of children under 14 were 2, with around 72% living with their parents. Parents showed poor levels of knowledge in all four domains. They were able to score 9.8% in physical, 8.56% in cognitive, 10.38% in social and 19.02% in emotional developmental milestones. Most parents (75%) relied on advices from friends and family. Parenting seminars and courses were unpopular sources of information as more than 85 percent 'never' attended any. No significant difference ( $\alpha=0.05$ ) in the knowledge of developmental milestones was observed across different genders of the parents and child, socioeconomic status, education level and disability status of the child. Correlation analysis showed that scores of knowledge of various developmental milestones had no significant correlation with the age of the parent. The knowledge of "emotional developmental milestones showed a slightly positive statistically significant correlation (Pearson correlation Coefficient: 0.149,  $p=0.026$ ).

**Conclusion/Recommendations:** Parents have very poor knowledge about developmental milestones. Most parents rely upon relatives and friends instead of parenting workshops, courses or consulting their caregivers and doctors.

**Keywords:** keywords: developmental milestones, cognitive development, physical development, knowledge, emotional development, social development.

**STP-34: Analysis for efficacy and safety of abatacept for rheumatoid arthritis; systematic review and meta analysis**

Hamida Memon

**Objective/Hypothesis:** This meta-analysis aims at assessing the effectiveness and safety of abatacept in contrast to various RA treatments such as placebos, biological DMARDs and conventional DMARDs. The analysis assesses how abatacept influences disease activity, pain intensity and overall patient functionality. It weighs the risk factor of abatacept with other drugs such as tocilizumab, with the numbers being lower for abatacept.

**Materials and Methods:** A systematic literature review was conducted according to PRISMA guidelines; PubMed plus other databases were used to search for randomized controlled trials (RCTs) comparing abatacept with other treatments for RA. Fifteen new studies have been added in this updated meta-analysis.

**Results:** This analysis reaffirms that abatacept significantly improves disease activity as measured by the ACR/EULAR Criteria which spans the Disease Activity Score (DAS28), C-reactive protein (CRP), and other patient-reported outcomes. Patients using Abatacept were more likely to experience a meaningful improvement in symptoms and function, as compared to those on a placebo or other DMARDs. In addition, Abatacept was shown to be related to lower adverse effects, i.e., serious infections and incidences of malignancy, compared to tumor necrosis factor inhibitors (TNFi) and other treatment options.

**Conclusion/Recommendations:** Abatacept is one of the most efficient treatment options for patients with moderate to severe RA. According to literature, it is said to significantly improve disease activity and patient-reported outcomes, and has a very favorable safety profile. The results of this systematic review and meta analysis further underline the use of abatacept as a viable alternative in the management of RA, especially in those patients who have shown unsatisfactory responses against conventional therapies. Future studies should continue to track long-term outcomes and comparative effectiveness of abatacept against emerging therapies in the management of RA.

**Keywords:** Rheumatoid Arthritis

### **STP-35: Attitudes and perceived relevance of basic sciences during clinical years among undergraduate Medical students: A cross sectional survey**

Kashmala Younis

**Objective/Hypothesis:** The main objective of this study is to assess the attitudes of medical students towards basic science courses taught to them in the preclinical years and the applicability of these courses to current clinical practice. It also aims to evaluate gender disparities in opting Basic sciences as a post graduate option and the effectiveness of problem-based learning in enhancing the integration of basic sciences knowledge into clinical scenarios

**Materials and Methods:** A total of 135 questionnaires were distributed out of which 129 completely filled questionnaires were received back from the students. The questionnaire comprised a 14-item scale designed to gather information regarding students' attitudes and their perceptions of basic sciences as a general educational asset, the perceived importance of basic science education, the applicability of basic sciences within a clinical context, basic science with vast syllabus and suggestions to bridge the gap between theoretical classes and clinical training. All opinions are rated using a five point Likert scale, which ranges from “strongly disagree” to “strongly agree”. Data analysis is done on SPSS version 22.0 and chi square test was done on categorical variables.

**Results:** Out of 129 participating 4th year medical students, 72 (55.8%) were females and 57 (44.2%) were males. The responses demonstrate that 50.4% students agree that their knowledge of basic sciences is applicable in clinical rotations. However 44.2% of the students feel that they cannot recall previous knowledge during relevant clinical discussions and 40.3% face challenges in applying basic science concepts to real clinical cases. More than 53.5% of the students agree that a solid understanding of basic science is essential for comprehending clinical concepts, while 45.7% strongly disagree with the notion that a physician can effectively treat patients without knowledge of the underlying biological processes. To improve the relevance of basic sciences, 43% of medical students support the inclusion of PBL/CBL into their curriculums. Also there exists a significant gender disparity in the choice of Basic science as a post graduate option ( $p < 0.05$ ).

**Conclusion/Recommendations:** Our study highlights the positive attitudes of 4th year medical students towards basic medical sciences. The students were more in favor of improving their learning experience significantly through the integration of innovative teaching methods, such as Problem Based Learning and Case Based Learning and there exists a significant gender disparity towards inclination of students for opting basic sciences as post graduate option

**Keywords:** Basic Science , PBL , Attitude and relevance.

### **STP-36: Couch Potatoes To Cadavers: A Cross -Sectional Study On Physical Inactivity And Sedentary Lifestyles In Medical And Non-Medical Students**

Malka i saba

**Objective/Hypothesis:** To investigate the prevalence of sedentary behavior and its causes among medical and non-medical students

**Materials and Methods:** This study used a cross-sectional design with random sampling across four educational institutions. The sample size was determined based on previous local studies. Data was collected using a newly developed questionnaire, and 452 valid responses were included. SPSS-26.0 was used for data analysis, including Pearson product-moment correlation coefficients and hierarchical multiple regression.

**Results:** This study involved 452 participants with a mean age of 22±2 years, comprising 261 males (57.7%) and 191 females (42.3%). Of these, 46.9% were medical students, while non-medical students were 53.1%. Sedentary behavior was prevalent in 71.7% of medical students and 75.4% of nonmedical students. Medical students showed a higher average screen time, with 48.1% using screens 3-6 hours daily.

**Conclusion/Recommendations:** Sedentary behavior is a global issue affecting millions of youngsters worldwide. Measures should be taken to discourage sedentary behavior, including awareness programs and more physical activities in educational institutes.

**Keywords:** Sedentary, Medical, Physical, Lifestyles.

### **STP-37: The Perception of Students and Faculty Regarding Integrated Learning Program in Public and Private Medical Colleges of KPK**

Mashal Safeer

**Objective/Hypothesis:** Perception of students regarding Integrated system. 2. Comparison between Public and Private medical colleges' perception regarding Integrated system. 3. Perception of faculty regarding Integrated system. 4. Comparison of basic and clinical sciences faculty perception

**Materials and Methods:** For students, a DREEM inventory questionnaire was used. Our sample size was 333 and study design was cross sectional. The data was evaluated by SPSS version 20. For faculty participants, a self-constructed questionnaire was formulated after a comprehensive review of pertinent and valid literature and piloted before data collection. It was distributed among 217 teachers from both private and public medical colleges.

**Results:** The DREEM score of private medical colleges is 123.2 and that of public medical colleges is 112.94, which shows a more positive approach of private medical students toward ILP than that of public medical colleges. 47.7% of faculty members are satisfied to some extent with ILP. 38.6% of faculty members believe that ILP will help students do better in clinical practice. Clinical faculty level of satisfaction in evaluation (53.1%). Satisfaction of basic faculty regarding ILP is 52.81% in faculty training, 55.6% in delivery of content, 54% in framing of the timetable. 72.7% of basic science faculty agrees that the conventional system is better than ILP.

**Conclusion/Recommendations:** The study explores the Integrated Learning Program (ILP) in medical colleges, finding a generally positive outlook from students. Private medical students are more satisfied, while faculty is generally favorable. Clinical and basic faculty have different opinions on ILP. Further research should explore its limitations and impact on medical education.

**Keywords:** learning program, students and faculty perception, public and private medical colleges of KPK.



### **STP-38: Premenstrual Syndrome: Severity And Its Impact On Academic And Social Performance Of Undergraduate Female Students In Hayatabad Peshawar**

Noor Fatima

**Objective/Hypothesis:** The objective of this study was to assess frequency, severity of premenstrual syndrome in undergraduate female students and its effect on their academic and social lives

**Materials and Methods:** This study investigated PMS in undergraduate female students from Khyber Girls Medical College, Rehman Medical College, Khyber Medical University, Iqra National University, aged 16-26 in Hayatabad Peshawar with a random sampling of 339 participants— using a self-made questionnaire. The data was collected from March 1st to May 31st and analyzed by SPSS 27.

**Results:** From total population size of 500, a sample size of 339 was drawn after excluding unfilled questionnaires and ones falling in exclusion category. Among 200 participants 80(40%) mild PMS, 77(38.5%) moderate PMS, 43(21.5 %) with severe PMS. The effect on academic performance was significant. Absenteeism was observed in 18 (9%), difficulty concentrating in studying 79(39.5%), disinterested and absentmindedness were observed in 62(31%) females. These symptoms also affected the social lives of females suffering from PMS. The proportion of females who faced trouble dealing with others was 55(27.5%), daily routine 61(30.5%), social relationships 47(23.5%) and planned activities were affected in 54 (27%). The Chi square test found that PMS significantly impacts social and academic performance, with p values less than 0.05 for disinterest, absentmindedness, concentration difficulties, and social relationships.

**Conclusion/Recommendations:** The study highlights the significant impact of premenstrual syndrome (PMS) on undergraduate female students in Hayatabad Peshawar, emphasizing the need for comprehensive support and resources from healthcare providers, educational institutions, and society to address the medical concern of PMS.

**Keywords:** Premenstrual Syndrome, Undergraduate Students, severity, academic performance, social life.

## **STP-39: A Novel Case of A 5-Year-Old Suffering from Triple A (Allgrove) Syndrome**

Manal Gohar

**Introduction:** Triple A Syndrome (Allgrove Syndrome) is a rare autosomal recessive disorder with a triad of alacrima, ACTH-resistant adrenal insufficiency, and achalasia. It can also involve neurological, dermatological, and autonomic systems, often emerging later in life. Caused by mutations in the AAAS gene, which encodes the ALADIN protein, the syndrome's prevalence is about 1 in 1,000,000. Treatment includes artificial tears for alacrima, glucocorticoids and sometimes mineralocorticoids for adrenal insufficiency, and various interventions for achalasia such as botulinum toxin, pneumatic dilation, or Heller myotomy. Neurological dysfunction and short stature may also be present.

**Case presentation:** N/A

**Conclusion/Recommendations:** The presentation of AS can differ significantly in terms of age of onset and associated disorders, which often makes the final diagnosis challenging and delayed. Literature and case reports highlight the rarity of this syndrome and the diverse range of symptoms or associated conditions. While the syndrome commonly begins in childhood and has a familial tendency, there are reports of it starting in adulthood and occurring in individuals with no family history.

**Keywords:** Allgrove Syndrome, Achalasia, Heller's myotomy, alacrima.

## **STP-40: Relationship Between Depression And Adherence To Medication In Patient With Chronic Diseases - A Qualitative Study**

Tooba Manzoor Ahmed

**Objective/Hypothesis:** Depression negatively impacts medication adherence in patients with chronic illnesses, with varying effects based on financial constraint, comorbidities, polypharmacy and support systems.

**Materials and Methods:** A qualitative study was conducted at Khyber Teaching Hospital, Peshawar, involving 30 patients selected through purposive sampling. Depression was assessed using the Hamilton Depression Rating Scale, and medication adherence was measured with the Medication Adherence Report Scale (MARs). Data were collected through in-depth interviews and were analyzed via manual thematic analysis.

**Results:** Findings revealed that patients with severe depression, particularly those with multiple comorbidities and inadequate support systems, exhibited lower medication adherence. Older adults with caregiver support maintained moderate adherence despite severe depression. Factors such as polypharmacy, fear of medication side effects, cultural beliefs, and financial constraints contributed to poor adherence. Interestingly, those prescribed intravenous medications showed better adherence due to infrequent dosing schedule and fewer gastrointestinal side effects. Participants with supportive healthcare relationships and family support showed better adherence and milder depressive symptoms.

**Conclusion/Recommendations:** Depression is a critical determinant of medication adherence in patients with chronic illnesses. Tailored interventions targeting education, support systems, and managing depressive symptoms are essential to enhance adherence and improve health outcomes.

**Keywords:** Depression, Chronic Diseases, Medication Adherence.

### **STP-41: Absent innominate brachiocephalic vein: a rare anatomical variation**

Khushbakht Shah

**Objective/Hypothesis:** Absence of the left brachiocephalic vein is a rare occurrence in which the vein takes a usual path to the right behind or beneath the aortic arch to create the superior vena cava. Its absence in this case highlights anatomical variations that may complicate surgical approaches in the anterior mediastinum. Such variations are crucial to identify preoperatively to mitigate intraoperative challenges.

**Materials and Methods:** Three theories have been presented to explain the causes of this anomaly. 1)the anastomosis between the anterior two cardinal veins fails to develop. 2)An anomalous left brachiocephalic vein develops as an alternative path when the normal vein is impeded. 3)the brachiocephalic vein can develop anywhere there is space available between the two cardinal veins Clinical data regarding this anomaly is very scarce. It is usually associated with other heart defects like TOF and ASD. The misdiagnosis of this anomaly has recently decreased with the use of a spiral CT combines with CT angiography.

**Results:** n/a

**Conclusion/Recommendations:** This case illustrates the importance of preoperative planning to facilitate surgeons intraoperatively and avoid preventable injuries.

**Keywords:** Innominate vein, anterior mediastinum, caseous material, sternotomy, cardinal veins.

## STP-42: Successful Management of Aorto Gastric Conduit Fistula Post Hybrid Ivor Lewis 2 Stage Minimally Invasive Esophagectomy

Tanees Asim

**Objective/Hypothesis:** The Aim of writing this case report is to raise awareness about this rare but devastating condition which was dealt successfully in a timely fashion.

**Materials and Methods:** Descriptive study design. Patient data both retrospective and current were obtained with no ethical objection and data access permission from SKMCH and PIC Peshawar. Signed written informed consent taken from the patient in the presence of two witnesses.

**Case Presentation:** A 42-year-old male patient, known hypertensive with history of ischemic heart disease presented to outpatient department at SKMCH Peshawar with Lower oesophageal adeno carcinoma; three months prior to this, he underwent placement of two cardiac stents for myocardial infarction (MI). Following neo-adjuvant chemotherapy, the patient underwent minimally invasive 2-stage esophagectomy. Unfortunately; on 17th post-operative day, he presented to the emergency room with episodes of hematemesis (vomiting blood) and watery, non-diarrhoea. The patient's haemoglobin (Hb) level was 7.7 g/dL initially, which subsequently dropped to 6.8 g/dL and to 5.6 g/dL over a period of 20 hours. Transamine (tranexamic acid) and vitamin K were administered to address the bleeding. A CT scan of the abdomen and chest with contrast was and upper GI endoscopy was performed to assess for anastomotic leak. The CT scan revealed an aneurysm at the T6 level on the anterior aspect of the aorta, measuring 10x7 mm. A thread-like fistulous communication between the aneurysm and the anastomotic site was identified. The patient underwent urgent aortic stenting at the nearest cardiovascular centre (Peshawar Institute of Cardiology). Post-operatively, CT angiography revealed that the stent partially covered the fistulous communication, for which the patient underwent repeat aortic stent. CT angiography showed a stent measuring 4.6 cm that completely covered the fistulous communication. Patient was discharged 7 days later with regular outpatients follow up. Summary of Case report: A 42-year-old male patient, known hypertensive with history of ischemic heart disease presented to outpatient department at SKMCH Peshawar with Lower oesophageal adeno carcinoma; three months prior to this, he underwent placement of two cardiac stents for myocardial infarction (MI). Following neo-adjuvant chemotherapy, the patient underwent minimally invasive 2-stage esophagectomy. Unfortunately; on 17th post-operative day, he presented to the emergency room with episodes of hematemesis (vomiting blood) and watery, non-diarrhoea. The patient's haemoglobin (Hb) level was 7.7 g/dL initially, which subsequently dropped to 6.8 g/dL and to 5.6 g/dL over a period of 20 hours. Transamine (tranexamic acid) and vitamin K were administered to address the bleeding. A CT scan of the abdomen and chest with contrast was and upper GI endoscopy was performed to assess for anastomotic leak. The CT scan revealed an aneurysm at the T6 level on the anterior aspect of the aorta, measuring 10x7 mm. A thread-like fistulous communication between the aneurysm and the anastomotic site was identified. The patient underwent urgent aortic stenting at the nearest cardiovascular centre (Peshawar Institute of Cardiology). Post-operatively, CT angiography revealed that the stent partially covered the fistulous communication, for which the patient underwent repeat aortic stent. CT angiography showed a stent measuring 4.6 cm that completely covered the

fistulous communication. Patient was discharged 7 days later with regular outpatients follow up.

**Conclusion/Recommendations:** Hence , the timely and holistic approach to the management of AortoGastric Conduit Fistula is life saving despite the high mortality risk.

**Keywords:** AortoGastric Conduit, Fistula, Esophagectomy.

## **STP-43: Surgical Triumph Over Giant Esophageal Leiomyoma in a Young Female : A Case Report**

Umaima Khan

**Introduction:** Benign esophageal tumors are sporadic and make up less than 10% of esophageal tumors. However, giant esophageal leiomyomas (GEL) are the most common type of benign esophageal neoplasm. GELs generally appear in the third or fifth decades of life but are not restricted to that age group. Leiomyomas can usually grow up to 10 cm large and are generally asymptomatic but the growing diameter of the mass could obstruct the esophageal lumen, causing symptoms such as dysphagia, pain, and weight loss. Many challenges come with detecting GEL due to its atypical location, symptoms, and imaging features.

### **Case Presentation:**

**Discussion:** GEL, typically causes symptoms like dysphagia and cough. Though more common in men, this case involves a young female. Surgical resection is the definitive treatment, with options like transthoracic enucleation and esophagectomy. Minimally invasive techniques like Ivor-Lewis esophagectomy and VATS are also promising. Transhiatal esophagectomy was preferred due to previously failed resections and multiple tumor locations.

**Conclusion/Recommendations:** n/a

**Keywords:** Giant Esophageal Leiomyoma, Transhiatal esophagectomy, Benign esophageal tumors, Dysphagia, Epigastric pain, Esophageal hiatus, Esophagogastric anastomosis.

## **STP-44: Factors affecting anti-diabetic medication adherence among type 2 Diabetes mellitus patients in Peshawar and Islamabad**

Maryam Hayat Khan

**Objective/Hypothesis:** To determine the factors affecting medication adherence among type 2 diabetes patients In Peshawar and Islamabad.

**Materials and Methods:** A cross-sectional study was conducted among type diabetes patients in Sugar hospital, Peshawar and TDC , Islamabad for a period of 3 months. A total of 308 type 2 diabetic patients willing to give informed consent were included , 155 participants were from Islamabad and 153 from Peshawar. Institutional ethical committee clearance was obtained , a questionnaire based on demographic profile, MARS-5 questions and bipolar questions for probable factors affecting medication adherence was formulated. Data was entered in Microsoft excel and analyzed in SPSS-21. Descriptive statistics was used to assess the factors affecting medication adherence.

**Results:** In our study 36% patients were using insulin, 58% were on oral medication and 6% were using both. Upon asking different questions significant associations came out between medication adherence and patients' practices as they either forgot to take medicines or alter the dose etc. Similarly according to location of facility , maximum percentage of patients in Islamabad had better medication adherence compared to the patients in Peshawar as their P-value was 0.045 so a significant association was present. In contrast gender wise there was not difference among medication adherence of males and females as there P-value was 0.054. Based on questions asking about factors , 60% participants are found to be adherent and 40% are found to be non-adherent to the medicines.

**Conclusion/Recommendations:** The results of this study indicates a massive need to provide patient education and awareness about importance of medication adherence. Moreover , healthcare resources should be improved to provide better care and support to diabetic patients in Pakistan.

**Keywords:** diabetes mellitus, medication adherence, factors.



**STP-45: Bridging the Gap: Socio-Demographic Influences on Cervical Cancer Screening in Pakistani Women aged 21-65-a cross sectional study**

Izza Shakeel

**Objective/Hypothesis:** This study aims to assess knowledge, attitudes, and practices regarding cervical cancer screening among Pakistani women aged 21–65 and identify barriers to screening in order to propose effective interventions.

**Materials and Methods:** This cross-sectional study was conducted in various tertiary care hospitals of Pakistan from April to June 2024. Using purposive non-probability sampling, 382 Pakistani women aged 21–65 participated. We collected data via face-to-face interviews using structured pre-tested questionnaires and analyzed it using SPSS version 27, employing descriptive statistics and chi-square tests to explore associations.

**Results:** The findings revealed that 52.7% of participants were unfamiliar with cervical cancer, and 95% had never undergone a pap smear. The primary barriers to screening included lack of knowledge (62.3%), perceived low risk (34%), lack of family support (12.5%), shyness (17.8%) and cultural or religious beliefs (21.4%). Significant associations ( $p < 0.05$ ) were found between socio-demographic factors and awareness, attitude, and practices towards screening.

**Conclusion/Recommendations:** The study revealed that knowledge, attitude, and practice towards cervical cancer screening were shallow. It highlights the need for targeted interventions to improve knowledge, attitudes, and practices towards cervical cancer screening among Pakistani women, focusing on cultural and religious considerations and enhanced education.

**Keywords:** Cervical cancer; screening; socio-economic factors; knowledge; attitudes; practices.

THE END